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EXTENSIONS TO NETWORK MAINS FROM QUARRY HILL TO STAINBURN AND COCKERMOUTH, CUMBRIA

ARCHAEOLOGICAL DESK BASED ASSESSMENT AND WALKOVER SURVEY

November 2015

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Archaeological Desk Based Assessment and Walkover Survey

November 2015

PREPARED BY:

APPROVED BY:

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SUMMARY

Wardell Armstrong Archaeology was commissioned by United Utilities, to undertake an archaeological desk based assessment and walkover survey across land due to be impacted upon by the installation of a new pipeline in west Cumbria. The main area of land to be affected was predominantly along a linear route beginning at the reservoir east of Stainburn (NGR NY 02410 29347) and heading north-eastwards to the reservoir west of Boltongate (NGR NY 22008 41202). This has been covered by an earlier study (Peters and Newman 2015). More detailed plans of the pipeline construction methods has led to the addition of 30 new areas for laydown, compounds, storage areas etc. This work has focused on these 30 new areas.

This desk based assessment and walkover survey was undertaken to achieve a full understanding of the nature of the existing resource regarding the geographical, topographical, archaeological and historical context of the 30 areas (areas 59-69, 71-80, 82-89 and 91), in order to provide an assessment of their archaeological potential.

In total, 25 heritage assets have been identified from within these additional areas, 11 of which had already been identified by the earlier pipeline corridor route study, with a further 14 encountered solely through this additional study. Recommendations are provided for further evaluatory work.

One of the assets identified was assessed as being of county or district (lesser) significance, an important hedgerow. This identified important hedgerow (asset 526) should be photographically recorded along the stretch likely to be impacted by any construction. Its species composition should be analysed and on the basis of woody species present, their approximate date of origin should be estimated. Other recommendations for two of the assets assessed as being of local significance include a photographically recording of the identified trackway (asset 175) along the stretch likely to be impacted by any construction and that the identified mill (asset 24) should be targeted by trial trenching, away from the river where any remains may be affected by construction.

ACKNOWLEDGEMENTS

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The desk based research was undertaken by Cat Peters.

The site visits were undertaken by Ed Johnson, Cat Peters and Kevin Horsley.

The report was written by Cat Peters, and the figures were produced by Adrian Bailey and Helen Phillips. The project was managed by Richard Newman, WAA Post Excavation Manager, who also edited the report.

1 INTRODUCTION

1.1 Circumstances of the Project

1.1.1 The archaeological work was undertaken in response to United Utilities' proposed pipeline route in West Cumbria. The main route has been covered by earlier research work (Peters and Newman 2015). This additional study focuses on an additional 30 areas (areas 59-69, 71-80, 82-89 and 91) identified as a result of designs relating to on-site engineering demands such as compound areas, laydowns and storage holding areas. For consistency, heritage asset and area numbering follows on from earlier projects relating to the same pipeline route.

1.1.2 The land affected consisted of areas sporadically occurring along a linear pipeline route. The pipeline route extends for approximately 25km, beginning at the reservoir east of Stainburn (NGR NY 02410 29347), and heading north-eastwards to the reservoir west of Boltongate (NGR NY 22008 41202) with additional areas of land to the south and west of Cockermouth (Figure 1). The new areas covered in this report are all outside the Lake District National Park and thus come under Cumbria County Council as the historic environment curatorial authority.

1.2 Location, Topography and Geology

1.2.1 ***Location:*** the 30 areas (areas 59-69, 71-80, 82-89 and 91) occur at variable intervals across the wider pipeline route (Figures 2-4). The westernmost, area 59, is located at the extreme western extent of the pipeline route south of the reservoir to the east of Stainton. Further east, area 60 is located in agricultural land west of Great Clifton, area 61 is located within a field to the north-west of the centre of Great Clifton and area 62 lies to the south-east of Great Clifton on the south side of the A66. Area 63 is located in the field to the east of area 62, immediately south-west of the A66 roundabout west of Bridgefoot. Areas 64, 65 and 67 lie in agricultural land to the north of the A66 between Great Clifton and Bridgefoot south of the River Derwent. Area 66 lies to the south of the A66 and north-west of Bridgefoot. Areas 68 and 85 are located south of the Bridgefoot to Broughton Cross road, with area 86 located on the north side

in the vicinity of Bridgefoot. Area 69 is located in fields to the immediate west of Broughton Cross.

1.2.2 Continuing to head eastwards towards Cockermouth, area 82 is located on either side of the northern extent of Cockermouth Lonning and areas 79 and 80 lie on the north side of the road to the west of Cockermouth between Cockermouth and Scales Farm. Area 77 lies between Cockermouth and the A66, with area 84 on the west side of the A66 and area 83 lies west of Cockermouth within Fitz Park, to the south of Low Road. In Cockermouth itself, area 78 is located to the immediate east of Lamplugh Road (A5086) in playing fields and areas 75 and 76 lie to the south of Cockermouth and east of the River Cocker. Following the route from Cockermouth to the north-east, area 71 is located to the north of the A595 and north of Papcastle, area 72 covers several agricultural fields in the vicinity of Williamsgate and Hags Wood, area 73 is south of Moota Hill at the A595 junction with B5301 and area 87 lies to the east of a disused quarry at Moota Hill. Continuing north-eastwards area 88 lies to the south-west of Threapland Lees farmstead, area 91 to the west of Bothel, area 74 is located in a field between Kirkland Green and High Woodnook south of the A595 and area 89 is the north-easternmost area, lies and is located to the west of Low Mill.

1.2.3 ***Geology:*** the underlying rock formations and superficial deposits of an archaeological search area can greatly influence the nature of the area's archaeological resource. Between the Stainburn and Cockermouth part of the route, the solid geology comprises rocks of the Pennine Upper Coal Measures formation and Yoredale Group consisting of limestone, sandstone, siltstone and mudstone and Dination Rocks (limestone with subordinate sandstone and argillaceous rocks). The area to the south of Cockermouth comprises predominantly interbedded siltstone and mudstone of the Bitter Beck formation. Between Papcastle Bridge and Bothel, the solid geology comprises Dination Rocks, with the area to the north of Bothel being Yoredale Group rocks (British Geological Survey, http://mapapps.bgs.ac.uk/geologyofbritain/home.html). The drift geology of the area comprises predominantly alluvium in the valleys, and glacial till elsewhere. At Stainburn there is alluvium (clay, silt and sand) with some areas of till, with alluvium occurring around the Little Clifton to Cockermouth area,

where till dominates. North of Papcastle Bridge, the area is largely comprised of till (diamiction), with some peat to the south-west of Redmain and around Bothel (British Geological Survey: http://mapapps.bgs.ac.uk/geologyofbritain/home.html).

1.2.4 ***Historic Landscape Character:*** the proposed pipeline route passes through a region of west Cumbria which can be defined into two historic landscape character areas, character area 18: Ellen and Marron Valleys and character area 47: West Cumberland Plain (Cumbria County Council 2009).

1.2.5 The Ellen and Marron Valleys area is dominated by a mix of large and small nucleations, mostly medieval in origin, retaining medieval plan forms. This pattern has been exaggerated to some extent by 19th century industrial-related development. The fieldscape is dominated by former arable commonfields (ibid, 62). In this character area, hedgerows dominate the field boundaries. Important hedges are protected under the Hedgerow Regulations (1997). The legacy rating of both character areas is '*a mixed pattern of modern and older enclosures but with a more traditional settlement pattern, strong legibility of landscape elements of medieval origin*' (Cumbria County Council 2009, 45).

1.2.6 The West Cumberland Plain character area is dominated by large urban and industrial developments, especially around Workington, Whitehaven, Cleator Moor and Egremont. Much of the field pattern has been disrupted by modern development, however, where historic patterns are still visible, former common fields and areas of ancient enclosure can be recognised (Cumbria County Council 2009, 105).

1.3 Statutorily and Non-statutorily Designated Sites

1.3.1 None of the 30 areas contain any heritage assets that are afforded statutory protection, such as scheduled monuments and listed buildings (Table 1).

1.3.2 The 30 areas do not contain any heritage assets that are afforded protection through non-statutory designation, such as Registered Battlefields or Registered Parks and Gardens.

1.4 Planning Background and Legislative Framework

1.4.1 National planning policies on the conservation of the historic environment are set out in the National Planning Policy Framework (NPPF), which was published by the Department of Communities and Local Government (DCLG) in March 2012. Sites of archaeological or cultural heritage significance that are valued components of the historic environment and merit consideration in planning decisions are grouped as 'heritage assets'; 'heritage assets are an irreplaceable resource', the conservation of which can bring 'wider social, cultural, economic and environmental benefits…' (DCLG 2012, Section 12.126). The policy framework states that the 'significance of any heritage assets affected, including any contribution made by their setting' should be understood in order to assess the potential impact (DCLG 2012, Section 12.128). In addition to standing remains, heritage assets of archaeological interest can comprise sub-surface remains and, therefore, assessments should be undertaken for a site that 'includes or has the potential to include heritage assets with archaeological interest' (DCLG 2012, Section 12.128).

1.4.2 NPPF draws a distinction between designated heritage assets and other remains considered to be of lesser significance; 'great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be; substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings and grade I and II* registered parks and gardens and World Heritage Sites, should be wholly exceptional' (DCLG 2012, Section 12.132). Therefore, preservation in-

situ is the preferred course in relation to such sites unless exception circumstances exist.

1.4.3 It is normally accepted that non-designated sites will be preserved by record, in accordance with their significance and the magnitude of the harm to or loss of the site as a result of the proposals, to 'avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposals' (DCLG 2012, Section 12.129). Non-designated heritage assets of archaeological interest will also be subject to the policies reserved for designated heritage assets if they are of equivalent significance to scheduled monuments (DCLG 2012; Section 12.132).

1.4.4 In addition to the provisions of the NPPF the historic environment is protected within the *Hedgerow Regulations 1997.* In these regulations, hedgerows can be considered 'important' for archaeological or historical purposes if they contain or are part of an archaeological site or formed a boundary of an estate that pre-dates 1600. Additionally they can also be defined as 'important' if they are; "recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts" or are "part of, or visibly related to, any building or other feature associated with such a system, and that system" or are part "of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic".

1.4.5 The implication of the *Hedgerow Regulations* is that any hedgerow that can be shown on a document held at the local archives to be part of a field system pre-dating 1850 can be regarded as an important hedgerow for archaeological and historical purposes.

2 METHODOLOGY

2.1 Desk Based Research

2.1.1 The archaeological assessment has focused on 30 areas as defined in the project brief, although information for the immediate environs has been considered in order to provide an essential contextual background. This has largely utilised work undertaken as part of the original pipeline route study (Peters and Newman 2015). The assessment was carried out in accordance with the relevant CIfA guidelines (CIfA 2014, *Standard and Guidance for Archaeological Desk-based Assessments*; CIfA 2014 *Code of Conduct*). The principal sources of information consulted were historical and modern maps, although published and unpublished secondary sources were also reviewed. The following repositories were consulted during the data-gathering process:

- ***Cumbria County Council Historic Environment Record (CCC HER):*** the CCC HER holds data on the historic environment for Cumbria outside of the Lake District and Yorkshire Dales national parks. It includes listed buildings, all known archaeological sites, along with the location and results of previous archaeological interventions in a linked GIS and database format. It includes an extensive collection of aerial photographs. The CCC HER was consulted to establish the extent of sites of archaeological and historic interest within the study area, outside of the Lake District National Park.
- ***Cumbria Record Office, Carlisle (CRO(C)):*** holds an extensive series of mapping for Carlisle and Allerdale Districts, as well as a collection of secondary sources about the area.
- ***Cumbria Record Office, Whitehaven (CRO(W)):*** holds an extensive series of mapping for Copeland District, as well as a collection of secondary sources about the area.
- ***Local Studies, Carlisle Library (CL):*** the local studies catalogue of Carlisle Library was searched for information relating to the study area and some secondary sources were consulted.
- ***English Heritage on-line databases:*** the following English Heritage on-line databases were consulted which provide information on both

designated and non-designated heritage assets, PastScape, Heritage Gateway, National Heritage List for England and Images of England.

- ***Other on-line resources***: the following on-line resources were consulted with regard to comprehensive aerial photographic coverage and mapped designation extents: Google Earth, the Environment Agency's Lidar dataset, the Portable Antiquities Scheme and MAGIC.
- ***Wardell Armstrong Archaeology:*** WA Archaeology has an extensive archive of secondary sources relevant to the study area, incorporating both published work and unpublished client reports. In particular it holds unpublished records of geophysical surveys undertaken in the vicinity of Papcastle.

2.1.2 Modern aerial photographs were consulted through the Google Earth images dating to 2003 to 2011. Recent and more historic air photographs (both oblique and vertical) were consulted in the Cumbria County Council collection. Provision was not allowed within this rapid desk based assessment for direct consultation of the air photographs held in the National Monuments Record, but this is not considered to be a deficiency, as the National Monuments Record air photograph collection for the vicinity has been analysed systematically and extensively by Historic England. The results of such work are provided in PastScape (http://www.pastscape.org.uk), Historic England's on-line database for the National Monuments Record. These results include the RCHME's 1990s air photographic coverage and analysis of parishes in the north of the study area, the 2001 Skiddaw Massif Project which covered Blindcrake parish and more recent National Monument Mapping Programme work which has covered much of the route and combines the analysis of both LiDAR and air photographic imagery. The Skiddaw Massif Project included coverage of air photographs from the Cambridge University Collection of Aerial Photography. The other online resource for aerial photographic coverage which was consulted was 'Britain from Above' (http://www.britainfromabove.org.uk).

2.1.3 The Environment Agency's LiDAR (light detecting and ranging airborne survey) coverage of the route was consulted.

2.1.4 In addition to PastScape, Historic England's other digital databases were consulted including the National Heritage List (https://historicengland.org.uk/listing/the-list).

2.1.5 Only heritage assets within the 30 areas have been included in the Gazetteer (Appendix 2; Figures 2-4).

2.2 Walkover Survey

2.2.1 The survey consisted of a level 1 survey as set out in the English Heritage guidelines for landscape survey (English Heritage 2007). A level one survey will typically consist of a core monument record, a written account of any findings and any survey drawings which contribute to the survey. A level one survey is the least complex of surveys and will be typically undertaken when the '*aim is to provide essential core information to agreed standards*' (English Heritage 2007).

2.3 The Archive

2.3.1 A digital copy of the report will be deposited at Cumbria County Council's Historic Environment Record, Kendal, where viewing will be available on request.

2.3.2 Wardell Armstrong Archaeology Ltd and Cumbria County Council support the **O**nline **A**cces**S** to the **I**ndex of archaeological investigation**S** (**OASIS**) project. This project aims to provide an online index and access to the extensive and expanding body of grey literature created as a result of developer-funded archaeological fieldwork. As a result, details of the results of this study will be made available by Wardell Armstrong Archaeology, as a part of this national project. This project has the unique identifier of **wardella2-231175**.

2.4 Assessment Methodology

2.4.1 The results of the assessment have identified the significance of the heritage assets within the study area, against a set of definable and qualitative criteria. These are shown and explained in Table 1.

Significance	Designation	Asset types and justification	Preferred response to negative impact
International	Non-statutorily designated heritage assets	World Heritage Site (NPPF s132)	Avoid negative impact where asset contributes to the WHS's defined outstanding universal values (NPPF s 138)
National	Statutorily designated heritage assets.	Scheduled monuments, grade I and II* listed buildings (NPPF s132).	Avoid negative impact.
National	Non-statutorily designated heritage assets.	Registered battlefields, grade I and II* Registered Parks and Gardens (NPPF s132).	Avoid negative impact.
National	Non-designated heritage assets of demonstrable equivalence to a scheduled monument (NPPF s138).	Assets where assessment for designation is pending, assets that have been assessed as being capable of designation but have not been designated at the SoS discretion, assets worthy of designation but which are outside the scope of the 1979 Act (NPPF s139).	Avoid negative impact.
District or County (higher)	Statutorily designated heritage assets.	Grade II listed buildings (NPPF s132).	Limit negative impact (avoid substantial harm) and mitigate.
District or County (higher)	Non-statutorily designated heritage assets.	Conservation area (NPPF s127), grade II registered park and garden (NPPF s132).	Limit negative impact (avoid substantial harm) and mitigate.
District or County (lesser)	Non-designated heritage assets within a national park or AONB.	Any extant heritage assets (NPPF s115) that are not otherwise given a higher significance.	Limit negative impact and mitigate.
District or County (lesser)	Non-designated heritage assets.	Heritage assets placed on a local planning authority list (NPPG).	Limit negative impact and mitigate.
District or County (lesser)	Non-designated heritage assets.	Any area of potential listed in a local plan (NPPG).	Limit negative impact and mitigate.
District or County (lesser)	Non-designated heritage assets.	Any hedgerow that can be considered, for historic reasons, important, under the provision of the Hedgerow Regulations Act (Secretary of State 1997).	Limit negative impact and mitigate.

Significance	Designation	Asset types and justification	Preferred response to negative impact
Local	Non-designated heritage assets.	Any extant heritage assets outside of a national park or AONB.	Mitigate.
Negligible	Non-designated heritage assets.	Heritage assets recorded in the HER that are no longer extant, individual find spots.	No action.

Table 1: Definition of Heritage Asset Significance

2.4.2 The identification of asset significance allows areas of particular archaeological concern to be identified.

2.4.3 The assessment of significance and the nature of the historic environment resource are used to inform the need for further evaluatory works to clarify the presence, character and state of preservation of those heritage assets that are believed to survive only as buried remains or earthworks. Recommendations with regard to these further evaluatory works are made in section 6.2.

3 BACKGROUND

3.1 Historical Background

3.1.1 The following section provides an historical context to the present study, and is considered by period as detailed in Table 3 below. Mentioned heritage assets, have numbers given in brackets, these relate to the Gazetteer where the assets are summarised (Appendix 2), and are mapped in Figures 2-4.

Period	Date Range
Prehistoric	Pre AD 43
Romano-British	AD 43 – AD 410
Early Medieval	AD 410 – AD 1066
Late Medieval	AD 1066 – AD 1540
Post-medieval	AD 1540 – c. 1750
Industrial Period	c. AD 1750 – 1914
Modern	Post 1914

Table 3: Summary of British archaeological periods and date ranges

3.1.2 This historical background is compiled mostly from earlier documentary work undertaken as part of the original pipeline route study (Peters and Newman 2015), which utilised secondary sources, and the records consulted during the desk-based assessment. It is intended only as a summary of historical developments around the study area.

3.1.3 ***The Pipeline Route/ general historical overview:*** the route traverses a landscape for which the basic structure had been established in the medieval period. It passes through a series of townships that had been established by the Middle Ages. The western part of the route passes through the township of Stainburn within the parish of Workington, which is likely to have Anglo Saxon origins. The township of Clifton, also within the parish of Workington, was enclosed prior to 1770, as was the area around the township of the adjacent township of Greysouthern, within the parish of Brigham. The route then passes through the township of Brigham, before extending into the medieval planned town of Cockermouth, first referenced in 1150 (Armstrong et al 1950, 361). North of the Cocker, and west of Cockermouth, the main part of the route crosses into the township of Papcastle, in the parish of Bridekirk, before passing through the historic township of Bridekirk, itself a nucleated settlement first mentioned in documents in 1210 (Armstrong et al 1950, 272), though the association

with St Bridget suggests the church foundation may be much earlier. The route continues north-eastwards through the township of Dovenby, also in Bridekirk parish, before it passes into the parish of Isel. To the north-east, the route passes briefly through the township and parish of Plumbland, before traversing the townships of Bothel and Threapland within the parish of Torpenhow. North of Bothel, the route passes through the township of Blennerhasset and Kirkland, first referenced in 1386 and into the township of Torpenhow itself. The far north-eastern extent of the route, historically, lies within the parish of Bolton, and the township of Low Bolton, first referenced in 1296 (Armstrong 1950).

3.1.4 The medieval landscape structure so clearly visible, especially to the north of Cockermouth (Cumbria County Council 2009, 45), overlies earlier landscapes, elements of which still survive below ground and occasionally on the surface. Air photographic survey and geophysics have revealed traces of Roman and late prehistoric landscape organisation and settlement, the structure of which is only occasionally discernible within the later landscape. The most striking surviving element of these earlier landscapes is the Roman road which later became the A595.

3.1.5 ***Prehistoric Period:*** known Mesolithic activity in Cumbria is focused on coastal, estuarine, riverine and lacustrian locations (Hodgson and Brennand 2006, 25) and the Derwent valley may be an area which will produce evidence of Mesolithic occupation. The earliest evidence for cultivation in Cumbria, at around 4000BC, lies close to the coast and in the Eden Valley. Evidence from inland is more limited, but points towards habitual use of valleys as important routeways. The valley of the River Derwent may have been one such routeway. Upland areas were exploited for their summer pasture, with both wild and domesticated animals retreating to more sheltered areas in the autumn months. The ripening of crops and fruits probably influenced the timing of these movements (Barrowclough 2010, 222-223).

3.1.6 Evidence for local Bronze Age activity in the area comes primarily in the form of metalwork. A small cast copper alloy unlooped palstave axe with a very short, flared blade, dating from the Middle Bronze Age (1500-1150 BC) was found in the Bridekirk area in 2010 (LANCUM-D724A4). In addition other finds include a twisted gold armlet from Eaglesfield near Cockermouth and a looped spearhead from Blindbothel, both of supposed Irish tradition (Barrowclough 2010, 230). Further evidence includes a stone axe-hammer, found south-west of Cockermouth (Barrowclough 2010, 146). These stray finds may indicate greater links between Bronze Age communities across the

Irish Sea, rather than with communities on the mainland to the east, as crossing the sea rather than the land was easier at this time. Although not much is known about the later prehistoric period in the area of the proposed pipeline, research around Papcastle has revealed probable pre-Roman structures in the vicinity of the later Roman fort and attached civilian settlement of *Derventio*.

3.1.7 ***Roman period***: one of the key tasks of the Roman occupying forces was to provide safe routes for their troops to travel across. Roads were an important part of the early infrastructure. Forts were established in north-western Cumbria at Carlisle, Old Carlisle (near Wigton) and Papcastle, with a road, the modern A595 route, established to link them. Whilst much of the modern A595 follows the exact course of the Roman road, there are significant departures especially where the route was altered in the medieval period to pass through medieval settlements. This is particularly true around Bothel where the route of the Roman road lies to the west of the A595. Part of this route can be clearly seen on Google Earth™ air photographs. It is likely that the pipeline route will bisect the former course of the Roman road to the north of Bothel (Asset 508).

3.1.8 It is thought that Roman Papcastle may have been at a crossroads of four main routes, one of which was the former route of the current A595 and another of which may have run close to the modern A66 east towards Keswick (Shotter 2004, 76). The remains found in the vicinity of Papcastle that have been subject to excavation have suggested a considerable Roman civilian settlement associated with the fort of *Derventio*. This settlement has the size and characteristics of a town (Grampus Heritage unpublished) and include a water mill and domestic, industrial and probable commercial areas (*pers. comm.* Frank Giecco, excavation co-director). Geophysical surveys to the south of Papcastle and west of Cockermouth have revealed evidence of a wider farmed Romano-British landscape surrounding this civilian settlement (Graham 2011).

3.1.9 Whilst much of the modern A595 follows the exact course of the Roman road from Papcastle to Old Carlisle, there are significance departures especially where the route was altered in the medieval period to pass through medieval settlements. This is particularly true around Bothel where the route of the Roman road lies to the west of the A595. It seems likely that the postulated route of the Roman road from Papcastle to Old Carlisle will be intersected by the pipeline route to the north of Bothel.

3.1.10 ***Medieval Period:*** the earliest settlement along the pipeline route to be referenced is Bothel, as 'Bothle' c. 1125, with several others referred to during the 12th century,

including Stainburn, as 'Steinburn' in c. 1135, Clifton in c. 1160, , Brigham, as 'Briggham' in c. 1175, and Broughton Cross as 'Broctuna' (Armstrong 1950). More settlements along the proposed pipeline route are first mentioned in the 13th century, including Bridekirk, in 1210, Threapland as 'Trepland' in c. 1220, Papcastle as 'Pabecastr' in 1260, Wood Hall as la Wodehall in 1278, the River Ellen as 'Aquam de Alen' in 1278 and the River Marron as 'Aquam de Maran' in 1282 (Armstrong 1950).

3.1.11 Several finds of the medieval to early post-medieval era have been encountered in the Bridekirk area, further indicating that this was a settlement of at least medieval origin (Portable Antiquities Scheme online database). A cast copper alloy damaged medieval mount from AD 1200-1600 was found in the Bothel area in 2011 (LANCUM-42BBB7); as was a silver hammered groat of Henry VII dating from c. AD 1490-1504, minted in London (LANCUM-42D6D7).

3.1.12 The remains of former medieval common fields occur throughout the area traversed by the pipeline. These are especially evident along the route north of Cockermouth and are evidenced by enclosed strip fields which have fossilised the strips of the open medieval common fields. Especially good examples occur around Redmain and Blindcrake. Within these areas the preserved earthworks of ridge and furrow are also evidence of this type of arable farming. During the medieval period, much of the route would have been within medieval common fields (Caron Newman pers. comm.).

3.1.13 The enclosure of open common arable fields was one of the main changes in the landscape that has taken place since the medieval period. Much of the structure of the area through which the pipeline route passes is still substantially medieval in origin. One area in which this has altered is an area of land marked on the historic Ordnance Survey mapping as the 'Tarnties'. This is an area of fields that contain some ridge and furrow but with no evidence of strip fields fossilising earlier common field arrangements. Additionally, the area is situated well away from any existing settlements. In the 18th century the area was referred to as a field called the Trinities (Nicholson and Burn 1777, II, 95). This land was in the township of Redmain which was granted as a manor to Guisborough Priory in Yorkshire in the medieval period, when it seems the Trinities was the demesne land of the manor (*ibid* ii, 97). This may mean that the area was a monastic grange.

3.1.14 During the Middle Ages a town grew up at Cockermouth, to the south of the former Roman town at Papcastle. Cockermouth was probably a deliberately planted and planned town and it seems to have been founded in the mid-12th century (Winchester

2012, 1). Medieval burgage plots line Main Street, though some were abandoned during the mid-14th century. The town recovered in the 16th century and remained a thriving market centre and textile mill town through into the later 18th century (*ibid*). To the immediate west of Cockermouth was the supposed chapel of St Leonard's (HER 43340). This is referenced in one later 13th century document. The location appears to be a close called St Leonard's on the site of the later railway station. St Leonard is often associated with hospices or leper hospitals. The location beyond the western edge of the town and the nearby site of Spittal Ings suggests this was the chapel of a hospital. There is a tradition that a hospital was founded here by Dominican friars from Carlisle (Bradbury 1995, 138).

3.1.15 ***Post-medieval:*** Donald's Map of Cumberland shows that the area through which the pipeline will pass is broadly similar in structure to the present day landscape, especially to the north of Cockermouth. To the west of Cockermouth, along the Derwent valley towards Workington, the landscape has changed more because of the influence of industry, especially coal mining. The first large scale industry to arrive in Cumbria was the Mines Royal development of silver mines to the north of Keswick in the 1560s. The Mines Royal looked to export their product through the port at Workington and one of their smelters was at Brigham. The costs of road transport for the raw materials involved in mining and smelting as well as the export of the finished product may have contributed to the industry's ultimate demise (Hindle 1984, 128).

3.1.16 Improving heavy goods transport was a clear priority for industrial development to take place. Although the first turnpike act in England was passed in 1663, the real boom came between 1751 and 1772 when over 400 trusts were established. The Turnpike 'system' was essentially a local affair, organised by local landowners, merchants, manufacturers, town council and anyone else interested in improving roads (Hindle 1984, 138). A few new Cumbrian roads were built in the early 18th century, principally by wealthy landowners, to service the developing coal ports (Smith 2011, 29), such as the road to Whitehaven in 1739. Turnpikes were established between Workington and Bridgefoot, and Bridgefoot and Cockermouth in 1753 (Hindle 1984, 139). This turnpike route is followed by the pipeline for much of the proposed pipeline route to the west of Cockermouth. Turnpikes generally took over existing roads and improved the worst parts and were constructed with milestones, mileposts and toll houses. A turnpike house survives at Broughton Cross. The turnpike road between Carlisle and Workington was first established in 1753, but went through

Wigton to Allonby and along the coast through Maryport (*ibid*, 63). It took the more direct route via Cockermouth at a later date (along the current A595), and now has the longest stretch of surviving milestones, 17 in total, in the County, though not all in their original positions. Only two milestones survive along the Cockermouth to Workington route, and both lie outside the proposed pipeline route (Smith 2011, 72). A guidepost is known from one of the 29 study areas, within area 73 (Asset 167).

3.1.17 The construction of roads and buildings to serve the growing industrial era would have required new quarries for raw materials. One such quarry is known to have existed in area 72, marked as a quarry on the 1866 Ordnance Survey map, but 'Old Quarry' on the 1900 Ordnance Survey map (Asset 26).

3.1.18 Improved roads and tramways led to the development of coal mining, especially in the Derwent valley. In 1761 Sir James Lowther was mining coal at Reelfitz Pit, Greysouthern at a depth of 34 fathoms (Wood 1988, 76). The growth of coal mining aided the expansion of settlement at places such as Clifton and Greysouthern. A trackway (Asset 175) shown on the 1881 Ordnance Survey map and labelled 'Cat Bank Lane' is shown heading to Lowther Pit, and to Lowther Brickworks on 1900 Ordnance Survey mapping, and may be affected by activity in area 67.

3.1.19 As well as coal mining, the textiles industry developed during this period especially around Cockermouth. South of the town was a fulling mill in existence by 1478 (Bradbury 1995, 165; Asset 24). It was not mentioned in a list of 1437/8 suggesting a date of construction of between 1438 and 1478. An indenture drawn up between Sir Henry Fletcher and Andrew Green dated 1830, refers to "*all that Fulling and Spinning Mill and premises… at Badgkin… in a certain close… called Leather Mill Field but formerly known by the name of Badgkins Close, which sd. Premises were lately occupied by Mrs Beeby and used by her as a spinning and carding mill*" (*ibid*). This mill may be affected by activity occurring within area 75.

3.1.20 ***Industrial Period:*** The rise of industry meant a rise in population in towns in the area, with major expansions at Workington and Cockermouth. The coal mining industry continued to grow during the 19th century. Greysouthern was producing 10,000 waggons of coal annually in 1816 (Wood 1988, 123), run by Joseph Harris & Co, who opened new workings at Nepgill, in 1837 and at John Pit in 1838, which together comprised the Millbanks Colliery situated near Bridgefoot (Wood 1988, 124). In 1853

Messrs. Fletcher & Co were working coal at their Bridgefoot Colliery, near Greysouthern, and in that year raised 1,953 tons (Wood 1988, 174).

3.1.21 Railways, were constructed, initially to assist with the transport of bulky goods like coal. The Cockermouth & Workington railway was incorporated on 21 July 1845 with a capital of £80,000. It passed within 10yd of Brigham Vicarage, the incumbent being John Wordsworth, son of famous poet and conservationist William, who criticised the railway for "*cutting between him and the river through his garden and little pleasure ground*" (Joy 1983, 152). It was incorporated in the Act to build a new vicarage within ¼ mile of the original with stable, offices, outbuilding, fixtures and a garden if not less than ½ an acre. The vicar was to be paid £5 for every month which elapsed between commencement of building the railway and completion of the vicarage and a sum of £50 for moving. The line was opened on 28th April 1847, intermediate stations being provided at Brigham, Broughton Cross, Camerton and Workington Bridge (Joy 1983, 152-3). The line closed in the 1960s and is now partly reused as the route of the A66 road.

3.1.22 Various connections were made from mines and quarries, including a tramway from Brigham limestone quarries, and in 1863 a link was opened from Derwent Junction in Workington to the harbour. At the Cockermouth end the line terminated west of the town at what became known as the Low Station or St Leonard's (Bradbury 1995, 191). On 1st August 1861, the Cockermouth, Keswick and Penrith Railway was granted powers to build its line. The existing station was to become a joint holding, but it was finally decided to build a new passenger station nearer the town centre, the old one becoming a goods station. It was primarily a mineral line, though passenger numbers were boosted by special trains for hiring days for workers, school and workhouse outings. The section from Workington to Keswick eventually closed to passengers in April 1966 (Bradbury 1995, 192-4).

3.1.23 Despite these industrial developments, most of the areas due to be affected by the groundworks in the 29 areas remain in agricultural land, and the majority of the assets identified relate to agricultural land use in the form of field boundaries. 11 of these are former field boundaries no longer in existence, of which four were first depicted on 1881 Ordnance Survey mapping (Assets 251, 516, 517 and 518), five on 1866 Ordnance Survey mapping (Assets 296, 524, 525, 528 and 523) and one on the Cockermouth Tithe Award plan of 1839 (Asset 518). 10 are existing field boundaries, all of which are shown on 1866 Ordnance Survey mapping (Assets 68, 235, 434, 435,

454, 520, 521, 522, 523 and 527), except one which is shown on Cockermouth Tithe Award plan of 1839 (Asset 526) and another that is first shown on 1925 Ordnance Survey mapping (Asset 519) and therefore of less historical interest.

3.1.24 ***Modern:*** the original use of the railways quickly came to be supplemented by passenger transport which helped to develop the region's tourism industry. Hiking became increasingly popular during the 1930s, especially among the unemployed and working classes, and special trains were run from industrial centres, such as Manchester, to the Lake District (Thompson 2010, 301). In 1936, numerous organisations including the Rambler's Association, the Youth Hostel's Association and the Council for the Preservation of Rural England formed a Standing Committee on National Parks, lobbying for legislation. As part of the post-war reconstruction, a report on National Parks was produced in 1945, eventually leading to the National Parks and Access to the Countryside Act in 1949 (*ibid*, 302). The Lake District finally became a national park two years later (*ibid*), predominantly to preserve and protect its landscape.

3.1.25 In recent times the creation of the Lake District National Park has undoubtedly had the greatest impact on the development of the local landscape through which the pipeline will pass. To the north of Cockermouth the A595 marks the western boundary of the Lake District National Park and there is a clear distinction in landscape quality on either side of the boundary (see Cumbria County Council 2007). Within the Park there is a lack of modern development within settlements such as Blindcrake and Redmain, in comparison to nearby Bridekirk and Gilcrux outside the park. Moreover, the field systems appear to have retained more of their boundary integrity and for the most part there is a better survival of earthworks such as ridge and furrow. The quality of the Park's surviving historic landscape is one of the factors in the Lake District being put forward for inscription in 2017 as a World Heritage Site.

3.2 Aerial Photographs and LiDAR

3.2.1 Colour vertical composite digital aerial photography was accessed using Google Earth and black and white oblique and vertical aerial print photographs were consulted at Cumbria County Council's Historic Environment Record offices. No new heritage assets were identified from any of the 30 areas.

3.2.2 LiDAR images were accessed from the Environment Agency online dataset. LiDAR measures the height of the ground surface and other features across large areas of

landscape. LiDAR operates by using a pulsed laser beam which is scanned from side to side as the aircraft flies over the survey area, measuring between 20,000 to 100,000 points per second to build an accurate, high resolution model of the ground and the features upon it. This allows the detection of otherwise hard to recognise features.

3.2.3 LiDAR images were studied online across the study area, though full coverage of the route was not available (https://www.geomatics-group.co.uk/geomatics/Redirect.aspx). No previously unknown potential heritage assets were noted from the LiDAR imagery.

3.3 Previous Archaeological Work

3.3.1 Various places along the proposed pipeline route have been subjected to previous archaeological investigations discussed in the main pipeline route report (Peters and Newman). Those of most relevance to these additional 30 areas include the recent archaeological evaluation and geophysical surveys (McElligott 2015a and b; Railton 2015). None of these occurred within the 30 areas targeted by this study, but have encountered archaeology, further highlighting the potential for as-yet unknown remains to survive within these new areas.

4 SITE VISIT RESULTS

4.1 Introduction

4.1.1 Each of the 30 areas were visited as part of this project to note any further as-yet unknown archaeological features and to assess the survival of known heritage assets, identified by the research (*confer* 3.1), known to exist, or have existed, within these areas. The areas were assessed from publicly accessible points.

4.1.2 Each area is discussed separately below (4.2), following a rough route from west to north-east along the wider pipeline route, with the areas around Cockermouth assessed at the end. The relevant heritage assets are assessed within the area in which it is located.

4.2 Site Visit Results

4.2.1 Area 59 was a narrow strip of land at the western extent of the pipeline route. It consisted of an artificially raised stretch of land, higher than the track to the west, with a bank on the north side forming the southern extent of an existing reservoir (Plate 1). No heritage assets are known from the area, and none were visible at the time of the site visit. As the area is in the immediate vicinity of a reservoir, the potential for archaeological features to survive in this area is not likely to be high.

Plate 1: Area 59, facing east-north-east

4.2.2 Area 60 consisted of an area of undulating marshy pasture land, within a larger field which has a low lying area at its centre, on the south side of the main road between Stainburn and Great Clifton (Plate 2). No heritage assets are known from the area, and none were visible at the time of the site visit. This area appears to have been

agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 2: Area 60, facing south-east

4.2.3 Area 61 was a pastoral area of land within a wider field occupied by horses at the time of the site visit (Plate 3). It was located on a gentle south-facing slope in an area of land to the west of the historic core of Great Clifton, and east of a modern housing estate and to the immediate south of a new village hall and public footpath route. Two historic assets are known to have once existed within this area, both former field boundaries (Assets 516 and 517). Asset 516 was a north-west south-east aligned field boundary in the far north-eastern part of the field shown on the Ordnance Survey map of 1864 and on subsequent mapping, but only partially shown on the 1975 map and not on more modern maps. A fence was observed in the north-east corner of the field, creating a compound area for sheds and storage, which may have followed part of this earlier boundary, but it retained none of its historic integrity. Asset 517 was an irregular dog-legged former field boundary which ran towards the centre of area 61 as shown on Ordnance Survey mapping of 1864. The boundary was not marked on the 1900 Ordnance Survey map. No traces of this boundary were noted during the site

visit. Sub-surface remains of these former boundaries are likely to survive within area 61, and earlier archaeological deposits may also survive.

Plate 3: Area 61 including fenced area in vicinity of asset 516, facing south-east

4.2.4 Area 62 lay in the north-west corner of a field to the immediate south of the A66 and overlooking it. It consisted of an area of marshy pasture (Plate 4). No heritage assets are known from the area, and none were visible at the time of the site visit. As historic mapping indicates that this area has remained unchanged from the mid 19th century onwards, there is potential for earlier archaeological remains to survive on-site, though the close proximity of the modern A66 and possible impact from its construction have reduced any potential.

Plate 4: Area 62, facing north-east

4.2.5 Area 63 was located to the south-west of the A66 roundabout west of Broughton Cross. It comprised an area of gently undulating pasture (Plate 5). A former north-east south-west aligned field boundary was noted crossing the area on historic mapping (asset 518). This was shown on the 1864 edition of the Ordnance Survey map, and on subsequent Ordnance Survey mapping, but was not depicted on modern mapping or vicible as an extant boundary on google earth imagery from 2002 onwards. No traces of the asset were observed during the site visit. As historic mapping indicates that this area has remained unchanged from the mid 19th century onwards, there is potential for earlier archaeological remains to survive within the area.

Plate 5: Area 63, facing south-west

4.2.6 Area 64 lay within a wider area of pastoral land to the north of the A66 between Great Clifton to the west and Bridgefoot to the east, and to the south of the River Derwent. A small stream ran to the north of the field in which the area lay. The area was on a gentle north-west facing slope and consisted of pastoral land (Plate 6). A former field boundary is known from Ordnance Survey mapping of 1864 and on mapping to at least 1961, but is not shown on modern mapping (asset 251). No trace of this asset was visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may retain buried evidence for earlier activity.

Plate 6: Area 64, facing south-east

4.2.7 Area 65 lay within a wider area of agricultural land to the north-west of Bridgefoot and to the south of the River Derwent and north-west of the A66. It consisted of an area of arable land within a field growing crops on a gentle north-east facing slope (Plate 7). No heritage assets are known from the area, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 7: Area 65, facing north-east

4.2.7 Area 66 lay within a large pasture field to the north-west of Bridgefoot and south-east of the A66. It consisted of an area of gently undulating ground (Plate 8) accessed from the south-west from a track leading from Cat Bank Lane (asset 5). No heritage assets are known from the area, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have

buried evidence for earlier activity, though the close proximity of the modern A66 and possible impact from its construction may have had a detrimental impact on this potential.

Plate 8: Area 66, facing north-east

4.2.7 Area 67 comprises an existing track (asset 175; Plate 9) to the west of area 66 to the north of the A66 and north-west of Bridgefoot. This track is shown on the Ordnance Survey map of 1864 leading to the former Lowther coal pit, then Lowther brickworks, to the north-west. It survived well as an existing trackway at the time of the site visit, likely to be little changed since the 19th century.

Plate 9: Area 67, asset 175, facing north-west

4.2.7 Area 86 consists of a tract of pasture within a field to the south of the River Marron (Plate 10). Weirs and a former forge are known to exist to the north-east, but no heritage assets are known from within area 86, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 10: Area 86, facing north

4.2.8 Area 85 consists of a tract of rough overgrown land with some fir trees within a field located to the east of Bridgefoot (Plate 11). No heritage assets are known from within area 85, and none were visible at the time of the site visit. The potential for archaeological features predating the establishment of fir trees surviving sub-surface cannot be ruled out.

Plate 11: Area 85, facing north-west

4.2.9 Area 68 consists of land within two fields on a north-west facing slope to the south of the road between Bridgefoot to the west and Broughton Cross to the east. The area consisted of pasture, bisected by a field boundary (asset 68). The boundary was shown on the 1864 edition of the Ordnance Survey map, though at the time of the site visit it merely consisted of a wooden post and wire fence with the occasional shrub (Plate 12). No further archaeological features were noted within area 68. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 12: Area 68 and Asset 68, facing south-east

4.2.10 Area 69 comprised an area of land spanning parts of two fields on the south side of the road between Bridgefoot and Broughton Cross. It is pasture (Plate 13). Asset 519, a field boundary first depicted on Ordnance Survey mapping dating to 1925 was noted, surviving as a modern post and wire fence. No further archaeological features were noted within area 69. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 13: Area 69, facing west-south-west

4.2.11 Area 82 consisted of an area within two fields either side of Cockermouth Lonning to the north-east of Brigham. As well as the road between the two parts, there was also a stream with stone wall which the road rang alongside. Both parts of area 82 comprised pasture (Plate 14). No heritage assets are known from within area 85, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 14: Area 82, eastern part, facing south-west

4.2.12 Area 71 consisted of an area within two fields either side of the A594 north of Papcastle. Both fields comprised pasture on a gentle south-facing slope (Plate 15). No heritage assets are known from within area 71, and none were visible at the time of

the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 15: Area 71, western part, facing south-east

4.2.13 Area 72 consisted of an area of 14 hectares covering 10 fields of pasture in the vicinity of Williamsgate. Mature trees were noted beside the road (Plate 16), but as this area was so vast, and assessment was only possible from publicly accessible areas, a full study of area 72 was not undertaken, however the area was subsequently examined as part of the geophysical survey.

Plate 16: Area 72, southern central field, facing north-east

4.2.13 Area 73 consisted of an area of pasture in the southern extent of two fields on the north side of the A595 near Moota Hill. The land was on a south-east facing slope and was bisected by a field boundary running north-west to south-east and known from

1864 Ordnance Survey mapping (asset 454). At the time of the site visit, it survived as a row of sporadic low trees, with the boundary reinforced with a modern post and wire fence (Plate 17). No further archaeological features were noted, and the site of the former guidepost (asset 167) was not found, though is likely to have lain by the roadside, and therefore outside the boundary of area 73. This area appears to have been agricultural land from at least the Middle Ages, but may retain buried evidence of earlier activity.

Plate 17: Area 73, showing asset 454, facing north-east

4.2.14 Area 87 comprised an area of pasture in a field on the east side of a minor road to Plumbland from the A595. Although no heritage assets are known from within area 87, and none were visible at the time of the site visit, the entrance to the field was flanked by two stone gate stoops (Plate 18) which would be worthy of retaining. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 18: Northern gate stoop at entrance to area 87

4.2.14 Area 88 comprised an area of level pasture (Plate 19), in a field on the west side of a minor road to Plumbland from the A595, to the north of Redmain. No heritage assets are known from within area 88, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 19: Area 88, facing north-west

4.2.15 Area 91 consisted of arable land on the west side of a minor road between Bothel and Threapland (Plate 20). No heritage assets are known from within area 74, and none

were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 20: Area 91, facing south-west

4.2.16 Area 74 consisted of a roughly level area of pasture in the south-eastern extent of a field (Plate 21) on the south side of a minor road from the A595 to Torpenhow, north-west of the farmstead of High Woodnook. No heritage assets are known from within area 74, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 21: Area 74, facing north-west

4.2.16 Area 89 consisted of a roughly level area of pasture at the eastern edge of a field on the west side of the road from the A595 to Torpenhow to the south. Its boundary was

formed by a metal fence of an estate-style (Plate 22). No heritage assets are known from within area 74, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 22: Area 89, facing south-east

4.2.17 Area 77 was a triangular area west of housing to the west of the centre of Cockermouth and east of the A66. At the time of the site visit, it was fenced off as a construction site, presumably for new housing (Plate 23). As such, the archaeological potential is low, despite the known presence of a former field boundary (asset 528).

Plate 23: Area 77, facing south-east

4.2.18 Area 84 was an area within a field west of Cockermouth and the A66. At the time of the site visit, it consisted of gently undulating pasture (Plate 24). No heritage assets

are known from within area 84, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 24: Area 84, facing east

4.2.19 Area 80 was located within the south-western extent of a field on the north side of the minor road between Cockermouth and Brigham. It was on a gentle north-facing slope, used for pasture at the time of the site visit (Plate 25). No heritage assets are known from within area 80, and none were visible at the time of the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 25: Area 80, facing north

4.2.20 Area 79 was located within the south-eastern extent of a field on the north side of the minor road between Cockermouth and Brigham. It was on a gentle north-facing slope, used for pasture at the time of the site visit. Although no heritage assets are known from within area 79, some small stone-built structures, forming animal pens and troughs, were visible, though not shown on historic mapping, so presumably of recent origin (Plate 26). This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 26: Area 80, facing north

4.2.21 Area 83 lay in pasture on the south side of Low Road, between Cockermouth and the A66. It was located within the Fitz, a parkland estate owned by the Senhouse family from *c.* 1627, and the grade II listed house is recorded within Cumbria Historic Environment Record (HER 43382; NHL 1145198). One probable former field boundary is known from within area 83, encountered by a geophysical survey of the field in 2014, along with features thought to represent cultivation furrows (Railton 2014, 12). An area just to the east within the Fitz was also subjected to geophysical survey as part of the same earlier work, and this encountered evidence for probable Romano-British occupation enclosure and field system (Railton 2014, 13). Although no features were visible at the time of the site visit (Plate 27), there is the potential for features to extend into area 83.

Plate 27: Area 83, facing north

4.2.22 Area 78 was located within the town of Cockermouth in land to the east of Lamplugh which comprised part of a school playing field in the northern part and an enclosed area in the southern part, containing an electric sub-station and other brick built modern buildings, as well as a sunken rectangular area, presumably the same covered reservoir as that first shown on the Ordnance Survey map of 1900 (asset 529; Plate 28). As these areas have been artificially levelled, the potential for archaeological remains to survive is low.

Plate 28: Area 78, southern part, facing north-east

4.2.23 Area 75 was located to the south of the centre of Cockermouth in land south and east of the Derwent and west of modern housing. The area included a steep-banked slope and was in pasture at the time of the site visit. Asset 526, though an early boundary shown on the Cockermouth Tithe Award of 1839, survived only as a modern post and

wire fence. The remains of the mill (asset 24) were visible in the form of debris of a low stone wall, but this was outside the area, and inaccessible because of the fast flowing river. The line shown on Ordnance Survey maps from 1866 onwards, interpreted as a possible field boundary, may have been the southern extent of the river, as no such field boundary existed at the time of the site visit, though it is shown on modern mapping (asset 527). Asset 296, a former field boundary on a north-east south-west alignment across the area may have survived at the time of the site visit in the form of a slight raised bank and occasional tree (Plate 29). No further features were noted during the site visit. This area appears to have been agricultural land from at least the Middle Ages and may retain buried evidence for earlier activity.

Plate 29: Asset 296, southern part, facing south

4.2.24 Area 76 was located to the south of area 75, south of the centre of Cockermouth in land south and east of the Derwent and west of modern housing. The area was pasture at the time of the site visit and in rolling countryside. The southern part of asset 526, a former boundary, survived running across the area, in the form of a raised bank with the occasional tree (Plate 30). This is an early boundary shown on the Cockermouth Tithe Award of 1839, and only surviving in the northern area (area 75) as a modern post and wire fence. No further features were noted during the site visit. This area appears to have been agricultural land from at least the Middle Ages, but may have buried evidence for earlier activity.

Plate 30: Southern extent of asset 526 in area 76, facing south

5 ASSESSMENT OF RESULTS

5.1 Introduction

5.1.1 A total of 25 heritage assets have been identified from the 30 additional areas, 11 of which had already been highlighted from the earlier research work (Assets 24, 26, 68, 167, 175, 235, 251, 296, 434, 435 and 454). All 25 are summarised by period in the table below:

Likely Period of Origin	Number of Assets	Asset Numbers
Medieval	1	24
Post-Medieval	22	26, 68, 167, 175, 235, 251, 296, 434, 435, 454, 516, 517, 518, 520, 521, 522, 523, 524, 525, 526, 527, and 528
Industrial	1	529
Modern	1	519

Table 4: Number of heritage assets by period

5.2 Significance

5.2.1 Based on current knowledge, there are no assets of international significance or of national significance. There are no other statutory or non-statutory designated heritage assets deemed to be of national cultural heritage importance.

5.2.2 The one asset of county/district significance is a former field boundary known to have predated 1850 (asset 526). There are 23 assets of local significance and one of negligible significance. All assets are summarised in the table below by their level of significance.

Significance	Number of Assets	Asset Numbers
District or County (lesser)	1	526
Local	23	24, 26, 68, 175, 235, 251, 296, 434, 435, 454, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 527, 528 and 529
Negligible	1	167

Table 5: Number of heritage assets by level of significance

5.3 Important Hedgerows

5.3.1 The most frequently noted historic assets encountered by this research have been field boundaries. Under the *Hedgerow Regulations,* hedgerows that pre-date 1850 can

be defined as important hedgerows. Where a hedgerow is demonstrably in existence before 1850 it has been accorded a county or district (lesser) significance.

5.3.2 Where these hedgerows are clearly part of field systems that pre-date 1850, such as the fossilised strip fields of the former medieval common fields, the hedgerows should be regarded as 'important' under the definitions of the *Hedgerow Regulations*.

5.4 Risk of Encountering as yet Unknown Remains

5.5.1 The risk of encountering unknown heritage assets relates entirely to below ground archaeological remains. The possibility of encountering previously unknown Roman remains, especially in the vicinity of the A595, has been highlighted above. Beyond these, a consideration of the assets noted set within the context of the historic landscape character of the 30 areas suggests that there is a moderate likelihood of encountering previously unsuspected archaeological features relating to prehistory, especially in the Derwent valley.

5.5.2 It is unlikely that any as yet unknown remains encountered during the construction process will be of international or national significance.

6 RECOMMENDATIONS

6.1 Introduction

6.1.1 A programme of archaeological mitigation is already underway on some of the 30 areas. Geophysical surveys are already planned for areas 62, 63, 64, 65, 66, 86, 85, 68, 82, 70, 80, 84, 78, 75, 83 and 72. The planned survey in area 77 will not now be required due to the nature of the site as a construction site. Depending on the results of the surveys, further mitigation may be required, and a watching brief or field evaluation may also be required on areas not subjected to geophysical survey.

6.1.2 Any of the noted remains which will be directly impacted upon by the excavation of an easement and a pipe trench will require detailed archaeological recording. This should include a photographic record to better understand any importance the sites have in their wider landscape.

6.1.3 The potential still exists for other unknown buried remains, which are not visible above ground, to be encountered during construction. Consequently, It is recommended that a full watching brief be undertaken of all excavations linked with the topsoil stripping in the 29 areas.

6.2 Further Archaeological Evaluation

6.2.1 A number of heritage assets and groups of assets have been identified that would benefit from further archaeological investigation in order to clarify their significance and ascertain the likely impact of pipeline development as well as to better define a mitigation strategy.

6.2.2 The identified important hedgerow (asset 526) should be photographically recorded along the stretch likely to be impacted by any construction, though it survives poorly. Its species composition should be analysed and on the basis of woody species present, their approximate date of origin should be estimated.

6.2.3 The identified trackway (asset 175) should be photographically recorded along the stretch likely to be impacted upon by any construction.

6.2.4 The identified mill (asset 24) should be targeted by trial trenching, away from the river where any remains may be affected by construction.

7 BIBLIOGRAPHY

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APPENDIX 1: FIGURES

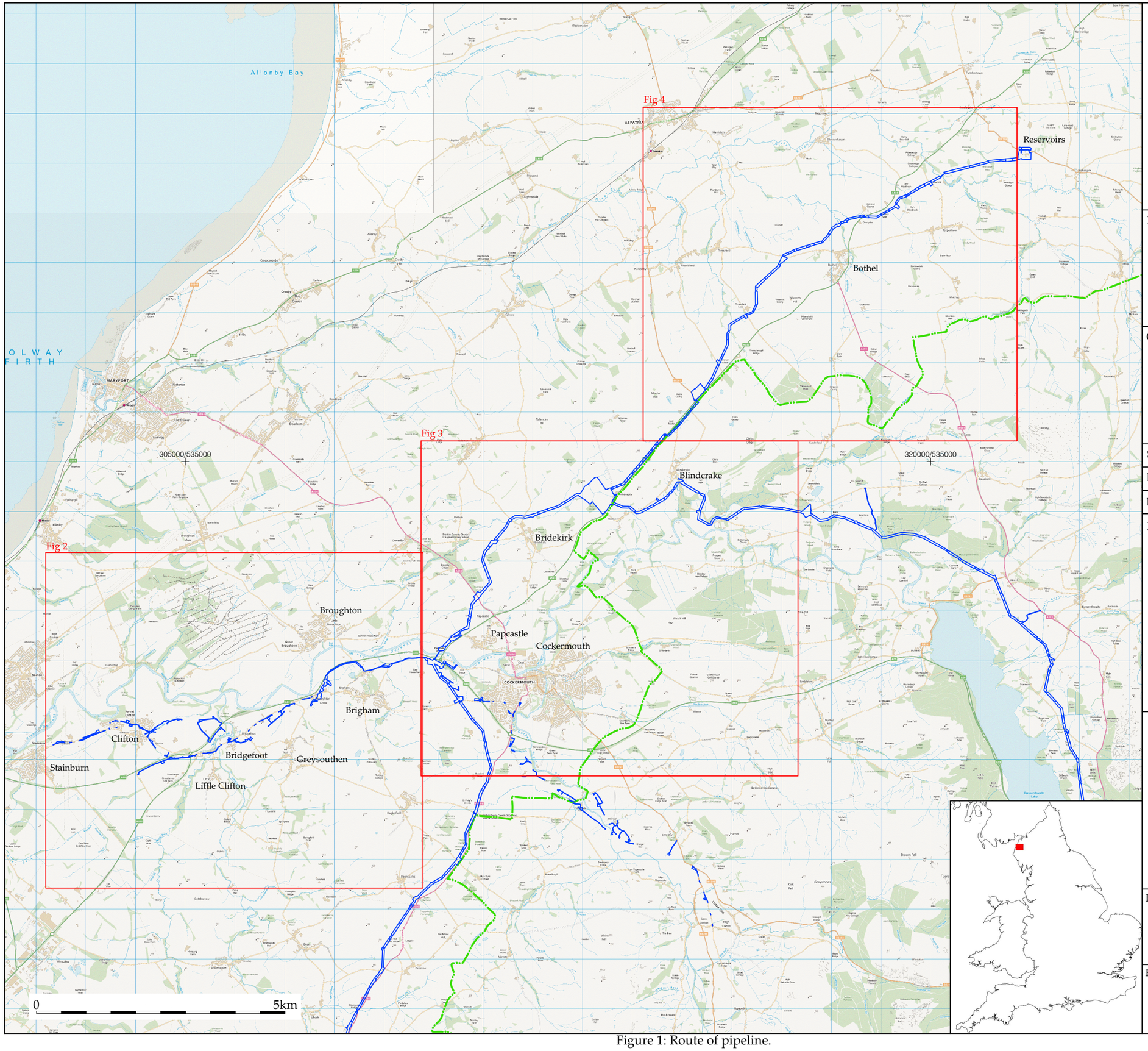


Figure 1: Route of pipeline.

Wardell Armstrong Archaeology 2015

PROJECT:

Extensions to Network Mains from Quarry Hill to Stainburn and Cockermouth, Cumbria

CLIENT:

United Utilities Water PLC

SCALE: 1:75,000 at A3

DRAWN BY: AB

DATE: November 2015

KEY:

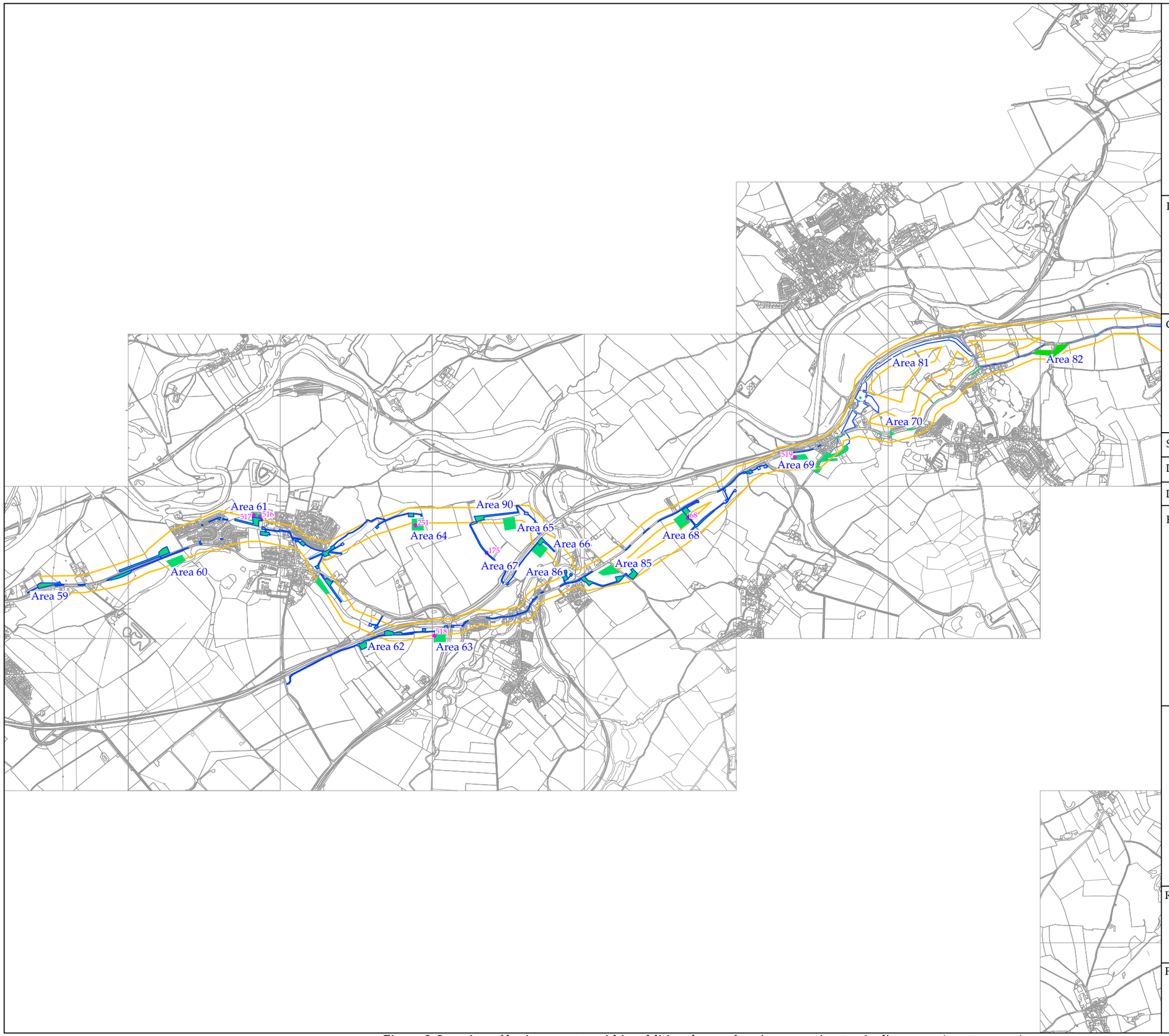
Route of pipeline

Lake District National Park Boundary

Location of evaluation areas (Figures 2-4)

REPORT No: CP11587

FIGURE: 1



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Extensions to Network Mains from Quarry Hill to Stainburn and Cockermouth , Cumbria

CLIENT:

United Utilities

SCALE: 1:20,000 at A3

DRAWN BY: HP

DATE: November 2015

KEY:

- Route of pipeline
- DBA corridor
- Heritage assets
- Areas covered by study

REPORT No:

CP11587

FIGURE:

2

Figure 2: Location of heritage assets within additional areas forming extension to pipeline route (western area).

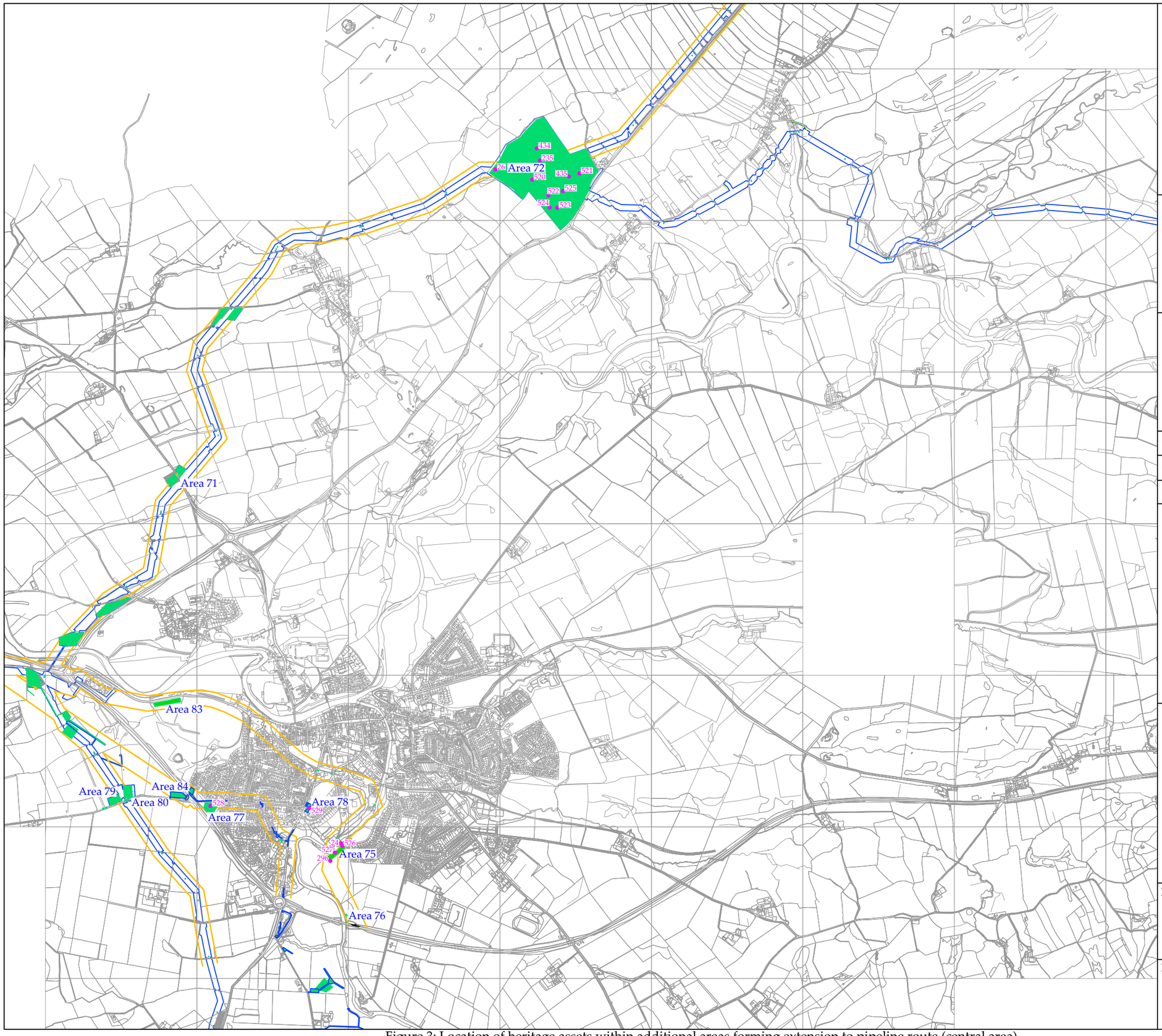

Figure 3: Location of heritage assets within additional areas forming extension to pipeline route (central area).

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- Route of pipeline
- DBA corridor
- Heritage assets
- Areas covered by study

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FIGURE:

3

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SCALE: 1:20,000 at A3

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DATE: November 2015

KEY:

- Route of pipeline
- DBA corridor
- Heritage assets
- Areas covered by study

REPORT No: CP11587

FIGURE: 4

Figure 4: Location of heritage assets within additional areas forming extension to pipeline route (eastern area).

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