



Abbeytown Wastewater Treatment Works, Cumbria

Archaeological Desk- based Assessment and Watching Brief



Oxford Archaeology North

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SUMMARY

Oxford Archaeology North (OA North) undertook a desk-based assessment and watching brief on behalf of United Utilities, during February 2008 and September 2009. The assessment covered a 500m wide corridor of land either side of a proposed pipeline from the Wastewater Treatment Works (NY 1790 5155) to the Wastewater Pumping Station (NY 1780 5045) in Abbeytown, Cumbria (Fig 1), with associated improvements to be carried out at the Wastewater Treatment Works. OA North undertook a watching brief during topsoil stripping for the easement of the pipeline in two fields and a section of lane to the north and north-east of the village.

The desk-based assessment examined all the relevant sources, both primary and secondary, including maps and plans, as well as referring to the Historic Environment Record (HER), Kendal. In total, 35 sites of archaeological interest were identified, 18 of which were already recorded on the HER (Sites **1-15** and **33-35**). These sites include the remains of Holme Cultram Abbey (Site **6**), a designated Scheduled Monument (SM 302). The remaining sites were identified as a result of consultation of historic maps (Sites **16-33**) and were assessed as being of local significance. The majority of the sites are post-medieval in date, although a number of medieval sites relating to the Abbey are included, as well as a limited number of sites of earlier periods.

Of the sites identified by the desk-based assessment, the Abbey ditch (Site **3**), and the Abbey hospital (Site **9**) were identified as being potentially affected by the proposed pipeline.

A watching brief was maintained during topsoil stripping for the site compound and the easement during September 2009. The area of topsoil stripping comprised two fields and a section of lane. The watching brief recorded limited evidence for archaeological activity on the lane, within the easement, comprising a high quantity of clinker from the construction of the Carlisle to Silloth railway. No significant archaeological features were located and no further programme of work is recommended.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank United Utilities for commissioning the project. Thanks are also due to Jo Mackintosh at Cumbria Historic Environment Record (CHER), Kendal and the staff of Cumbria Record Office, Carlisle for their assistance with the project.

Vicki Bullock undertook the desk-based assessment and wrote the report. Andy Bates undertook the watching brief. Mark Tidmarsh produced the drawings and Alison Plummer, who managed the project, also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 United Utilities propose to construct a new wastewater pipeline through Abbeytown, Cumbria, between NGR NY1790 5155 and NY 1780 5045 (Fig 1). Given the close proximity of the pipeline to Holme Cultram Abbey (Site 6), and the potential for associated archaeological remains, Cumbria County Council Historic Environment Services (CCCHES) recommended that a desk-based assessment be undertaken to assess the archaeological potential of the area prior to the development taking place. In addition, it was recommended that a watching brief be carried out during topsoil stripping activities associated with the pipeline works. Subsequently, OA North was commissioned to carry out the desk-based assessment and watching brief. These took place during February 2008 and September 2009 respectively.
- 1.1.2 This report sets out the results of the desk-based assessment and watching brief in the form of a short document, outlining the findings, followed by a statement of the archaeological potential and significance, and an assessment of the impact of the proposed development.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The study area comprises a 1km area surrounding the pipeline route. This route runs south-west from the current Wastewater Treatment Works (NY 1790 5155) along the line of the dismantled Carlisle to Silloth railway for a short distance then turns south-east before turning south-west again following the B5307 to the outer limits of Abbeytown, and then follows the B5302 along the eastern side of the village to the Wastewater Pumping Station (NY 1780 5045) for a total length of 1.25km. The site lies at the north-eastern extent of the Abbeytown Ridge.
- 1.2.2 This ridge is one of the few areas in the immediate environs where the fertile soils are dry enough for arable agriculture. Elsewhere, in fields associated with reclaimed mosses, seasonal water-logging of the area makes pastoral agriculture more successful. Further to the north, between the agricultural land and the mud flats of the river Waver, there still remains strips of salt marsh, known as Newton Marsh and Skinburness Marsh (Hodgkinson *et al* 2000, 85).
- 1.2.3 The underlying geology of the area consists of a reddish Devensian till or boulder clay, deposited during the last period of glaciation prior to the present interglacial (Evans 1975, 28). The soils to the north of Abbeytown are fine to coarse loams of the Cliffton association, and to the south the fine loams and clay-rich surface water glays of the Brickfield association occur, both of which are seasonally waterlogged (Bewley 1994, 14).

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 All work carried out was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, English Heritage guidelines and generally accepted best practice (Institute of Field Archaeologists 1999; English Heritage 2006).

2.2 DESK-BASED ASSESSMENT

- 2.2.1 A comprising study area that comprised a 1km corridor around the proposed pipeline was examined in order to gain an understanding of the historical and archaeological background of the area, and to assess the potential impact of the construction of the pipeline on sites of archaeological significance. The sites identified within this study area are presented in the site gazetteer (*Section 4*; Fig 2). A general historical and archaeological background of the area was compiled and map regression analysis was undertaken.
- 2.2.2 The results were analysed using the set of criteria used to assess the national importance of an ancient monument (DoE 1990).
- 2.2.3 **Historic Environment Record (HER):** existing information relating to the archaeological resource of the study area was obtained from the Historic Environment Record (HER) held in Kendal. Several sets of aerial photographs were examined.
- 2.2.4 **County Record Office (Carlisle) (CRO(C)):** there were several manuscript maps within the Cumbria County Record Office (Carlisle) and these were consulted. A parchment map believed to be from the late eighteenth century, the Tithe maps of between 1843 and 1852, and the earliest edition Ordnance survey map (1868) were of particular relevance to the study area.
- 2.2.5 **Oxford Archaeology North:** OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 WATCHING BRIEF

- 2.3.1 This programme of field observation aimed to record accurately any deposits exposed during the topsoil strip of the easement or site compound. The work comprised the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features, horizon and artefacts identified during the watching brief.

- 2.3.2 All archaeological contexts were recorded on OA North's *pro-forma* sheets using a system based on that of the English Heritage Centre of Archaeology. A monochrome and digital photographic record was maintained throughout.

2.4 ARCHIVE

- 2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited in the Cumbria County Record Office in Carlisle on completion of the project.

3. HISTORICAL BACKGROUND

3.1 INTRODUCTION

3.1.1 The following section presents a summary of the historical and archaeological background of the general area. This is presented by historical period, and has been compiled in order to place the study area into a wider archaeological context.

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 3,500 BC
Neolithic	3,500 – 2,200 BC
Bronze Age	2,200 – 700 BC
Iron Age	700 BC – 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 AD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

3.2 BACKGROUND

3.2.1 **Prehistoric Period:** there is no evidence of human activity on the Solway Plain prior to the Mesolithic (Bewley 1994, 53). The Mesolithic period saw the landscape change from open park tundra, which developed at the start of the post-glacial period, to a woodland environment. Recent work undertaken by OA North during the construction of the Carlisle Northern Development Route (CNRD) has led to significant discoveries of Mesolithic activity in the Carlisle area (OA North forthcoming). Previously, the earliest direct evidence of man on the Solway Plain came from two bone harpoon points, located on the surface of a shrinking peat deposit at the end of the nineteenth century at Crosby-on-Eden. These are suggested to be of a Mesolithic date due to their similarity with the harpoon points recovered from the Mesolithic site of Starr Carr (Annable 1987, 43). The later Mesolithic occupation of the north of England was almost entirely attested to by unstratified flint tools (*op cit*, 44) The only site which had been properly excavated was that of Skelda Hill, Eskmeals (Bewley 1994, 54). The concentration of Mesolithic activity appeared to be located in coastal areas (*ibid*) showing a similarity with Scottish sites (Cherry 1969, 52).

- 3.2.2 Similarly, evidence of Neolithic occupation is equally sparse, however, there are numerous unstratified finds from the region and evidence of Neolithic activity from CNDR (OA North forthcoming). These include 100 stone axes with three concentrations at Mawbray, Beckfoot and on the northern end of Abbeytown Ridge, south-west of Abbeytown itself (Bewley 1994, 56). These concentrations have been interpreted as indicating areas of Neolithic settlement, on the assumption that the woodland cover had been cleared with these axes, located in areas where a variety of resources could be exploited as dictated by the surrounding environment (*ibid*). Bewley (1993), conducted a survey and excavation at Plasketlands crop mark enclosure, near Mawbray, Cumbria. Radiocarbon dates from analysis of charcoal provided an early Neolithic date for the site.
- 3.2.3 Excavated settlements sites of Bronze Age date in the area are rare, with one exception at Ewanrigg (Bewley 1992). This consists of a defended settlement site whose occupation continued up until the late fourth century AD. The origins of the site, however, may well have begun in the Bronze Age on the evidence of one pit which produced a radiocarbon date of 1410-1000 BC. The site is also noteworthy for its close association with an earlier Bronze Age cemetery which produced a number of collared urns (*op cit*, 37).
- 3.2.4 The identification of cereal pollen from Bowness Common, dating from c 2000-1500 cal BC, attests to the growing of cereals in the area, although the dating is tentative (Hodgkinson *et al* 2000, 112). However, finds of Bronze Age date in the region, including beaker burials, are generally concentrated in the Eden Valley (Bewley 1994, 59).
- 3.2.5 A single collared urn of Bronze Age date was recovered from Aldoth Farm (Site 14), to the south-west of Abbeytown. It was located in a shallow cut beneath the centre point of an excavated round barrow (Richardson 1990, 22), the barrow itself being made of sand (Bewley 1994, 61). Numerous other small circular crop marks have been located on the Abbeytown Ridge, many of which may well prove to be of Bronze Age date (*op cit*, 62).
- 3.2.6 Two sites in the wider area are confirmed as Iron Age in date, the hill fort on Carrock Fell, which overlooks the Solway Plain, and the hill fort on Swarthy Hill (Bewley 1992, 37-42).
- 3.2.7 A Bronze Age round barrow (Site 14), provides the only direct evidence of prehistoric activity in the wider area, although the exact location of this site is unclear from the HER. However, human activity in the region is evident from the Mesolithic period onwards.
- 3.2.8 **Roman Period:** Roman military activity in the area began during the governorship of *Q Petillius Cerialis* (AD 71-74) (Shotter 1997, 12). The archaeological remains of the Roman occupation in the region are plentiful, not least Hadrian's Wall which runs between South Shields (*Arbeia*) and Bowness (*Maia*) (Frere 1974, 128; Ordnance Survey 1978). Other forts in the area originate from the pre-Hadriatic northern frontier (Shotter 1997, 35). Also of note are the coastal forts, mile castles and towers which continued down the Cumberland coast, from Bowness to just beyond Maryport, the latter

being the site of an auxiliary fort which pre-dates the Hadrianic frontier (Shotter 1996, 72-81).

- 3.2.9 A possible Roman road at Holm East Waver Road (Site 4) provides the only known evidence of Romano-British activity in proximity to the study area.
- 3.2.10 **Early Medieval Period:** occupation in the immediate post-Roman period is thought to have been scarce. It has been suggested from place-name evidence that there was little in the way of Anglian settlement in the area, with the exception of Mawbray, 10.6km to the south-west of the study area, which in AD 1150 was referred to as Mayburgh (Grainger and Collingwood 1929, 112). This has been interpreted as similar to maeburgh meaning clan or tribe, and in this case may indicate the site of an extended family settlement (*ibid*).
- 3.2.11 Viking settlement in the vicinity did not begin until the late 9th/early 10th century (*ibid*), a major stimulus being the expulsion of the Norse from Ireland in AD 902. The Norse achieved control of the area by at least AD 915, possibly as early as AD 911 (Higham 1985, 39).
- 3.2.12 The name Holm Cultram may also originate from this period, as the area was known as '*Holmcoltria*' prior to the foundation of Holm Cultram Abbey in 1150 (*ibid*). The word Holm may have originated from the Angle word for homestead, ham, and a person's name such as Ceolthryth (*ibid*).
- 3.2.13 **Medieval Period:** there are numerous sites dating from this period within the study area which are linked with the Abbey of Holm Cultram. These include the remains of St Marys, the Abbey Church (Site 6), Holm Abbey Almshouse (Site 2), Holm Abbey Moat (Site 3), Raby Grange (Site 7), Raby Cote House (Site 8), and the Women's Hospital (Site 9).
- 3.2.14 St Marys Abbey, Holm Cultram, is a Scheduled Monument (SM 302), and the Church of St Mary's a Grade 1 Listed Building. The Abbey was founded in AD 1150, as recorded in the Chronicles of the Kings of Man and the Isles (Brodrick 1996), by Prince Henry, also Earl of Cumberland, son of the Scottish king David. It was affiliated to the Cistercian house of Melrose in Scotland (Page (ed) 1968, 162). The earliest buildings at Holm Cultram were almost certainly made from wood, and rebuilt in stone on a grander scale (Grainger and Collingwood 1929, 125). The only visible feature associated with the earliest phase of the Abbey is the dyke which surrounded the Abbey precinct, known as the inner dyke (*op cit*, 121), part of which is still visible to the north of the current St Mary's Church (Site 6). The outer dyke was also constructed to enclose the land of Holm and Raby (*ibid*). The present church of St Mary's (Site 6) was re-built in the eighteenth century, and very little of the pre-Reformation fabric is visible today. The original Abbey church of St Mary's, however, was believed to be much larger than the present church, larger in fact than Carlisle Cathedral (Grainger and Collingwood 1929, 125).
- 3.2.15 The growth of the Abbey continued through the twelfth and thirteenth centuries. When lands suitable for arable and pastoral agriculture were granted, the Abbey also obtained fisheries, quarries (which produced iron ore), an iron-forge and smelting furnace at Whinfell, a salt works at Southernness,

and a goods port at Skinburness. These lands or rights were located on both sides of the English-Scottish border (Grainger and Collingwood 1929, 122 - 125). During the thirteenth century the Abbey was subject to raiding but it was not until the fourteenth century that the Abbey's fortunes began to falter, affected by Edward I's conflict with Scotland. Little is recorded about the Abbey during the fifteenth century, however, it was surrendered and dissolved in March 1538 during the Dissolution of the Monasteries (Page 1968). The Abbey church of St Mary was spared and fulfilled the role of Parish Church for the local inhabitants. Following the Reformation, St Mary's Church fell into a state of disrepair and dilapidation with some of the building materials being removed by locals (Grainger and Collingwood 1929, 176). Only two thirds of the nave was used by the locals as the Parish Church and repairs were concentrated in this area.

3.2.16 **Post-medieval Period:** in 1600 the current house at Raby Cote (Site **08**) north of the pipeline was constructed, using material quarried from the Abbey. During this period local industry comprised principally farming, both arable and pastoral (Grainger and Collingwood 1929, 244-8), although limited salt making also took place in the area (*ibid*). The Carlisle to Silloth railway (Site **15**) opened in 1856, with a station on the northern limit of Abbeytown, to serve commuters, but was dismantled in the twentieth century. Two mills (sites **11** and **12**) were located within the town by at least 1868 (see *Section 3.3.4* below).

3.3 MAP REGRESSION ANALYSIS

3.3.1 **Parchment map entitled "A Survey of the Demesne Lands in & about Abbey Town", late eighteenth century (Fig 3):** this map is believed to have been produced sometime in the late eighteenth century. Three lanes (Sites **30**, **31** and **32**), within the study area, are marked on the map which probably originate from the medieval layout of the town. A number of rows and isolated cottages also appear on this map (Sites **16-28**).

3.3.2 **Greenwoods Map of Cumberland 1823 (Fig 4):** Greenwood's map shows Abbeytown as *Abbey Holm* and the focus of settlement is centred on the Abbey and Church. The lanes visible on the parchment map are not shown on this map, although the rows of cottages and houses (Sites **16-28**) are illustrated. The cruciform layout of the Abbey church (Site **06**) is also evident.

3.3.3 **Holm Cultram (Abbey Division) Tithe map, 1850:** the lanes (Sites **30** and **32**) identified on the earlier survey (*Section 3.3.1*; Fig 3) are not illustrated on this map and seem to have been incorporated into field boundaries to the north of the village, although Site **31** appears to survive as a track. The Church (Site **06**) is shown as an isolated building, and although some buildings are depicted, the map is lacking in detail and it is difficult to identify individual sites. The row of cottages (Site **19**) on the south side of the east/west road through the village appear to be present, as does the row of cottages on the western perimeter of the settlement (Site **20**).

- 3.3.4 **Ordnance Survey First Edition map, 1868 (Fig 5):** this map is much more detailed than the Tithe map and shows the remains of the Abbey, marked as St Mary's Abbey and St Mary's Church. The 'moat' (Site 3) is marked on the periphery of the village and the Carlisle to Silloth railway (Site 15) has been constructed. An oilcake mill producing concentrated animal feed (Site 11), and a water-powered corn mill (Site 12) are also shown.
- 3.3.5 **Ordnance Survey (OS) 1900 2nd Edition and Ordnance Survey (OS) 1925 3rd Edition:** these maps were both studied as part of the desk-based assessment but did not prove to be particularly useful in identifying any changes in landscape or buildings or the identification of any new sites and, therefore, are not reproduced.

3.4 PREVIOUS ARCHAEOLOGICAL WORK

- 3.4.1 The study area has been the subject of several archaeological investigations in recent years, including a desk-based assessment and a geophysical survey.
- 3.4.2 In October 2003 OA North undertook a desk-based assessment on behalf of United Utilities covering a 1km corridor of land either side of a proposed pipeline route from the Wastewater Treatment Works (NY 1790 5155) to the Wastewater Pumping Station (NY1780 5045) in Abbeytown, Cumbria. A total of 33 sites of archaeological interest was identified by the assessment, three of which were directly affected by the proposed pipeline, Abbey Moat, the dismantled Carlisle to Silloth railway, and parts of the Abbey complex. The results of this previous report have been utilised in consideration of the current project given the similarities of the proposed schemes.
- 3.4.3 In 2006 a magnetometer survey was undertaken by Grampus Heritage and Training Ltd for the West Cumbria Archaeological Society as part of an ongoing research project at the Abbey. Linear anomalies were found to the east and south of the surviving west end of the nave and were interpreted as the remains of buildings surrounding the cloister, including the chapter house and *lavabo* (wash house). The area beyond this to the east was found to have been disturbed by land drainage (WCAS 2006).

4. GAZETTEER OF SITES

4.1 LISTED BUILDINGS

4.1.1 There are 12 Listed Buildings located within the study area, none of which would be impacted on by the proposed pipeline route. The listed buildings, with the exception of the Abbey church (St Marys) have not been added to the gazetteer, but Table 2 below gives a brief description and location for each. The listed buildings are mainly on the periphery of the study area, except those within the Scheduled Monument. The exceptions are Mill Grove, once the Abbey Infirmary, later a vicarage, and now a house located within the historic core of Abbeytown; and the adjoining barn and byres to the north of Mill Grove.

HER No.	Description	Grade	NGR
71958	Abbey Cowper Farmhouse	II	NY 315836 550602
71961	Church of St Mary (Site 6)	I	NY 317715 550818
71962	Churchyard wall south of Church of St Mary	II	NY 317695 550803
71963	Abbey shop and Abbeytown library	II	NY 317695 550803
71964	Mill Grove	II*	NY 317745 550696
71965	Barn and byres adjoining Mill Grove	II	NY 317732 550713
71966	Swinsty Farmhouse	II	NY 317479 550303
71967	Holme Cultram House	II	NY 317025 551070
71974	Raby Cote and adjoining barn	II	NY 317954 552391
71975	Barn adjoining the north of Raby Cote	II	NY 317935 552410
71976	Knowehill	II	NY 318551 551623
71977	Garden wall in front of Knowehill	II	NY 318546 551633

Table 2: Listed buildings located within the study area

Site number 1
Site name St Christians Chapel/Winding Banks Chapel, Holme Abbey
NGR NY 1719 5175
HER No 351
Site type Building
Period Medieval
Statutory Designation None
Source HER
Description
St Christians Church, mentioned 1538, may have stood at or near Chapel Garth. No traces are visible today.
Assessment
The site lies to west of the development area, and will not be affected by the development.

Site number 2
Site name St Thomas Chapel/ Bedehouse, Holme Abbey
NGR NY 1770 5060
HER No 369 (Part of Group 3604, Holme Cultram Abbey)
Site type Building
Period Late Medieval
Statutory Designation None
Source HER
Description
St Thomas Chapel or Bedehouse, an almshouse founded for resident Brothers, dissolved in 1538 was dependant on Holm Cultram Abbey. A Rental of 1649 mentions the ruined chapel of St Thomas and Bedehouse as situated near Abbey Mill. Until 1850 Abbey mill was on the left of the road leading to Abbey Holm Farm. Grainger (1901) suggests piece of ruined wall on the right hand side of road to Abbey House may be the chapel remains.
Assessment
The site would appear to be located to the west of the pipeline route, although its exact location is unclear; it should not be affected by the development.

Site number 3
Site name Holm Abbey Moat
NGR NY 1773 5098
HER No 370
Site type Earthwork
Period Medieval
Statutory Designation None
Source HER
Description
North of Holm Cultram Abbey is a mound and broad ditch which, although described as motte or moat, appears to be a boundary ditch for the Abbey.
Assessment
The pipeline route crosses the course of the moat, although at this point the pipeline joins the current highway. The site may, therefore, be disturbed by the pipeline if the moat survives beneath the current highway.

Site number 4
Site name Holm East Waver Road
NGR NY 1850 5220
HER No 3022
Site type Road
Period Roman
Statutory Designation None

Source HER

Description

A gravel causeway, possibly the remains of a Roman road.

Assessment

The site lies to the north of the pipeline route, and will no, therefore, be affected by the development.

Site number 5

Site name Tubal Corner Enclosure, Holm Abbey

NGR NY 1730 4980

HER No 3270

Site type Cropmark

Period Unknown

Statutory Designation None

Source HER

Description

A sub-rectangular nucleus appearing as cropmark. No surface traces of the features remain and the field has been subject to land improvement.

Assessment

The site lies to the south-west of the pipeline route, and should not be affected by the development.

Site number 6

Site name St Mary's Abbey, Holm Cultram

NGR NY 1770 5080

HER No 3604

Site type Building

Period Medieval

Statutory Designation Scheduled Monument (302)

Source HER

Description

The Cistercian house of St Mary, the largest Monastic house in Cumberland was founded in 1150, and was a wealthy Cistercian house but suffered in the border wars and was in a state of disorder for some years before its dissolution in 1538. The west end of the nave of Abbey Church now serves as the parish church of St Mary. Its history is well recorded but not its plan. The present graveyard covers the area to the north and east of the church. The field to the south shows irregularities which suggest monastic buildings. Excavations in 1906 revealed the crossing, the east end of church, parts of the monastic buildings and the south transept.

Assessment

The site lies in close proximity to the development area, although at this point the pipeline route follows the course of the present highway. It is possible that archaeological remains may be located.

Site number 7

Site name Raby Grange

NGR NY 1851 5197

HER No 3731

Site type Roofed Building

Period Medieval

Statutory Designation

Source HER

Description

A cruck-framed barn at Raby Grange which could be one of the buildings from the medieval grange belonging to Holm Abbey.

Assessment

The site lies to the east of the pipeline route, and should not be affected by the development.

Site number 8
Site name Raby Cote House
NGR NY 1797 5240
HER No 4412
Site type Roofed Building
Period Post- medieval
Statutory Designation Grade II listed building (71974)
Source HER

Description

Raby Cote was built in 1600 with material from Holm Cultram Abbey. An inscription on a plinth dated 1513 was probably from the top of one of the screens of the Abbey.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 9
Site name Hospital, Abbeytown
NGR Unknown
HER No 4639
Site type Hospital
Period Medieval
Statutory Designation None
Source HER

Description

It is believed a hospital for women lay outside the walls of Holm Cultram Abbey. The exact location of this building is unclear, but it was obviously associated with the Abbey an, as suc, is thought to be within the immediate vicinity.

Assessment

Since the exact location of the site is unsure, it is impossible to assess if the development will affect the site. It is thought to be within the vicinity of the pipeline route.

Site number 10
Site name Dundraw, north-west of Hunters Cottage
NGR NY 1837 4990
HER No 9590
Site type Cropmark
Period Unknown
Statutory Designation None
Source HER

Description

Faint cropmark lines may possibly indicate a natural feature depicting the course of an old stream.

Assessment

The site lies to the south-east of the pipeline route, and should not be affected by the development.

Site number 11
Site name Conning Garth Oil Mill
NGR NY 1721 5080
HER No 10133
Site type Oil Mill
Period Post-medieval
Statutory Designation None
Source HER

Description

The site of an Oilcake Mill which appears on the First Edition Ordnance Survey map of 1868. On a late eighteenth century parchment map of the Holm Abbey Demesne, provenance unknown, the site is marked as a cottage owned by George Salkeld. The same buildings are marked on the Second Edition OS map of 1900 as a Corn Mill

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number	12
Site name	Abbeytown Water Corn Mill
NGR	NY 17570 50340
HER No	10142
Site type	Watermill
Period	Unknown
Statutory Designation	None
Source	HER

Description

The Corn mill is marked on the 1868 First Edition OS map, but the buildings have been altered or replaced by the 1900 Second Edition Ordnance Survey Map.

Assessment

The site lies to the south-west of the pipeline route, and should not be affected by the development.

Site number	13
Site name	Abbeytown Brewery
NGR	NY 1720 5070
HER No	10144
Site type	Roofed Building
Period	Post-medieval
Statutory Designation	None
Source	HER

Description

Marked as site of Brewery on the 1868 First Edition OS map.

Assessment

The site lies to the west of the pipeline route, and should not, therefore, be affected by the development.

Site number	14
Site name	Aldoth Farm, Holm Abbey
NGR	NY 1700 5000
HER No	16932
Site type	Round Barrow
Period	Bronze Age
Statutory Designation	None
Source	HER

Description

A Bronze Age collared urn with the lower part of the body and base missing, with various loose fragments, containing a cremation was discovered in a shallow pit in the centre of a round barrow.

Assessment

Although the grid square given is for Abbeytown, Aldoth is located 3.5km to the south-west of Abbeytown. No exact location is given in the only published account of this excavation, but it seems likely that the location of the Barrow is some kilometres from the pipeline route and, as such, is unlikely to be affected by the development.

Site number	15
Site name	Carlisle to Silloth Railway
NGR	NY 1742 5088
HER No	10036
Site type	Railway
Period	Industrial
Statutory Designation	None
Source	Grainger 1901; Ordnance Survey 1868, 1900, 1925

Description

The Silloth railway opened in 1856, with a station in Abbey Town at the above grid reference. It was built largely to serve commuters from Silloth rather than develop the port at Silloth, although the act of Parliament granting permission to build a Railway from Drumburgh to Silloth was entitled the Silloth Railway and Dock Bill, and was passed in 1856.

Assessment

The pipeline route runs along a section of the dismantled railway and, as such, the site may be affected by the development.

Site number	16
Site name	Cottages
NGR	NY 1773 5075
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Late eighteenth century survey and Ordnance Survey 1868

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the west side of the road. The three most northerly cottages may have survived to be included on the 1868 First Edition Ordnance Survey map, but have disappeared by the 1900 Second Edition map.

Assessment

The pipeline route passes in close proximity to the east of the site, under the current highway (which follows the same course as the highway on the parchment map). The site is unlikely to be affected by the development area, assuming that the position of the highway has not changed.

Site number	17
Site name	Cottages
NGR	NY 1770 5060
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Ordnance Survey maps 1868, 1900 and 1925

Description

A row of cottages to the west of the Abbey illustrated on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town". Some of the buildings may survive as part of buildings present on the same alignment.

Assessment

The pipeline route passes in close proximity to the west of the site, under the current road (which follows the same course as the road on the parchment map). The site is unlikely to be affected by the development area.

Site number	18
Site name	Cottages
NGR	NY 1751 5081
HER No	-
Site type	Row of Cottages
Period	Post-Medieval
Statutory Designation	None
Source	Ordnance Survey maps 1868, 1900 and 1925

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the north side of the main east/west street that runs through the village. The cottages are intermittent along this stretch. A number of buildings may survive as part of the buildings present on the same alignment.

Assessment

The site lies to the west of the pipeline route and, as such, should not be affected by the development.

Site number	19
Site name	Cottages
NGR	NY 1753 5078
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Greenwood's Map 1823; Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the south side of the street. A number of buildings may survive as part of the buildings present on the same alignment.

Assessment

The site lies to the west of the pipeline route and, as such, should not be affected by the development.

Site number	20
Site name	Cottages
NGR	NY 1743 5076
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Greenwood's Map 1823; Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the western perimeter of the village. A number of buildings may survive as part of the buildings present on the same alignment.

Assessment

The site lies to the west of the pipeline route and, as such, should not be affected by the development.

Site number	21
Site name	Cottages
NGR	NY 1761 5037
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Greenwoods 1823; Tithe Map 1850

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located to the south of the Abbey site. At least one building is present on Greenwood's Map of 1823, but none are present on the Tithe Map of 1850.

Assessment

The site lies to the west of the pipeline route, and as such should not be affected by the development.

Site number	22
Site name	Cottages
NGR	NY 1758 5035
HER No	-
Site type	Row of Cottages
Period	Post-medieval
Statutory Designation	None
Source	Greenwood's Map 1823; Tithe Map 1850; OS 1868; OS 1900; OS 1925

Description

A row of cottages visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located to the south of the Abbey site. Some of the buildings may survive, as buildings can also be seen on these plots on maps dated 1823 to the present day.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number	23
Site name	Cottages
NGR	NY 1767 5088
HER No	-
Site type	Cottage
Period	Post-medieval
Statutory Designation	None
Source	Greenwood's Map 1823; Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the west side of the street. This building was not present on the Greenwood's Map of 1823, or the First Edition Ordnance Survey map of 1868, although a building on this plot can be seen on later maps.

Assessment

The pipeline route passes in close proximity to the east of the site, under the current road (which follows the same course as the road on the parchment map). The site is unlikely to be affected by the development area.

Site number	24
Site name	Cottage
NGR	NY 1727 5085
HER No	-
Site type	Cottage
Period	Post-medieval
Statutory Designation	None
Source	Undated Map

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located to the north of the main east/west street through the village and not illustrated on Greenwood's Map of 1823.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 25
Site name Cottage
NGR NY 1721 5095
HER No -
Site type Cottage
Period Post-medieval
Statutory Designation None
Source Tithe Map 1850

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the east lane leading to Standen House of the street. This building had disappeared by the Tithe Map of 1859.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 26
Site name Sanden Cottage
NGR NY 1724 5099
HER No -
Site type Cottage
Period Post-medieval
Statutory Designation
Source Tithe Map 1850; Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town", located on the east lane leading to Standen House . The site of Sanden Cottage appears on the Tithe Map of 1850 in addition to later Ordnance Survey maps.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 27
Site name Cottage
NGR NY 1705 5096
HER No -
Site type Cottage
Period Post-medieval
Statutory Designation None
Source Tithe Map 1850

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town". This building had disappeared by the time of the Tithe Map of 1850.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 28
Site name Sanden House
NGR NY 1715 5117
HER No -
Site type Cottage
Period Post-medieval
Statutory Designation None
Source Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town". Sanden House appears on the Tithe Map of 1850, as well as later Ordnance Survey maps.

Assessment

The site lies to the west of the Pipeline route, and should not be affected by the development.

Site number 29
Site name Holm Cultram House
NGR NY 1702 5107
HER No -
Site type Cottage
Period Post-medieval
Statutory Designation Grade II listed building (71967)
Source Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A cottage visible on an undated parchment map of the Abbey Town area, entitled "A Survey of the Demesne Lands in and about Abbey Town".

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 30
Site name Lane
NGR NY 1720 5122 to NY 1743 5137
HER No -
Site type Lane
Period Post-medieval
Statutory Designation None
Source Undated map

Description

A former lane, visible on an undated parchment map of the Abbey Town area entitled "A Survey of the Demesne Lands in and about Abbey Town", which probably relates to the medieval village. This lane was not located on the Tithe Map of 1850 or later Ordnance Survey maps and may have been incorporated into a field boundary.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number 31
Site name Lane
NGR NY 1743 5137 to NY 1755 5017
HER No -
Site type Lane
Period Post-medieval
Statutory Designation None
Source Undated map, Tithe map, 1850

Description

A former lane, visible on an undated parchment map of the Abbey Town area entitled "A Survey of the Demesne Lands in and about Abbey Town", which probably relates to the medieval village. A section of the lane is illustrated on the Tithe Map of 1850 but not on later Ordnance Survey maps.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number	32
Site name	Lane
NGR	NY 1767 5097 to NY 1744 5087
HER No	-
Site type	Lane
Period	Post-medieval
Statutory Designation	None
Source	Tithe Map 1850; Ordnance Survey maps 1868, 1900 and 1925

Description

A former lane, visible on an undated parchment map of the Abbey Town area entitled "A Survey of the Demesne Lands in and about Abbey Town", which probably relates to the medieval village. This lane was not located on the Tithe Map of 1850 or later Ordnance Survey maps.

Assessment

The site lies to the west of the pipeline route, and should not be affected by the development.

Site number	33
Site name	Millgrove House
NGR	NY 1776 5071
HER No	71964
Site type	Building
Period	Post-medieval
Statutory Designation	Grade II* listed building (71964)
Source	HER

Description

A house constructed in 1664, located 200 yards south of St Mary's church. It features a two-storeyed bow window with mullions.

Assessment

The site lies to the east of the pipeline route, and should not be affected by the development.

Site number	34
Site name	Maryport and Carlisle Railway
NGR	NY 3168 5438
HER No	10700
Site type	Railway
Period	Industrial
Statutory Designation	None
Source	Ordnance Survey First Edition map, 1868

Description

The site of a disused railway, still used at the turn of the century, but now dismantled.

Assessment

The site lies to the east of the pipeline route, and should not be affected by the development.

Site number	35
Site name	Knowehill, Abbeytown
NGR	NY 18155 5160
HER No	41530
Site type	Farmstead
Period	Post-medieval
Statutory Designation	Grade II listed building (71976)
Source	HER

Description

A farmstead shown on the Ordnance Survey First Edition map, 1868, with a possible gin case against the west elevation (now demolished?).

Assessment

The site lies to the north-east of the pipeline route, and should not be affected by the development.

5. SIGNIFICANCE OF THE REMAINS

5.1 INTRODUCTION

5.1.1 In total, 35 sites were identified within the study area during the desk-based assessment, 18 of these have been previously recorded by the HER, Kendal. A further 17 sites were identified during the desk-based assessment. The sites include the remains of the Holme Cultram Abbey (SM 302), including the present day St Mary’s Church, which is a Grade I listed building. The majority of the sites are post-medieval in date, although a number of late medieval sites are included, as well as a limited number of sites of earlier periods.

Period	No of Sites	Site Type
Neolithic		
Bronze Age		Round Barrow (14)
Iron Age		
Romano-British		Road (4)
Early Medieval		
Late Medieval		Chapel (1), Almshouse (2), Moat/Ditch (3), Abbey (6), Barn (7), House (8), Hospital (9), House (33)
Post-medieval		Oilcake Mill (11), Corn mill (12), Brewery (13), Railways (15, 34), Cottages (16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29), Lanes (30, 31, 32), Farmstead (35)
Unknown		Enclosure (5), Cropmark (10)

Table 3: Number of sites by period

5.2 CRITERIA

5.2.1 There are a number of different methodologies used to assess the archaeological significance of sites; that to be used here is the ‘Secretary of State’s criteria for scheduling ancient monuments’ which is included as Annex 4 of PPG 16 (DoE 1990). The sites previously listed (*Section 4*, above) were each considered using the criteria, with the results below.

5.2.2 **Period:** the archaeological record of the study area is dominated by the remains of the medieval Holm Cultram Abbey (Sites 2, 3, 6 and 9). The remains of the abbey with its associated buildings, such as accommodation, kitchens, infirmary, and even agricultural buildings, have not been confirmed, although the presence of earthworks to the south of the church are considered to be associated with these structures and have been included within the scheduled area (Fig 2).

5.2.3 **Rarity:** An unusual site is the site of the Women’s hospital (Site 9). A separate hospital for women is believed to have existed outside the walls of Holm

Cultrum Abbey, and although the exact location is unknown, it is likely that it is within the vicinity of the Abbey complex.

- 5.2.4 **Documentation:** it is possible that further documentary research may also enhance our knowledge of the Abbey complex (Sites **2**, **3**, **6** and **9**) and its associated buildings. The scheduled area covers land included in the monastic field systems and there is a series of rectangular building foundations on the southern side of the abbey, with earthworks visible to the south-east.
- 5.2.5 **Group Value:** the Holm Cultrum Abbey complex forms an important group of medieval buildings (HER Group 3604, Sites **2**, **3**, **6**, **7**, **8** and **9**) within the study area. The Cistercian house of St Mary which formed the largest Monastic house in Cumberland, was founded in 1150 AD and the remains of the Abbey with its associated buildings constitute the most significant sites in the area.
- 5.2.6 **Survival/Condition:** the Womens hospital (Site **9**) is thought to be within the vicinity of the proposed pipeline but no traces survive today, and so the exact location is unknown. A rental of 1649 mentions the ruined Chapel of St Thomas and Bedehouse (Site **7**) as situated near Abbey Mill. Until 1850 Abbey mill was on the left of the road leading to Abbey Holm Farm. A ruined piece of wall on the right hand side of the road to Abbey House may possibly be the remains of Holm Abbey Almshouses (Site **2**).
- 5.2.7 A gravel causeway identified from aerial photography is believed to be the remains of a Roman road (Site **4**), and there is potential for below-ground survival (see *Section 3.2.15* below).
- 5.2.8 The disused railways (Sites **15** and **34**) survive in part as earthworks and a series of cropmarks (Sites **5** and **10**) were identified by aerial photography although no surface traces remain.
- 5.2.9 **Fragility/Vulnerability:** Holm Cultram Abbey and St Mary's Church have statutory protection as a Scheduled Monument and Grade I Listed Building respectively and, as such, are not under threat from the proposed development. None of the remainder of the sites are particularly vulnerable or fragile.
- 5.2.10 **Diversity:** none of the sites is considered to be significant due to it's diversity.
- 5.2.11 **Potential:** analysis of historic maps aided the identification of rows of cottages in existence during the eighteenth century (Sites **16-30**), and there is potential for the survival of earlier elements of building fabric to be incorporated in the current buildings in these locations.
- 5.2.14 There is potential for the discovery of archaeological features or artefacts associated with the Roman road (Site **4**), the Farmstead (Site **8**), and the Hospital (Site **9**), and Winding Banks Chapel (Site **1**). No traces of the chapel building (Site **1**) are visible today, however, it is known to have existed from documentary evidence. Further investigation could also reveal more features associated with the cropmarks visible on aerial photographs of the area (Sites **5** and **10**).

5.3 SIGNIFICANCE

5.3.1 Table 4 below shows the sensitivity of the sites scaled in accordance with their relative importance using the following terms for the cultural heritage and archaeology issues, with guideline recommendations for a mitigation strategy.

Importance	Examples of Site Type	Negative Impact
National	Scheduled Monuments (SMs), Grade I, II* and II Listed Buildings	To be avoided
Regional/County	Conservation Areas, Registered Parks and Gardens (Statutory Designated Sites) Sites and Monuments Record/Historic Environment Record	Avoidance recommended
Local/Borough	Sites with a local or borough value or interest for cultural appreciation Sites that are so badly damaged that too little remains to justify inclusion into a higher grade	Avoidance not envisaged
Low Local	Sites with a low local value or interest for cultural appreciation Sites that are so badly damaged that too little remains to justify inclusion into a higher grade	Avoidance not envisaged
Negligible	Sites or features with no significant value or interest	Avoidance unnecessary

Table 4: Criteria used to determine Importance of Sites

5.3.2 The site of Holme Cultrum Abbey is the only site within the study area which is a designated Scheduled Monument (Site **6**; SM 302) and, as such, is considered to be of national importance. St Mary’s Parish Church (Site **6**; HER 71961), an extant building, is designated as a Grade I Listed Building, and, therefore, also considered to be of national importance. A further 16 sites in the study area have been included in the Historic Environment Record of Cumbria which suggests a regional or county-level significance (Sites **1-5** and **7-15** and **33-35**). The remaining 18 sites have been assessed as of low local significance (Sites **16-33**). This is based on the current state of knowledge, however, and the subsequent discovery of additional features or evidence relating to these sites could alter their assessed levels of significance.

6. IMPACT

6.1 IMPACT

6.1.1 In its Planning Policy Guidance *Note 16*, the Department of the Environment (DoE) advises that archaeological remains are a continually diminishing resource and ‘*should be seen as finite, and non-renewable resource, in many cases, highly fragile and vulnerable to destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed*’. It has been the intention of this study to identify the archaeological potential of the study area, and assess the impact of redevelopment, thus allowing the advice of the DoE to be enacted upon. Assessment of impact has been achieved by the following method:

- assessing any potential impact and the significance of the effects arising from redevelopment;
- reviewing the evidence for past impacts that may have affected the archaeological sites;
- outlining suitable mitigation measures, where possible at this stage, to avoid, reduce or remedy adverse archaeological impacts.

6.1.2 The impact is assessed in terms of the sensitivity or importance of the site to the magnitude of change or potential scale of impact during the future redevelopment scheme. The magnitude, or scale, of an impact is often difficult to define, but will be termed as substantial, moderate, slight, or negligible, as shown in Table 5, below.

Scale of Impact	Description
Substantial	Significant change in environmental factors; Complete destruction of the site or feature; Change to the site or feature resulting in a fundamental change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Moderate	Significant change in environmental factors; Change to the site or feature resulting in an appreciable change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Slight	Change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Negligible	Negligible change or no material changes to the site or feature. No real change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.

Table 5: Criteria used to determine Scale of Impact

6.1.3 The interaction of the scale of impact (Table 5) and the importance of the archaeological site (Table 4) produce the impact significance. This may be calculated by using the matrix shown in Table 6, below.

Resource Value (Importance)	Scale of Impact Upon Archaeological Site			
	Substantial	Moderate	Slight	Negligible
National	Major	Major	Intermediate/Minor	Neutral
Regional/County	Major	Major/Intermediate	Minor	Neutral
Local/Borough	Intermediate	Intermediate	Minor	Neutral
Local (low)	Intermediate / Minor	Minor	Minor/Neutral	Neutral
Negligible	Neutral	Neutral	Neutral	Neutral

Table 6: Impact Significance Matrix

6.1.4 The extent of any previous disturbance to buried archaeological levels is an important factor in assessing the potential impact of the development scheme. Site 16 represents rows of cottages on the same side of the road as the pipeline. This road dates back to at least the eighteenth century, as the current street plan can also be made out on an unprovenanced parchment map of the lands in and about Abbey Town (Fig 3), which probably dates from the latter half of the eighteenth century (R Heawood *pers com*). Despite its apparently consistent location on modern and historic maps, this road may have moved somewhat, or been widened, since the eighteenth century. Archaeological remains of these cottages may, therefore, be affected by the development. The exact location of Site 9, the Womens Hospital, is unclear, but it is also thought to be within the vicinity of the pipeline route. North of Holme Cultram Abbey (Site 6) is a mound and broad ditch which survives as an earthwork, and, although described as a moat (Site 3), appears to resemble a boundary ditch.

6.2 IMPACT ASSESSMENT

6.2.1 Following on from the above considerations, the significance of effects has been determined based on an assumption that there will be earth-moving works associated with the development, and the present condition of the archaeological assets/sites. The results are summarised in Table 7, below, in the absence of mitigation.

Site Number	Nature of Impact	Importance	Scale of Impact	Impact Significance
3	Disturbance of related artefacts or features by groundworks	Regional	Moderate	Major/Intermediate
6	Possible disturbance of related artefacts or features by groundworks	National	Slight	Intermediate/Minor
9	Disturbance of related artefacts or features by groundworks	Regional	Slight	Minor
15	Disturbance of related artefacts or features by groundworks	Regional	Moderate	Major/Intermediate
16	Disturbance of related artefacts or features by groundworks	Local/Low	Slight	Minor/Neutral

Table 7: Assessment of the impact significance on each site during development

7. WATCHING BRIEF

7.1 RESULTS

- 7.1.1 The following section presents a brief narrative of the watching brief undertaken in two fields located immediately north of the village, and along the former railway track to the sewage works (Fig 2; Plate 1).
- 7.1.2 In Fields 1 and 2 (Fig 2; Plates 2 and 3) c 0.30m of topsoil was removed revealing a very dark grey, fine, sandy, silty-clay. The natural geology was visible in patches for approximately less than one per cent of the area. This comprised a mid-greyey-orange clay, a very light grey medium sand, and a mid-grey orange clay sand. A field drain of post-medieval date was observed. No other archaeological features were encountered.
- 7.1.3 The easement along the section of the lane was approximately 10m wide and the topsoil was removed on the most easterly side of the lane to build up the opposing side for a new access track. The easement cut into the Carlisle to Silloth railway embankment (Site **15**) by a maximum depth of 0.32m and a maximum width of 0.80m. In the exposed section of the embankment the earliest deposit observed was a layer of dark orange brown fine sandy-silt clay. Above this was a layer of silt, coarse sand and clinker, and above this was modern topsoil (Plate 4).
- 7.1.4 A few fragments of post-medieval pottery (*Section ?*) were retrieved but no significant archaeology was observed. No further archaeological investigation is recommended.

8. CONCLUSION

8.1 SYNTHESIS

- 8.1.1 Following the desk-based research and watching brief a total of 35 sites of archaeological significance were identified within the study area. Of these, 18 were listed on the CCCHER (Sites **1-15** and **33-35**). These sites include the remains of Holme Cultram Abbey (Site **6**), a designated Scheduled Monument (SM 302) of national significance. The 18 sites listed on the HER are of at least regional significance and the remaining 17 sites identified following consultation of historic maps (Sites **16-33**) were assessed as being of local significance. The majority of the sites are post-medieval in date, although a number of medieval sites relating to the Abbey are included, as well as a limited number of sites from earlier periods. Of the sites identified by the desk-based assessment, the Abbey ditch (Site **3**), and the Abbey hospital (Site **9**) were identified as being potentially affected by the proposed pipeline.
- 8.1.2 A watching brief was maintained during topsoil stripping for the site compound and easement comprising two fields and a section of former railway track. The watching brief recorded limited evidence for archaeological activity on the track, within the easement, comprising a high quantity of clinker used during the construction of the Carlisle to Silloth railway. No other significant archaeological features were located and no further programme of work is recommended.

9. BIBLIOGRAPHY

9.1 CARTOGRAPHIC SOURCES

DRC 8/93/2 Holm Cultram (Abbey Division) Tithe Map, 1850

Greenwoods Map of Cumberland 1823

Ordnance Survey 1868 1st Edition OS Map Sheets XXI.14 & XXVIII.2

Ordnance Survey 1900 2nd Edition OS Map Sheets XXI.14 & XXVIII.2

Ordnance Survey 1925 3rd Edition OS Map Sheets XXI.14 & XXVIII.2

Ordnance Survey 1978 *Map of Roman Britain*, Southampton

Parchment map entitled A Survey of the Demesne Lands in & about Abbey Town CCRO(C), undated

9.2 SECONDARY SOURCES

Annable, R, 1987 *The Later Prehistory of Northern England*, BAR British Series, 60(i)

Bewley, RH, 1992 Excavation of Two Crop-Mark Sites in the Solway Plain, Cumbria, Ewanrigg Settlement and Swarthy Hill 1986-1988, *Trans Cumberland Westmorland Antiq and Archaeol Soc* ner ser, **92**, 23-47

Bewley, RH, 1993 'Survey and Excavation at a Crop-Mark Enclosure, Plasketlands, Cumbria' in *Trans Cumberland Westmorland Antiq and Archaeol Soc*, **93**, 1-19

Bewley, RH, 1994 *Prehistoric and Romano-British Settlement on the Solway Plain, Cumbria*, Oxford

Brodrick, G, 1996 *Cronica Regum Mannie et Insularum; Chronicles of the Kingdom of Man and the Isles*, Douglas

Cherry, J, 1969 Early Neolithic Sites at Eskmeals, *Trans Cumberland Westmorland Antiq and Archaeol Soc* ner ser, **92**, 40-53

Department of the Environment, 1990 *Planning Policy Guidance 16: Archaeology and Planning* (PPG 16)

English Heritage, 1991 *Management of Archaeological Projects*, 2nd edn, London

English Heritage, 2006 *Management of Research Projects in the Historic Environment* (MoRPHE)

Evans, JG, 1975 *The Environment of Early Man in the British Isles*, London

Frere, S, 1974 *Britannia*, London

Grainger, F, 1901 The Chambers Family of Raby Cote, *Trans Cumberland Westmorland Antiq and Archaeol Soc* ner ser, **1**, 194-233

Grainger, F, and Collingwood, WG, 1929 *The Register and Records of Holm Cultram*, Cumberland & Westmorland Antiquarian Society, Rec Ser V, **7**, Kendal

Hodgkinson, D, Huckerby, E, Middleton, R and Wells, CE, 2000 *The Lowland Wetlands of Cumbria*, Lancaster

Higham, N, 1985 The Scandinavians in North Cumbria: Raids and Settlement in the Later Ninth to Mid Tenth Centuries, in JR Baldwin and I Whyte, *The Scandinavians in Cumbria*, Edinburgh

Institute of Field Archaeologists, 1999 *Standard and Guidance for Archaeological Desk-based Assessments*

OA North forthcoming *Carlisle Northern Development Route: Post-excavation Assessment*

Page, W, (ed) 1968 *The Victoria County History of the Counties of England: Cumberland*, **7**, London

Pevsner, N, 1997 *Buildings of England: Cumberland and Westmorland*, London

Richardson, C, 1990 A Catalogue of Acquisitions to Carlisle Museum and Reported Finds from the Cumbria Area, in *Trans Cumberland Westmorland Antiq and Archaeol Soc* ner ser, **90**, 1-98

Shotter, D, 1996 *The Roman Frontier in Britain*, Preston

Shotter, D, 1997 *The Romans and Britons in North-West England*, Preston

WCAS, 2006 *Geophysical Survey at Home Cultrum Abbey* unpubl rep

10. ILLUSTRATIONS

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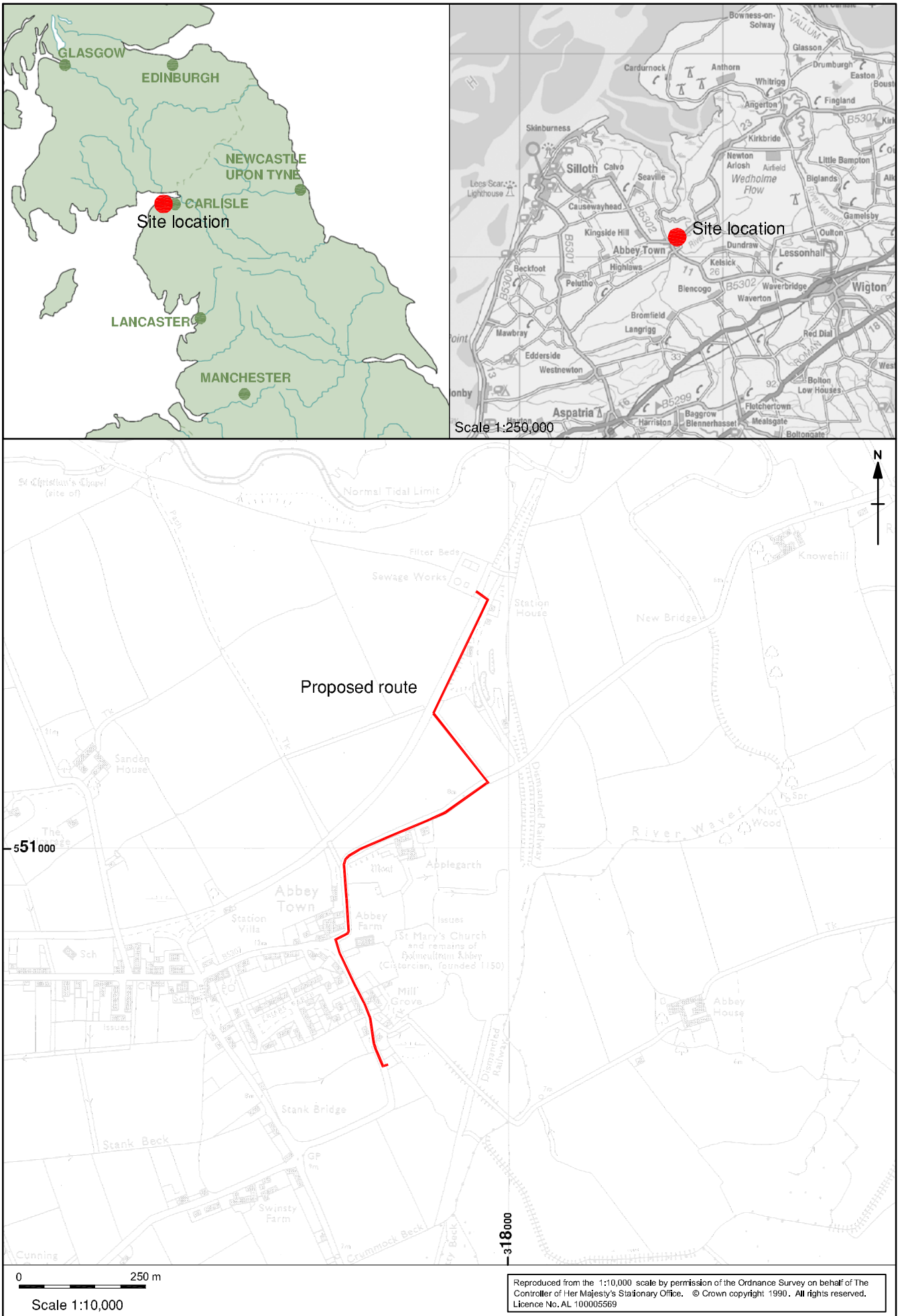


Figure 1: Site Location

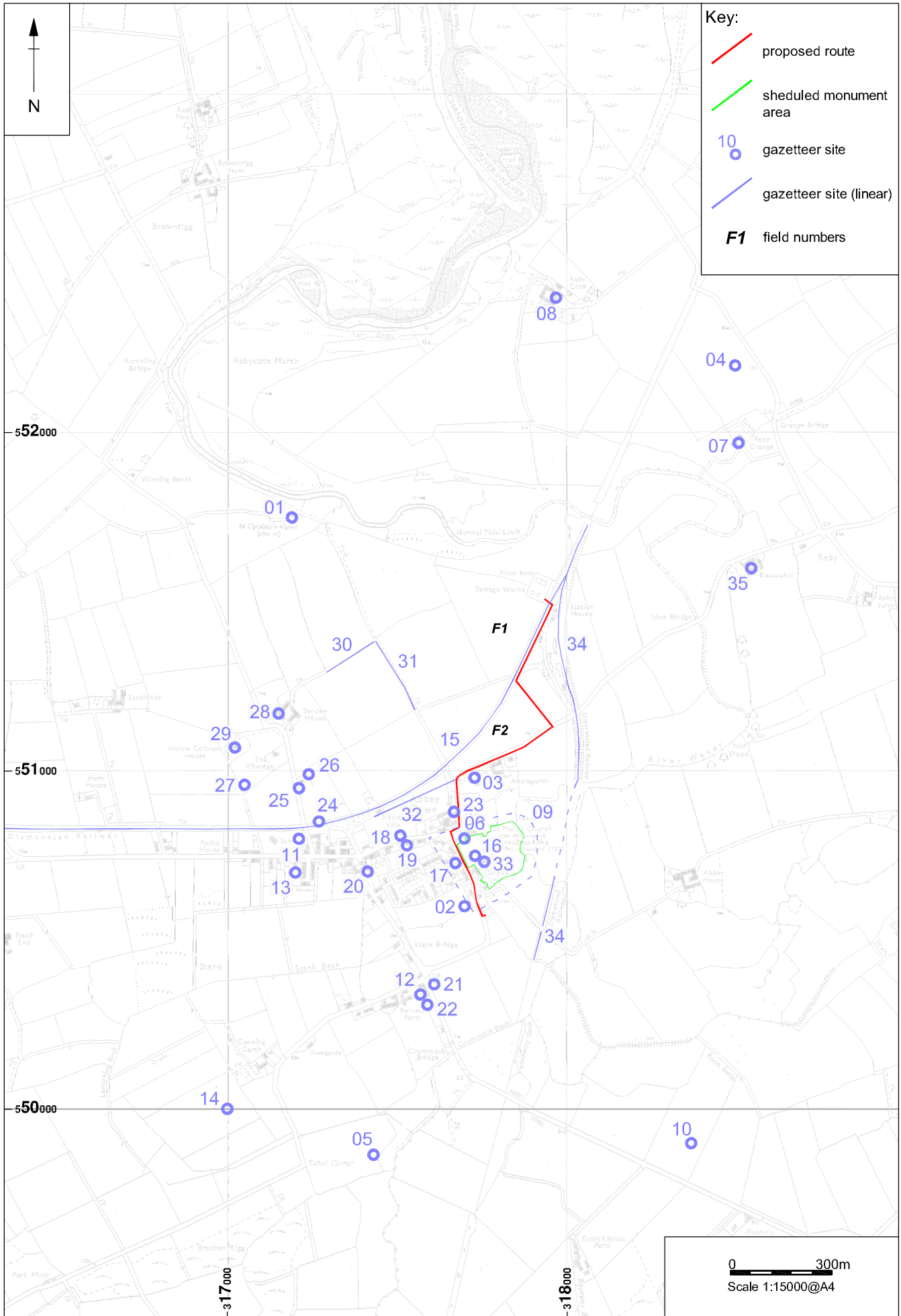


Figure 2: Gazetteer sites plan showing areas subject to the watching brief

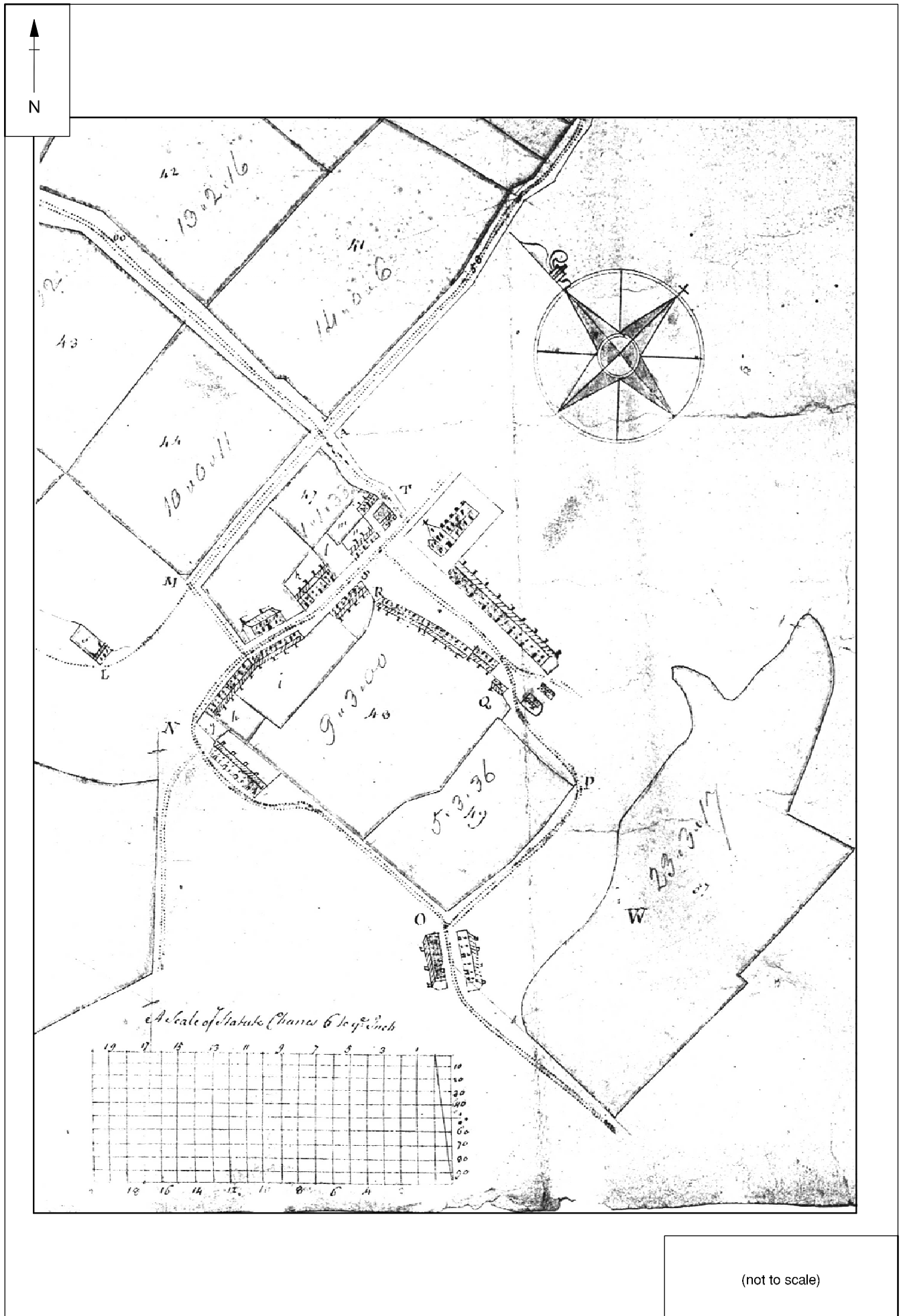


Figure 3: Extract from unprovenanced Parchment Map entitled "A Survey of the Demense Lands in and about Abbey Town"; (CRO ©) approximately late 18th century

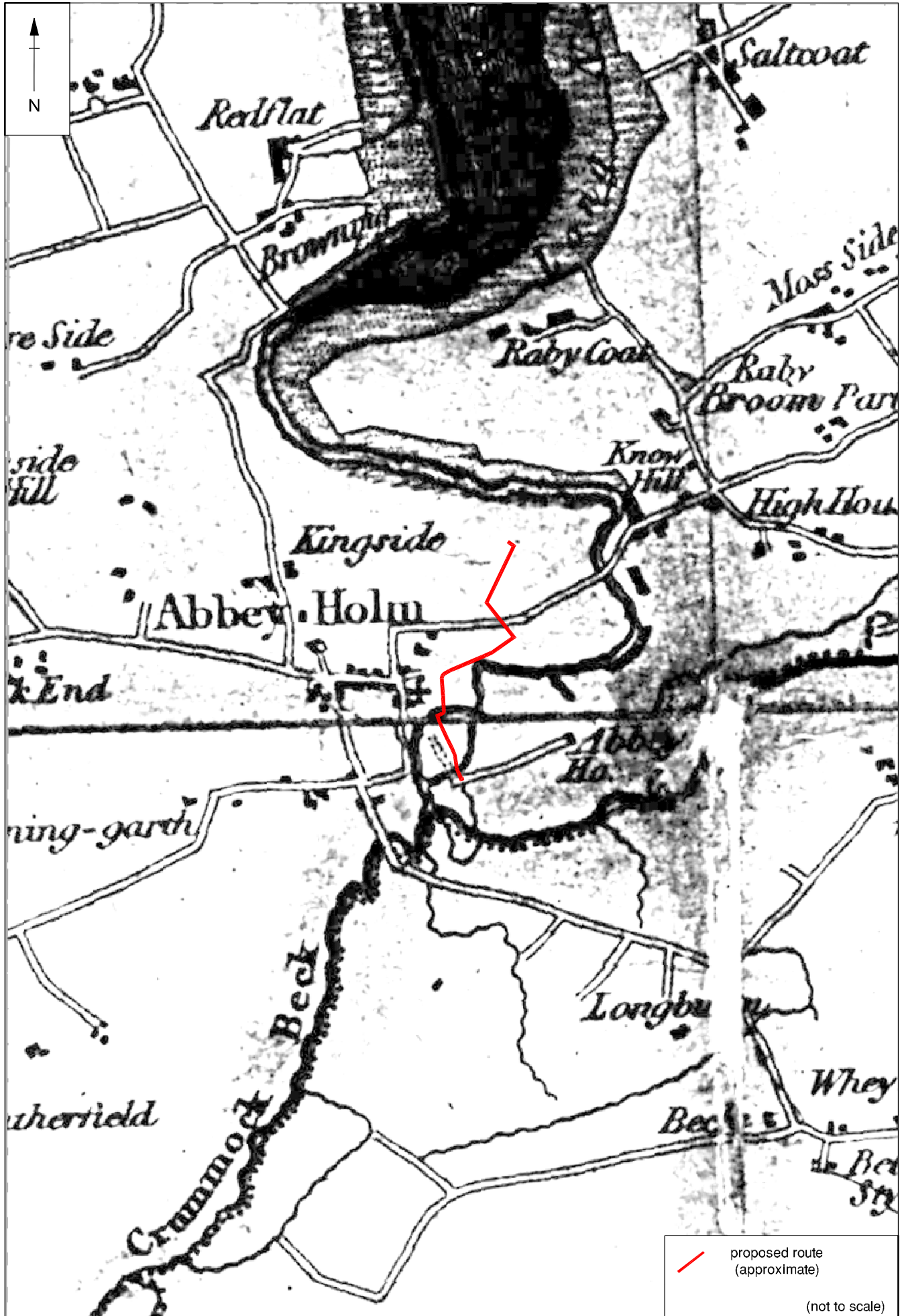


Figure 4: Greenwood's Map of Cumberland, 1823

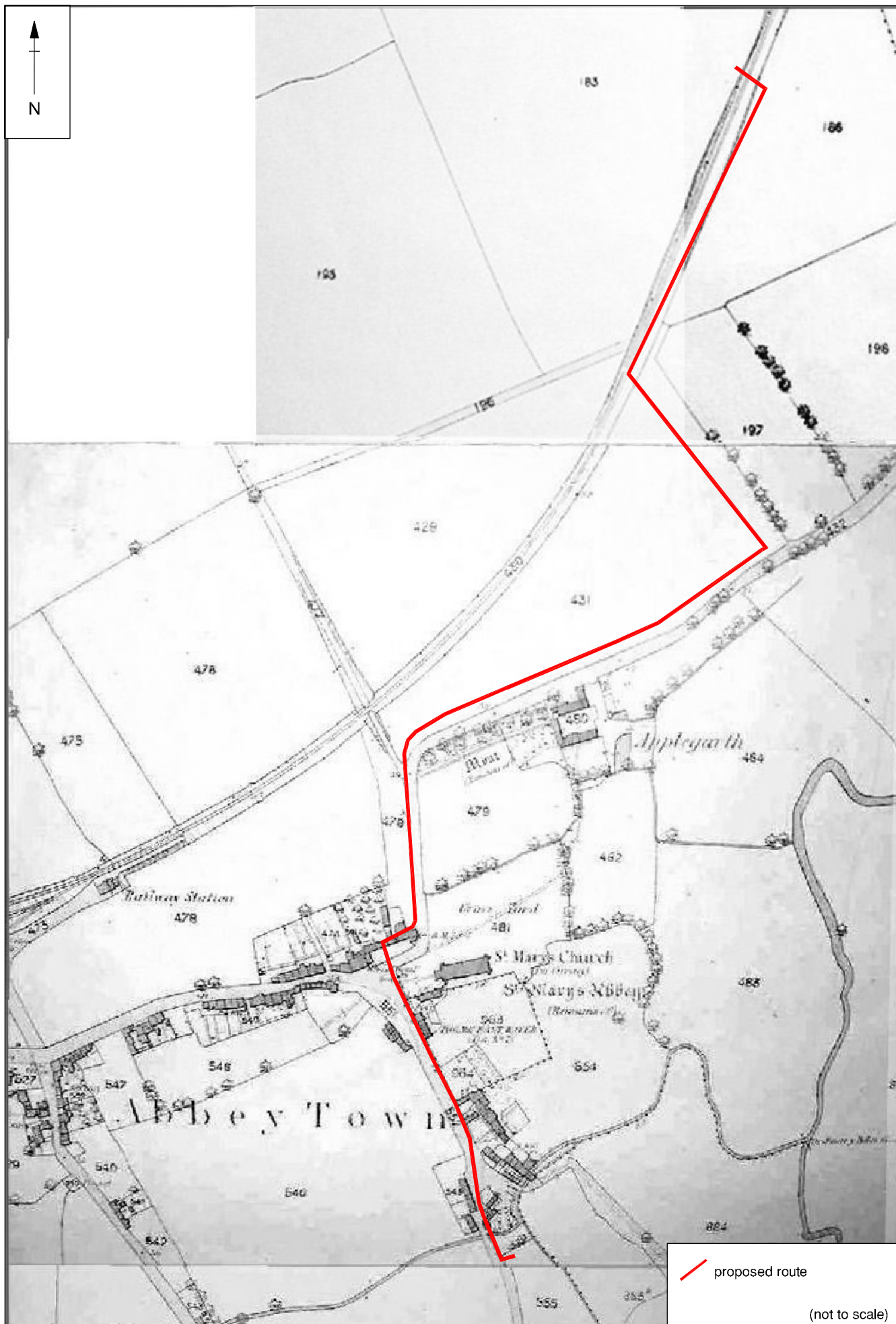


Figure 5: First Edition Ordnance Survey Map, 1868



Plate 1: Stripped easement in the section of lane to the north of St Marys Church
(Site 6)



Plate 2: Stripped easement in Field 2



Plate 3: Stripped easement in Field 1



Plate 4: Section through the Carlisle to Silloth railway embankment (Site 15)