



# **Carnforth Iron Works, Carnforth, Lancashire**

## **Heritage Impact Assessment**



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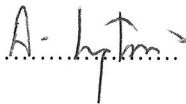
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## SUMMARY

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Primrose Developments Ltd has acquired, for mixed use redevelopment, the former Carnforth Iron Works, Carnforth, Lancashire (NGR SD 4972 7083), which is listed on the Lancashire HER (PRN 4740). In order to gain access to the site once developed, the client is looking at the feasibility of the option to demolish a section of surviving stone perimeter wall (Site **03**), and potentially demolish and/or alter a surviving former office building (Site **01**), together with a further surviving building known as Iron Works Cottage (Site **02**) and other surviving ancillary buildings (Site **04**). Pre-planning discussions between Primrose Developments and Lancaster City Council resulted in the council requiring a heritage statement to understand the significance of the buildings to inform any decisions. Additionally, and following subsequent discussions at the client's request between OA North and Lancashire County Archaeology Service (LCAS), a heritage impact assessment for the whole of the iron works site was undertaken in order to understand the effect of the proposals on any potential below-ground remains and to inform any requirement for a planning application submission.

The proposed development area extends to around 4.4ha, although the site for consideration in the assessment includes the surviving standing structures outwith the development area fronting Warton Road. These structures are within the Railway Character Area of the Carnforth Conservation Area.

Prior to the construction of the iron works in 1864, the site of the proposed development area comprised open fields, as depicted on early Ordnance Survey mapping of 1846 and 1848. Mid-nineteenth century Carnforth was still a small village positioned to the east of the proposed development area. However, the coming of the Lancaster to Oxenholme section of the Lancaster to Carlisle railway line in 1846, together with a station at Keer Meadows, transformed the small village. A second line, the Furness Railway, was opened in 1857, linking Lancaster to Ulverston and beyond. A further line, connecting Carnforth to Yorkshire, was opened in 1867, and then in 1879, the 'Carnforth Curve', forming the northern extents of the site boundary, was opened. Carnforth Station was consequently rebuilt and re-opened in 1888. This expansion of the railways led to industrial growth in the town and a need for workers, and so several terraced streets of workers housing were built. The railway also led to the development of the Carnforth iron works (Site **06**), which further shifted the emphasis of Carnforth to the west.

At its peak, the iron works had five working blast furnaces and two Bessemer converters for making steel. The steel works was opened in 1871, but had closed by 1890 and was demolished by 1898. The iron works continued in operation until the First World War, but finally closed in 1929. The site was levelled and became the site of a World War II fuel dump and store, housing as many as 2000 troops. In the latter part of the twentieth century, the site was developed for light industrial and storage use.

The railway and iron works both ultimately shaped the layout of Carnforth by a consequential shift in of the whole focus of the settlement from the medieval core to the west in a relatively short space of time with the massive development of the railways, iron works and townscape evolving rapidly.

The assessment identified 48 heritage assets within the site and study area of a radius of 250m. Three of the assets, comprising stone supporting walls for a former elevated railway (Site **05**), the former iron works (Site **06**) and an engine house (Site **08**), are within the proposed development area, and four assets are within the area being considered for inclusion (Sites **01-04**) fronting Warton Road. The heritage assets within the site boundary (Sites **01-06**, and **08**) are of *regional/county* importance.

Although the exact nature of the proposed development is not yet finalised, and the precise nature and state of preservation of the below ground remains of the former iron works remain unknown, any remains that do survive will be directly impacted and require further archaeological work. Consequently, further investigation to establish the presence or absence of below ground remains through trial trenching or test-pitting has been recommended for the components of Sites **06** and **08**, so as to assess their risk and vulnerability to impact from the proposed development. This would be aided by information from any geotechnical SI works for the site, particularly concerning potential contamination of below ground deposits. The upstanding buildings and other structures within the outlined site (Sites **01-04** and **05**) are also likely to be impacted upon by any development. Any proposals for alteration/development of these structures is likely to require Conservation Area consent as these (except Site **05**) are within the Carnforth Conservation Area. The nature of any further archaeological work will need to be agreed in consultation with Lancashire County Archaeology Service (LCAS).

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## ACKNOWLEDGEMENTS

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Oxford Archaeology North (OA North) would like to thank Ivor Farnworth of Primrose Developments Ltd for commissioning the project. Thanks are also due to the staff at the Lancashire Historic Environment Record (LHER) and the Lancashire Record Office (LRO).

The assessment was undertaken by Karl Taylor, and the drawings were produced by Mark Tidmarsh. Emily Mercer managed the project, and edited the report.

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# 1 INTRODUCTION

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## 1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Primrose Developments Ltd has acquired the former Carnforth Iron Works which is listed on the Lancashire HER (PRN 4740), and are proposing to redevelop the site for mixed use. In order to gain access to the main site, the developers are looking at the feasibility of the option to demolish a section of surviving stone perimeter wall and potentially demolish and/or alter the surviving former office building together with a further surviving building known as Iron Works Cottage. Pre-planning discussions between Primrose Developments and Lancaster City Council, resulted in the council requiring a heritage statement to understand the significance of the buildings. Additionally, and following discussions at the client's request between OA North and Douglas Moir of Lancashire County Archaeology Service (LCAS), a heritage impact assessment for the whole of the iron works site has been undertaken in order to understand the potential for below-ground remains to inform any requirement for a planning application submission. Acting upon these requirements, Primrose Developments Ltd commissioned Oxford Archaeology North (OA North) to undertake the heritage impact assessment in December 2013.

## 1.2 SITE LOCATION AND TOPOGRAPHY

1.2.1 The site lies approximately 0.25km to the north-west of Carnforth town centre, Lancashire (NGR SD 4972 7083; Fig 1), at a height of approximately 10m (aOD). The former iron works site extends to around 5.6ha and occupies land bounded to the south by the West Coast main railway line, to the west by Warton Road and to the north and east by the Carnforth to Leeds railway line (Fig 1). The development area does not encompass the whole of the iron works site and extends to around 4.4ha (Fig 1). The surviving standing structures are situated outside of the development area but within the former iron works site, and together with an area of land to the rear, are within the Railway Character Area of the Carnforth Conservation Area (Fig 2) which was designated on 4 March 2011, however, the bulk of the former iron works site lies outside of the conservation area.

1.2.2 The underlying bedrock geology consists of the Urswick Limestone Formation, whilst the superficial deposits comprise both raised tidal flat deposits of clay and silt and glacio-fluvial deposits of sand and gravel (bgs.ac.uk). The soils are freely draining slightly acid loamy soils of low fertility (landis.org.uk). The bulk of the iron works site is fairly level but there is a large embankment at the west end that carries Warton Road over the West Coast line upon which the surviving stone wall is constructed. Warton Road therefore, runs downhill from south to north.



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## 2 METHODOLOGY

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### 2.1 DESK-BASED ASSESSMENT AND SITE VISIT

- 2.1.1 Current policy and guidance relating to proposed development and the historic environment (National Policy Planning Framework (NPPF), DCLG 2012) denotes sites of archaeological or cultural heritage significance as 'heritage assets' (*ibid*). These are viewed as being an 'irreplaceable resource', and their conservation can bring 'wider social, cultural, economic and environmental benefits...' (*op cit*, 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 of a proposed development (*op cit*, Section 12.128), and in line with this a 'desk-based assessment and, where necessary, a field evaluation' should be undertaken to inform the planning process (*ibid*).
- 2.1.2 The aim of the following impact assessment is not only to give consideration to the heritage assets in and around the proposed development site, but also to put the site into its archaeological and historical context. All statutory and non-statutory sites within a 250m radius of the site were identified and collated into a gazetteer (Section 5), and their location plotted on Figure 3. The principal sources of information consulted were historical and modern maps of the study area, together with published and unpublished secondary sources.
- 2.1.3 The assessment was carried out in accordance with the relevant IfA and English Heritage guidelines (Institute for Archaeologists 2011; Institute for Archaeologists 2012; English Heritage 2006; English Heritage 2008) and generally-accepted best practice. The results of the assessment were analysed using the set of criteria used to assess the national importance of an ancient monument (DCMS 2010). Sources consulted include:
- 2.1.4 **Heritage Gateway:** the Heritage Gateway and National Monuments Record (NMR) are maintained by English Heritage in Swindon. The archive can be consulted to access local and national records on the historic environment, including the following resources:
- Historic Environment Records (HERs);
  - National Records from the National Heritage List for England, including listed buildings and scheduled monuments;
  - The National Record of the Historic Environment (Pastscape);
  - Photographs of listed buildings (Images of England);
  - Historic photographs of England (Viewfinder);
  - The NMR Excavation Index.
- 2.1.5 **Lancashire Historic Environment Record (HER), Preston:** the HER is a database of all known sites of archaeological interest within Lancashire;

- 2.1.6 **Lancashire Record Office, Preston:** the record office contains holdings of historic maps and aerial photographs, as well as substantial documentary archives and secondary sources relating to local history and archaeology;
- 2.1.7 **OA North Library:** OA North has undertaken numerous projects in north Lancashire, as well as large number of projects across the North West. As a result, it has a large library of secondary sources as well as unpublished client reports in its office in Lancaster;
- 2.1.8 **Lancaster Library:** the library contains a local studies section that includes sources relating to the Carnforth area.

## 2.2 SITE VISIT

- 2.2.1 The aim of the site visit was to relate the findings of the desk-based research to the existing site, and to allow familiarisation with the historic structures earmarked for redevelopment or demolition, as well as to check for any additional sites of archaeological potential that would not be identified through documentary sources. The visit involved a rapid inspection of the easily accessible parts of the buildings and site, and did not include any level of survey other than a selection of photographs and very brief outline description. Some areas of the building, including the offices of Fittleworth Medical Ltd, were not accessible due to reasons of privacy. Some rooms within Iron Works Cottage were not entered for health and safety reasons.
- 2.2.2 A number of photographs of the buildings and site were taken using digital compact and digital SLR cameras of 12.1 and 12.8 million pixels respectively. The photographs are used for illustrative purposes. Brief hand-written records of the buildings and site were also compiled.

## 2.3 ARCHIVE

- 2.3.1 Copies of this assessment will be deposited with the Lancashire HER for reference purposes.

## 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 generally by historical period, and has been compiled in order to place the study area into a wider archaeological context. This is then followed by an assessment of the proposed development site in more specific terms.

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 3,800 BC
Neolithic	4,000 – 2,500 BC
Bronze Age	2,500 – 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 – c1750
Industrial Period	cAD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

### 3.2 HISTORICAL BACKGROUND

3.2.1 **Mesolithic period:** the Mesolithic was the latest cultural epoch in Britain during which people employed a subsistence strategy based wholly upon hunting, gathering, and fishing. There is substantial evidence for Mesolithic activity across Lancashire and Southern Cumbria, consisting primarily of flint scatters and evidence from pollen studies. The nearest identified sites of Mesolithic date to Carnforth consist of scatters of worked flint, including waste material and tool types, which have been found in the vicinity of the River Lune at Halton, Crook O'Lune, and Hornby (Hodgson and Brennand 2006, 25-6; Barrowclough 2008, 48-50). Palaeoenvironmental studies at Thwaite House Moss, approximately 1km to the south of Carnforth, have revealed pollen evidence that is strongly suggestive of woodland clearance by humans during the Mesolithic period prior to 6000 BC (Swain and Swan 1995, 188-9).

3.2.2 It has been suggested that the functions of sites may have differed between lowland and upland areas during this period, with lithic evidence suggesting that the lowland sites within Lancashire might have included base camps and smaller specialised sites (Cowell 1996, 28). The camps are more likely to have been based in coastal areas, with specialised sites representing more mobile activities, such as kill sites, butchery sites, hunting stands, and bivouac sites (*ibid*). Although the study area currently lies within 2.5km of the coast at Morecambe Bay, reduced sea levels during the earlier part of the Mesolithic

period meant that Morecambe Bay would not have been inundated until after 6000 BC (see Barrowclough 2008, 17-18).

- 3.2.3 **Neolithic period:** following the introduction of farming to the British Isles, from around 4000 BC, the Neolithic period saw the beginning of the widespread construction of monumental architecture, although few such sites have been identified within Lancashire (see Middleton 1996, 41). An eighteenth-century historian called John Lucas provided some information on the history of Carnforth, as well as detailed descriptions of many of the surrounding fields. Lucas recorded the site of a tumulus at Hellbank (or Hallbank), which lay near a crossroads in the centre of Carnforth (Site 41) (Lucas 1744, 125). His description suggests that this monument might have been a long barrow (Farrer and Brownbill 1914, 165-70), and therefore, of Neolithic date.
- 3.2.4 Much settlement during this period appears to have been concentrated in the lowlands and the results of pollen studies from Thwaite House Moss suggest that the natural environment of the locality continued to be disturbed during the Neolithic period, with evidence of land clearance and cereal cultivation (Swain and Swan 1995, 189). Artefacts of Neolithic date have also been discovered within the vicinity of Thwaite House Moss (*op cit*, 184). At Borwick, to the north-east of Carnforth, Neolithic stone tools, including three kite-shaped arrowheads, were found in buried soil beneath a Bronze Age burial mound (Olivier 1987). Two polished stone axes were found within 5km to the north-west of the site, at Storrs Moss (Middleton 1996, 40). Two stone axes of Neolithic date were also found within the study area on the site of the Station Hotel (Site 34). A third, complete example, was found approximately 0.5km to the west of the study area, close to Wood Tarn (HER PRN 31671). A neolithic scraper was also found in 2012, although the exact location is unknown (<http://finds.org.uk/database/artefacts/record/id/514820>).
- 3.2.5 **Bronze Age:** the beginning of the Bronze Age in Britain, defined mainly by the introduction of the use of copper, developed gradually out of the preceding Neolithic during the mid third millennium BC (Parker Pearson 2000, 13). The tradition of monumental architecture continued into the Bronze Age, with new ritual and religious traditions developing that were associated with new monument types (see Hodgson and Brennand 2006, 41-5). A large dished earthwork at Manor Farm, in Borwick, to the north-east of the study area, was revealed to be a large Early Bronze Age funerary monument following excavation (Barrowclough 2008, 98) and a round cairn (NMR no. SD57 SW1) and a putative stone circle (NMR no. SD57 SW2) are situated 4km to the north of the study area, at Summerhouse Hill in Yealand Conyers.
- 3.2.6 Beginning in the Neolithic period, a tradition of the votive deposition of valuable objects in watery places, such as rivers and mosses, developed throughout the prehistoric period (Middleton 1996, 45). This practice was not restricted to Lancashire but was a phenomenon that occurred throughout Britain and Ireland (*ibid*; Waddell 2000, 47). Other conspicuous features in the natural landscape also appear to have been foci for artefact deposition and burial, such as cave sites, which include Dog Holes cave at Warton, to the north of the study area (*op cit*, 98). These may represent part of a movement

towards the use of dry land for deposition during the Late Bronze Age (*op cit*, 155).

- 3.2.7 A series of hill forts in northern Lancashire, including a site at Warton Crag around 2km to the north of the development area, have traditionally been considered to be of Iron-Age date, although increasing research suggests that many of the hill forts might have originated during the Late Bronze Age (*op cit*, 157; 180).
- 3.2.8 **Iron Age:** evidence for the Iron Age in northern Lancashire is under-represented within the archaeological record, and within the region the period is poorly understood as a result of a lack of surviving material culture (*eg* Hodgson and Brennand 2006, 52-3). The most conspicuous site types in this broad area are enclosed hill-top sites known as hill forts (*eg* Barrowclough 2008, 182-7), including Warton Crag to the north of the development site, although these sites are not numerous (Hodgson and Brennand 2006, 52-3). In addition to these site-types, it is likely that other settlement sites that were not associated with such easily identifiable earthworks also existed.
- 3.2.9 **Roman Period:** although a Roman fort is known to the south of Carnforth, at Lancaster (*op cit*, 60), no Roman military sites or roads have as yet been identified in the immediate vicinity of Carnforth. Similar to the Iron Age, however, it is possible that less conspicuous site-types, such as enclosed or unenclosed rural Romano-British farmsteads might remain undetected within the local area, particularly given the poor cropmark response of heavy subsoils in the North West, which inhibits the visibility of such sites on aerial photographs (Philpott 2006, 61). A single stray find of a Romano-British disc brooch is represented within the area (LCC 2006), together with the remains of an assumed Roman dock identified in the nineteenth century (Watkin 1876), as well as Romano-British material being contained within the caves at Warton Crag (Newman 1996).
- 3.2.10 Several findspots of Roman date were found close to the study area, including an early denarius of Sabina (AD 128-137) (PRN33721), and Antoninus Pius (AD 153-154) (PRN33722) found in 2009, as well as ten Roman coins dating from AD 69 to AD 79, minted under the emperor Vespasian (PRN33828). The coins may have been lost casually, and may not represent a deliberate hoard.
- 3.2.11 **Early Medieval period:** evidence for early-medieval activity within the vicinity of the study area appears to be largely confined to place-names with roots that pre-date modern English. It should, however, be considered that place-names are a linguistic trait and, alone, do not conclusively demonstrate the ethnic origins of those responsible for establishing any settlement (Newman 2006, 95). The nearby Old English *tun* place-names of Warton and Bolton-le-Sands may suggest early settlement foci that might pre-date Scandinavian incursions during the later part of the early medieval period (see *ibid*). Carnforth was certainly established prior to the Norman Conquest, and in 1066 comprised two ploughlands and formed part of Earl Tostig's lordship of Halton (Farrer and Brownbill 1914, 165-70). It was named Chreneforde in 1066 and this name may have derived from the location of the town on the southern bank of the river Keer and suggest that this was a fording point

across the river (*ibid*). The etymological evolution of the name however, indicates that the prefix means crane, which used to mean heron (the bird) so the name probably means heron ford (LCC 2006). A burial found close to Carnforth has been assigned a putative early-medieval date (Newman 2006, 101), and a hoard of Viking Age metalwork was discovered near Tewitfield, some 3.3km to the north of Carnforth (LUAU 1998)

- 3.2.12 Both Warton and Carnforth were townships by the eleventh century, and in 1066 Carnforth was part of Earl Tostig's lordship of Halton (Farrer and Brownbill 1914, 228). Settlement in Carnforth appears to have been along the Burton-in-Kendal road, away from the study area to the east. Both Warton and Carnforth had cornmills by the fourteenth century (LCC 2006), one of which is situated to just to the north of the study area at Warton Bridge (PRN12316). Carnforth Mill was in operation until at least 1786 and was supplied by a series of springs (*ibid*). A mill was said to be located to the east of Bridge End (Yates 1786).
- 3.2.13 **Medieval period:** Carnforth was recorded as Cameford in 1212, and Kerneford in 1261 (Farrer and Brownbill 1914, 165-70). In c 1130-40 it comprised part of the feoffment made to William, son of Gilbert de Lancaster and later became part of the barony of Kendal. Following his death, in 1246, a division of the manor was made with some reverting to the crown, whilst other parts descended to the Gerrerards (*ibid*). A chapel is suggested to have been present in Carnforth during the medieval period, which is referenced in field names, such as Chapel Flat, although all of the present churches in this town are of industrial period or modern date (*ibid*). Lands in Carnforth were directly held and worked for the profit of the manorial lord and in 1344 64 acres in Carnforth comprised such demesne holdings, which were let to farm (*ibid*). In 1340 free warren, or hunting rights, were granted to William de Coucy, which included Carnforth (*ibid*). Carnforth was part of the parish of Bolton le Sands before being transferred to the parish of Warton in 1208 (*ibid*).
- 3.2.14 A possible medieval hall, which had completely disappeared by the early eighteenth century, but which survived in field names such as Hall Croft and Hall Gate was discussed by Lucas in 1744 (Lucas 1744, 124). At this time the hall was traditionally thought to have been sited at the end of the common fields closest to the village. Lucas recorded the remains of some foundations in this area, which was known as the Huthwaites (*ibid*). However, there was no definitive evidence of the location of the hall, and the field-names that included the element 'hall' may have referred to parcels of land that were the property of the lord of the manor (Field 1971). It is possible that the name Carnforth Lodge related to a hunting lodge associated with the hall, but no evidence has been found to support this suggestion.
- 3.2.15 **Post-medieval and Industrial periods:** Carnforth lay within the Parish of Warton until the twentieth century. The local economy appears to have been sustained primarily by agriculture until the nineteenth century and during the mid-eighteenth century five large common fields were present at the western side of the township (see Farrer and Brownbill 1914, 165-70).

- 3.2.16 The northern side of the town was subject to numerous inundations during the seventeenth and eighteenth centuries with records from 1687 describing seven successive years of marine flooding over the marshes, which resulted in the course of the River Keer being shifted and tracts of marshes being washed away (*ibid*). In 1848, Lewis (1848, 523-6) described Carnforth as having been the scene of a 'great aquatic depredation' during the preceding century, which had resulted in several hundred acres of saltmarsh adjoining the southern bank of the Keer being washed away. These marshes represented valuable resources as they provided food for cattle, turf for fuel, sods for garden walls and roofing, rushes for flooring, and seaweed for manure (Farrer and Brownbill 1914, 165-70). Lewis also described a large and well-known sandstone quarry in Carnforth, which was used for the extraction of sand for mortar (*ibid*).
- 3.2.17 Carnforth was well-served with communication routes during the nineteenth century. The Lancaster and Kendal canal was constructed between 1791 and 1819 (Priestly 1969, 372-7) however, the main impetus for the growth of the town was the arrival of the Lancaster to Carlisle Railway in 1846 (LCC 2006). A station (Carnforth-Yealand) serving the Lancaster to Carlisle railway had been established at to the north-west of the village, at Keer Meadows, by 1846 (Priestly 1969, 372-7), but it was rebuilt as Carnforth Station in 1857 when the Furness Line from Ulverston was connected to the Lancaster to Carlisle line (LCC 2006). In 1867 an additional new line, connecting Carnforth to Yorkshire, was constructed enabling the movement of iron ore from Furness to the iron-making regions over the Pennines (*ibid*). Then, in 1879, the 'Carnforth Curve' was constructed which connected the Yorkshire line directly to the main line station and led to the rebuilding of the mainline station, opening in 1880 (*ibid*). The expansion of the railways enabled industries to rapidly grow and develop, which created a need for workers which, in turn, resulted in the need to house the growing population. Several streets of terraced houses were built at Carlisle Terrace and Midland Terrace, and later at Governor Place (*ibid*) all situated to the south of the town centre. Several sites (see *Section 5*) associated with the railway are situated within the study area including, the mainline station (Site **21**), as well as several other features, such as signal boxes and engine sheds.
- 3.2.18 The current route of the A6 had also been established as a turnpike by 1848 (Ordnance Survey (OS) 1848 Fig 5). All of these transport links are likely to have aided the decision to develop iron furnaces in 1864, which became the primary source of employment for the town (Farrer and Brownbill 1914, 165-70). The local economy was augmented by the extraction of gravel, which included a pit adjacent to the northern boundary of the proposed development site by 1891 (OS 1891), although agriculture remained prominent, with a customary cattle fair being held each year on the last Friday of April (*ibid*).
- 3.2.19 The development of the Carnforth Iron Works (Plate 1) (Sites **01** - **09**) was on a site opposite Carnforth Station. This affected the development of the town and helped to shift the centre of gravity away from the old village along the road to Over Kellet to the west (Ashmore 1982, 194). The iron works was built by Carnforth Haematite Iron Company Ltd in 1864 and, at its peak, had five working blast furnaces and two Bessemer converters (established in 1871

(LCC 2006)) for making steel (*ibid*, Riden and Owen 1995, 138). Mannex recorded, in 1881, that the primary function of the steelworks was to make railway track (Mannex 1881) and, by 1884, steel wire was being produced (Harris 1960). By 1890, however, Directors reports show that the venture was not successful and the steel plant was dismantled and sold off in 1898 (LRO DDX 1195/4, LCC 2006). The company was renamed The Carnforth Hematite Iron Company Ltd in 1898 by which time the number of blast furnaces in use had dropped to two (Riden and Owen 1995, 139), never to be over three in the remaining years of the works (*ibid*). The iron works continued in operation until up to the First World War but finally closed in 1929 (LCC 2006). This may have been due to the lack of available local iron ore due to the working out of the Furness mines owned by the company, and the fact that other mines were owned by the rival Barrow, Millom and Askham Iron Works (Newman 1999, 15).

- 3.2.20 The impact of the growing iron industry on the population of Carnforth was depicted on maps during the nineteenth century. Both the Tithe map of 1846 (Fig 3) and the first edition OS mapping of 1848 (Fig 4) showed the locality of the proposed development site as an agricultural landscape of field systems and dispersed farmsteads. By the time of the production of the OS map of 1893 (Fig 6), the growth of the local population was reflected in the expansion of housing from the nucleus of Carnforth into the surrounding landscape.

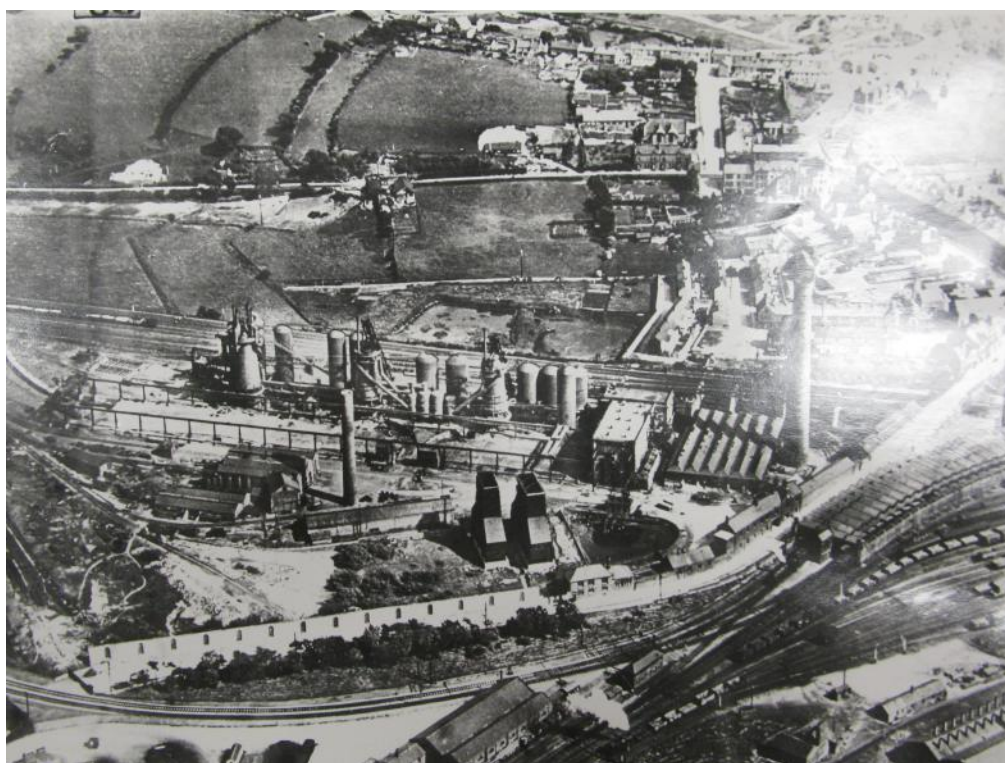


Plate 1: Aerial view of Carnforth Iron Works, c 1930s (LRO DDX 2049/1)

- 3.2.21 **Modern Period:** Carnforth continued to grow during the later nineteenth and early twentieth centuries and the OS maps from this period showed a



conspicuous pattern of development radiating from the centre of Carnforth. During World War II, the iron works became a War Department store and petrol dump (Roberts 1974). The former office range of the iron works (Site 01) became the headquarters for the military in the town, and at any one time during the war, over 2000 troops were based here (*ibid*). The network of tracks within the iron works complex was maintained for the transportation of petrol. A number of nissen huts were also built on site. By 1969, Boddy Industries had taken over the site, erecting a number of garages and workshops (*ibid*). Today, the site is mainly occupied by TDG Logistics and other smaller businesses.

- 3.2.22 The M6 motorway was completed to the east of Carnforth, in 1970, continuing the practice of the establishment of north/south communication routes along this narrow strip of low-lying land between Morecambe Bay to the west and the rising lands to the east.

### 3.3 MAP REGRESSION ANALYSIS

- 3.3.1 Several historic cartographic sources were consulted in order to trace the physical development of the area.
- 3.3.2 ***Yates' map of 1786 (Plate 2):*** Yates' map clearly illustrates the original settlement of Carnforth being strung out along the road towards Borwick and Capernwray (Plate 2). Warton Mill is clearly illustrated as being on the north bank of the Keer (Site 11).
- 3.3.3 ***Plan of the Township 1833:*** this map shows the area as a predominately agricultural area comprising the canal and ribbon development of the main village. There are no structures present within the development area.
- 3.3.4 ***Hodgeson's Map of 1836:*** this map was redrawn by Hodgeson from a previous survey of 1817. The level of detail is similar to the tithe map dating to 1846 (Fig 4). The ribbon development of Carnforth is clearly discernable. The new turnpike road (now the A6) is clearly visible. The development area comprises fields stretching to the River Keer.
- 3.3.5 ***Tithe map of Carnforth 1846 (Fig 4):*** the most obvious change on this map from Hodgeson's is the presence of the railway, which was established in 1846, the land having been purchased by the Lancaster and Carlisle Railway Company in 1844 (LCC 2006, 21). The development site encompasses a number of fields, owned and tenanted by various individuals, with most being described as either pasture or meadow, one or two arable. Several drains are visible on this map also.

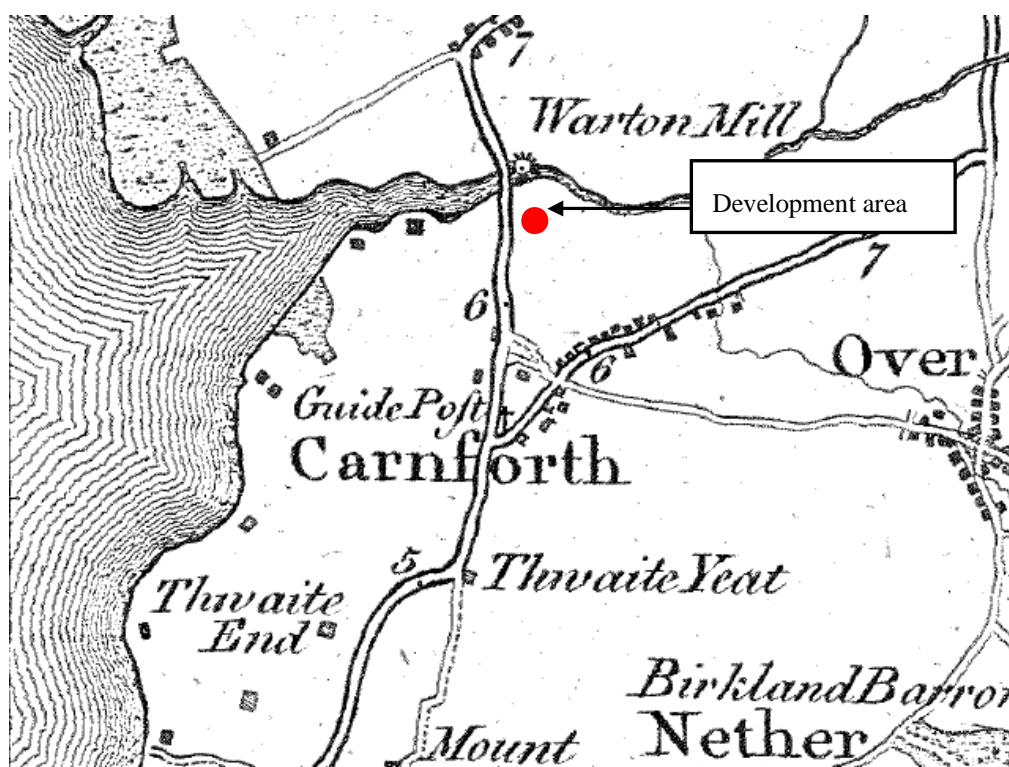
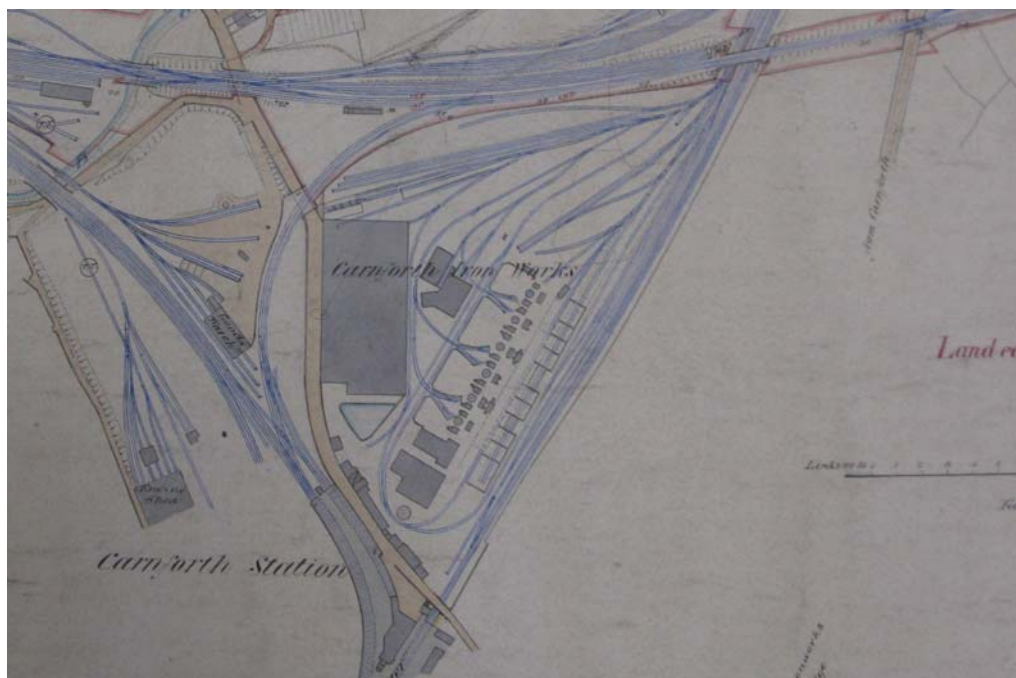


Plate 2: Extract from Yates' map of 1786

- 3.3.6 **Ordnance Survey First Edition 6" to 1 mile map of 1848 (Fig 5):** this map, being the same date as the previous tithe map, unsurprisingly shows a very similar pattern to the field system. The most obvious difference being the depiction of the railway, plus the labelling of two culverts, as well as a watercourse called 'Bolt Water'. Also clearly labelled on this map is Carnforth Station. The rest of the surrounding area, particularly the village of Carnforth, is still relatively underdeveloped and retains its agricultural character. Little building of any nature, other than the railway station had yet occurred.
- 3.3.7 **Ordnance Survey First Edition map 25" to 1 mile map of 1893 (Fig 6):** between 1846 and 1890, a period of only 44 years, huge changes occurred. The Furness and Midland Joint Railway has been constructed, as has the 'Carnforth Curve', together with the new, enlarged railway station, together with several other railway buildings. A large number of rail lines are visible, particularly to the south and west of the station. The land to the south of the railway has also changed immeasurably with the construction of several terraced streets forming the nucleus of what was to become the new town centre. This shifted the emphasis away from the original village, still visible to the south-east.
- 3.3.8 The site of the iron works (labelled Carnforth Iron Works) becomes enclosed within a triangular area formed by the Lancaster to Carlisle railway and the Carnforth Curve. The layout of the works is clearly visible with furnaces, an engine house (labelled), a tank (labelled), the steelworks (clearly labelled as closed), the office range (Site 01), together with other buildings lining Warton Road (including a detached building between the office range (Site 01), and Iron Works Cottage (Site 02), a small reservoir, chimney and several railway

lines. At the south end of the site, the supporting bays for the elevated railway are clearly illustrated.

**3.3.9 Plan of the Carnforth to Wennington Line Furness and Midland Joint Railway, 1893 (Plate 3):** being of the same date to the 1893 map, it shows very similar information to that map, but is concerned solely with the railway line and stations. The west end of the map details the nature of the junction of the railway with the Lancaster to Carlisle Railway. Carnforth Iron Works is clearly labelled, and the interior layout of the works is illustrated in great detail. All of the buildings are shown, including the office range along Warton Road, as well as the Steelworks and the furnaces and all of the features drawn on the OS map. The internal track layout is clearly depicted in blue. It is clear that the lines within the works were connected to the Lancaster to Carlisle Railway. Interestingly, Iron Works Cottage (Site 02), is not shown on this map, although it is illustrated on the OS map.

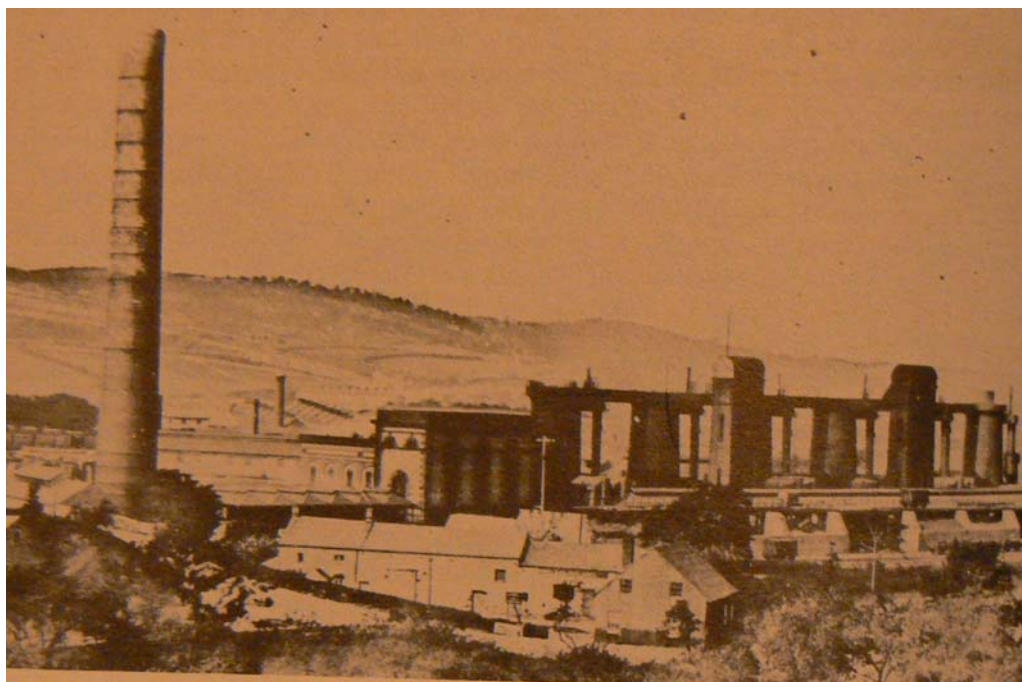


*Plate 3: Extract from the Plan of the Carnforth to Wennington Line Furness and Midland Joint Railway, 1893 (LRO DP/432/66)*

**3.3.10 Ordnance Survey Third Edition map 6" to 1 mile map of 1919 (Fig 7):** the map shows a similar level of detail to both the OS map of 1893 and the railway plan of 1893. The main difference within the iron works being the obvious space left by the demolition of the steelworks, although some of the steelworks buildings survive at its south end, close to the small reservoir. The rest of the complex appears much unchanged.

**3.3.11 Ordnance Survey Maps 1:2500, 1:10,560, 1930-1938:** following the closure of the iron works in 1929, it is apparent from maps of this date that the whole complex was demolished soon after. The only structures remaining were much of the rail lines within the site, several smaller structures and the reservoir. Also surviving was much of the long range of buildings lining Warton Road. The majority of the surrounding area remains unchanged.

- 3.3.12 **Ordnance Survey Map New Popular Edition 1" to 1 mile, 1945:** a number of structures have appeared within the iron works complex, which probably relate to the use of the site during the World War II as a military fuel dump. Although small scale, the full range of buildings along Warton Road is still evident, as are the rail lines.
- 3.3.13 **Ordnance Survey Map, Lancashire and Furness, 1:10,560, 1956:** this map very clearly shows a collection of small rectangular buildings scattered around the former iron works complex, which are probably the 'Nissen Huts' described as erected on the site during the World War II by Roberts (1975). The tracks described as still being present during the war are not illustrated on this map. A single line is, however, still visible at the south end of the site, probably the surviving elevated section.
- 3.3.14 **Ordnance Survey Maps, 1968 to 1980s:** by the 1960s much of the site had been cleared and new warehouses had been erected. The site is shown as a structural engineering works in the 1960s and it is during this period that most of the buildings along Warton Road (other than Sites **01** and **02**) had been demolished. Some rail lines are still illustrated.
- 3.3.15 **Photographic Surveys:** there are several general and aerial photographic records from various viewpoints depicting the site of the Carnforth Iron Works, most of which date to the 1900s and 1930s (for example Plate 1), although a single image is thought to date to 1867 (Price 1983) (Plate 4). This image clearly shows the furnaces, a large engine house, several ancillary buildings as well as a chimney and the elevated railway passing over the storage bunkers. The building in the foreground, to the right of the railway bridge, is probably a large house called 'Toad Pludd' (Site **29**), last illustrated on the 1848 OS map.
- 3.3.16 The photographic records dating to the 1930s are available online at [lancashire.lantern.gov.uk](http://lancashire.lantern.gov.uk) and depict most of the buildings on the site, including the office range, chimney, engine house, furnaces and the elevated railway. A vertical aerial photograph dating to the 1960s ([mario.lancashire.gov.uk](http://mario.lancashire.gov.uk)), clearly shows the position of several rectangular buildings, probably of similar appearance to the corrugated iron structures still visible on the site situated between the stone walls of the elevated railway (Plate 15). The photograph also shows the elevated railway supports very clearly, as well as the range of buildings along Warton Road.



*Plate 4: View of the Iron Works from the south west c.1867 (after Price 1983)*

### **3.4 GEOTECHNICAL INFORMATION**

- 3.4.1 A Phase 1 Desk Study was carried out in June 2010 by Betts Associates which described the site as having a moderate-high risk when assessed during the qualitative risk assessment in terms of contamination. Due to the industrial history of the site some remedial action is likely to be necessary, although until a contamination ground investigation is carried out this cannot be confirmed.
- 3.4.2 The desk study revealed several ‘geotechnical risk site abnormalities’ that may need further assessment including; areas of made ground of variable thickness, lithology, and engineering properties that are anticipated beneath the site current and former foundations and machine bases of varying depths and former wells on site. Further geotechnical investigation is required to ascertain if the wells have been capped/infilled adequately.
- 3.4.3 Following assessment of the risks, the desk study recommended a programme of intrusive ground investigation in the form of geotechnical site investigation, trial pits and boreholes, the results of which would be informative prior to any intrusive archaeological investigations and to assess the level of impact upon below ground remains when considered with precise construction details of the proposed development.

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## 4 SITE VISIT

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### 4.1 INTRODUCTION

4.1.1 A brief site visit was undertaken on 26 November 2013, in order to aid in familiarisation with the buildings subject to assessment, as well as the general environs of the site. Internal and external inspection of the office range of the former Iron Works (Site **01**), the building known as Iron Works Cottage (Site **02**) and a length of perimeter wall (Site **03**) was carried out, the results of which are summarised below. None of these structures are recorded individually in the HER but are described in the entry for the iron works (HER PRN4740).

### 4.2 RESULTS

4.2.1 The historic structures are situated at the extreme west end of the former iron works site and front directly onto Warton Road (Fig 1; Plate 5). The former offices of the iron works (Site **01**) is the southern-most of the two buildings. An area of land behind, and in-between, the two buildings is used for car parking, and is laid down to concrete and tarmacadam. Other buildings of more recent origin, including a grey brick extension to the rear of the offices, are present (Plate 6). Situated opposite the site, is the bulk of the railway complex (Plate 7).



*Plate 5: The principal elevation of the office range (Site **01**) of the former iron works facing Warton Road*

- 4.2.2 The former iron works office building comprises a main rectangular building, with cross-wing, together a two-storey extension attached to the north gable along with the aforementioned grey brick extension. The principal elevation faces Warton Road (Plate 5) although the only access is from the rear (Plate 8). The building is wholly constructed of coursed, rockfaced sandstone with alternate horizontal quoins at all of the corners. The window surrounds are all sandstone of two main styles, with the more decorative being at the southern end. There are two relatively decorative oriel windows (Plates 9 and 10) situated on the rear elevation one of which is supported by a substantial iron bracket built into an iron beam over the main entrance (Plate 10). A further bay window is situated, at ground floor level, at the north end of the rear elevation.



*Plate 6: The north end of the site showing Iron Works Cottage (Site 02)*



*Plate 7: The railway complex opposite the site (Site 01 on the left)*



*Plate 8: The rear elevation of the office range of the former iron works*





*Plate 9: One of the oriel windows on the rear elevation*



*Plate 10: Oriel window supported by iron bracket set above the main entrance on the rear elevation*



*Plate 11: Entrance on the principal elevation showing the distinctive iron lintel bearing the name 'CARNFORTH IRON WORKS'*

- 4.2.2 Both of the elevations of the transverse cross-wing section of the building are nearly identical and both contain an oculus in the gable (Plate 8). The roof covering of the whole structure is of slate of at least two phases. The south gable is also slate hung. The roof of the northern extension is of lead.
- 4.2.3 Either side of the main building, are stone-built perimeter walls fronting Warton Road, of earlier and later phases. The wall to the south of the building is of random stone construction and contains evidence of several phases of construction and/or alteration (Plates 12). Built up against the rear of this wall are two single-storey brick and stone buildings that are currently being used as a garage and storage shed (Plate 13). Evidence for the presence of further, now removed structures, is visible on the OS maps of 1848 and 1893, and aerial photographs dating to the 1960s (lantern.lancashire.gov.uk). The wall to the north of the building curves around the line of the road and butts against Iron Works Cottage (Site 02) (see Section 4.2.4). This wall appears to be later than the northern extension which, in itself, is probably later than the main building (Plate 14). The rear of this wall is plain and shows no evidence of former structures.



*Plate 12: Stone perimeter wall (Site 04) to the south of the main office building showing phasing*



*Plate 13: Example of a structure at the rear of the south perimeter wall (Site 04)*

4.2.4 The exterior of Iron Works Cottage (Site 02) differs noticeably from the main office block building, the main visible fabric being narrow coursed sandstone (Plate 14). The main elevation also faces Warton Road. The building is of two parts with the southern part being of a single storey and the northern part is of two stories as the building follows the slope of the road and there is an internal

step down. The perimeter wall described in *Section 4.2.3* butts against the south side of the building, and there was evidence of windows, perhaps indicative of a former structure visible (Plate 14). The rear elevations of this building are mainly rendered, but missing render on two chamfered corners reveals brickwork, suggesting that only the principal and part of the north elevation are of stone construction.



*Plate 14: Front elevation of Iron Works Cottage showing the perimeter wall at the extreme right side and blocked door*

- 4.2.6 Internally, both structures have been extensively ‘modernised’ and many of the internal walls appear to have been replastered. Many of the ceilings have been lowered and replaced with late-twentieth century polystyrene suspended frameworks. Some internal features of earlier phases still remain however, the most noteworthy being the staircase in the former office building.
- 4.2.7 Other than the staircase, there was little evidence of major structural or decorative elements on the ground floor during the site visit. The northern part of the ground floor was unable to be accessed at the request of the occupiers. The upper floor is similarly plain with limited evidence of fixtures or fittings dating to the early phases of the building. In a long corridor that runs the length of upper floor, there are two arches that may have once contained decorative elements as evidenced by the feet of engaged columns at skirting level.
- 4.2.8 The bulk of the development site stretches away to the east and contains several large warehouses and yards. These have been constructed on the site of the former iron works, of which very little survives. Although not directly accessible, two or more stone walls with infilled arches were visible lying alongside and perpendicular to the West Coast main line (Site **04**) (Plate 15).

These are the only visible remains of structures associated with the iron works within the site and are recorded as bays in the HER entry for the iron works (HER PRN4740). These walls once formed the supports for the elevated railway in this area seen on the maps of 1893. No additional gazetteer sites were discovered during the visit, although several road planings and former train tracks are known to be present within the concrete surfaces of the yards (Betts Associates 2010).



*Plate 15: Example of stone elevated railway supporting wall (Site 05) at the south end of the site, close to the Lancaster to Carlisle Railway*

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## 5 GAZETTEER OF SITES

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**Site number** 01  
**Site name** Carnforth Iron Works Offices  
**NGR** SD 49720 70836  
**HER no.** PRN4740  
**Designation** None  
**Site type** Building  
**Period** Industrial  
**Sources** HER / Site visit / map regression / aerial photograph  
**Description** Stone-built two-storey office range that served the now removed Carnforth Iron Works. Marked on OS 1893 map. Visible on 1930s aerial photography.  
**Assessment** The site is within the iron works site and will be impacted by development.

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**Site number** 02  
**Site name** Iron Works Cottage  
**NGR** SD 49717 70899  
**HER no.** None  
**Designation** None  
**Site type** Building  
**Period** Industrial  
**Sources** Site visit / map regression  
**Description** Brick and stone building to the north of Carnforth Iron Works Offices. Possibly a former dwelling. Marked on OS 1890 map. Visible on 1930s aerial photography.  
**Assessment** The site is within the iron works site and will be impacted by development.

---

**Site number** 03  
**Site name** Perimeter Stone Walls  
**NGR** SD 49731 70800, SD 49712 70879  
**HER no.** PRN4740  
**Designation** None  
**Site type** Wall  
**Period** Industrial  
**Sources** HER / Site Visit / Aerial Photograph  
**Description** Two lengths of stone wall to the north and south of Carnforth Iron Works Office building (Site 01). Scars indicate various phases of buildings may have been constructed up against the south length of wall. Visible on 1930s aerial photography.  
**Assessment** The site is within the iron works site and will be impacted by development.

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<b>Site number</b>	<b>04</b>
<b>Site name</b>	Current and former structures around Carnforth Iron Works Offices
<b>NGR</b>	SD 49737 70768, 49709 70871
<b>HER no.</b>	None
<b>Designation</b>	None
<b>Site type</b>	Buildings
<b>Period</b>	Industrial
<b>Sources</b>	Site visit / map regression / Aerial Photograph
<b>Description</b>	Current and former buildings situated to the south and north of Iron Works Offices (Site <b>01</b> ) lining Warton Road. Marked on OS 1893 map. Visible on 1930s aerial photography.
<b>Assessment</b>	The site is within the iron works site and will be impacted by development.

---

<b>Site number</b>	<b>05</b>
<b>Site name</b>	Stone supporting walls for former elevated railway
<b>NGR</b>	SD 49821 70816 (centre)
<b>HER no.</b>	PRN4740
<b>Designation</b>	None
<b>Site type</b>	Tramway
<b>Period</b>	Industrial
<b>Sources</b>	HER / Map regression / aerial photographs / historic photographs
<b>Description</b>	Stone walls forming supports for former elevated railway parallel to the West Coast main line. Marked on 1893 OS map. Visible on 1930s aerial photography and historic photography of c. 1867
<b>Assessment</b>	The site is within the proposed development area and will be impacted by it.

---

<b>Site number</b>	<b>06</b>
<b>Site name</b>	Carnforth Iron Works
<b>NGR</b>	SD 49888 70921
<b>HER no.</b>	PRN4740
<b>Designation</b>	None
<b>Site Type</b>	Industrial works
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Site of former Carnforth Iron Works, built in 1864 by the Carnforth Haematite Company. Closed in 1929 and demolished. Site includes various former structures including Iron Works Offices (Site <b>01</b> ), Iron Works Cottage (Site <b>02</b> ) perimeter wall (Site <b>03</b> ), furnaces, a chimney, engine house (Site <b>08</b> ) and railway tracks.
<b>Assessment</b>	The site is within the proposed development area and will be impacted by it.

---

**Site number** 07  
**Site name** Steelworks  
**NGR** SD 49772 70963  
**HER no.** PRN20650  
**Designation** None  
**Site type** Industrial works  
**Period** Industrial  
**Sources** HER  
**Description** Former steelworks post 1848, labelled as 'disused' on first edition OS 25" map of 1893.  
**Assessment** The site is within the proposed development area and will be impacted by it.

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**Site number** 08  
**Site name** Engine House  
**NGR** SD 49783 70837  
**HER no.** PRN20651  
**Designation** None  
**Site type** Industrial works  
**Period** Industrial  
**Sources** HER  
**Description** Site of engine house associated with Carnforth Iron Works.  
**Assessment** The site is within the proposed development area and will be impacted by it.

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**Site number** 09  
**Site name** Signal Box, Carnforth East Junction  
**NGR** SD 49835 71094  
**HER no.** PRN 20647  
**Designation** None  
**Site type** Railway Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** Signal box, no longer extant. Post-1848 but pre-1893 (OS maps)  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 10  
**Site name** Midland Station, Carnforth  
**NGR** SD 49813 71102  
**HER no.** PRN 24317  
**Designation** None  
**Site type** Railway Building (Site of)  
**Period** Industrial  
**Sources** HER



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<b>Description</b>	Midland Station constructed by the Midland Railway Company in 1867. Abandoned in 1879-1880 with the construction of the Carnforth Curve. Possibly mis-located.
<b>Assessment</b>	The site is outside the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>11</b>
<b>Site name</b>	Watermill
<b>NGR</b>	SD 49830 71148
<b>HER no.</b>	PRN 24307
<b>Designation</b>	None
<b>Site type</b>	Building (site of)
<b>Period</b>	Late medieval
<b>Sources</b>	HER
<b>Description</b>	A mill was extant in Carnforth in 1324 and is described as being 100 yards east of 'Brig End'. In 1817 a building was still extant, with remnants of a mill race.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>12</b>
<b>Site name</b>	House
<b>NGR</b>	SD 49755 71141
<b>HER no.</b>	PRN 24316
<b>Designation</b>	None
<b>Site type</b>	Building (site of)
<b>Period</b>	Post-medieval
<b>Sources</b>	HER
<b>Description</b>	In existence by 1700 and the birthplace of John Lucas, historian of Warton.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>13</b>
<b>Site name</b>	Goods Shed
<b>NGR</b>	SD 49667 70969
<b>HER no.</b>	PRN 20649
<b>Designation</b>	None
<b>Site type</b>	Railway Building (site of)
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Post-1848 but pre-1893 (OS maps).
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>14</b>
<b>Site name</b>	Signal Box
<b>NGR</b>	SD 49666 70931
<b>HER no.</b>	PRN 15712
<b>Designation</b>	Listed Building (Grade II) 1078212
<b>Site type</b>	Railway Building
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Signal Box c. 1900. Large LNWR box with a brick base and glazed observation room. Welsh slate hipped roof. Included as one of unique group of railway buildings.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>15</b>
<b>Site name</b>	Railway Turntable
<b>NGR</b>	SD 4961170962
<b>HER no.</b>	PRN 10461
<b>Designation</b>	None
<b>Site type</b>	Railway Structure
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Iron railway turntable, part of the former 'steamtown' complex of railway yards and workshops. Not shown on the 1919 OS map, so is assumed to post date this.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>16</b>
<b>Site name</b>	Signal Box
<b>NGR</b>	SD 49692 70834
<b>HER no.</b>	PRN 10961
<b>Designation</b>	Listed Building (Grade II) 1071920
<b>Site type</b>	Railway Building
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Signal box c. 1870. Coursed York stone with sandstone dressings and slate roof. Contains a panel with the carved coat of arms of the Cavendish family, with motto 'Cavendo Tutus'.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>17</b>
<b>Site name</b>	Station Hotel, Carnforth
<b>NGR</b>	SD 49718 70789
<b>HER no.</b>	PRN 33133
<b>Designation</b>	None

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<b>Site type</b>	Building (Site of)
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Former hotel, shown on the OS map of 1848, but not on the 1893 map. Probably demolished in the 1880s when the station (Site <b>20</b> ) was enlarged.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>18</b>
<b>Site name</b>	Ulverston and Lancaster Railway (Furness Railway)
<b>NGR</b>	SD 49632 71031 (point)
<b>HER no.</b>	PRN 37514
<b>Designation</b>	None
<b>Site type</b>	Railway
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Railway line, opened as the Ulverston and Lancaster Railway in 1857, taken over by the Furness Railway Company in 1862, and then by the London, Midland and Scottish (LMS) Railway in 1922. Still operational.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>19</b>
<b>Site name</b>	Selside Signal Box
<b>NGR</b>	SD 49633 70819
<b>HER no.</b>	PRN 15714
<b>Designation</b>	Listed Building (Grade II) 1078214
<b>Site type</b>	Railway Building
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Late nineteenth century signal box, which is a good example of a small Midland Box. Square in plan with weatherboard base with glazed observation room. Pyramidal Welsh slate roof. The box was removed here from Aisgale on the Settle-Carlisle line. It was once famous for being the highest in the country.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>20</b>
<b>Site name</b>	Carnforth Railway Station
<b>NGR</b>	SD 49698 70697
<b>HER no.</b>	PRN 4738
<b>Designation</b>	None
<b>Site type</b>	Railway Building
<b>Period</b>	Industrial

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<b>Sources</b>	HER, Site Visit
<b>Description</b>	The first station was built in 1846 to the north-west of Carnforth, which was extended in 1857. In 1880 a new station was built for the companies, LNWR, LMS and Furness. Much altered and reduced in size. A single platform for the Furness line to Barrow curved sharply, and was covered by an iron transverse ridge and furrow overall roof. The elevation facing Warton Road survives and is of coursed stone construction.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>21</b>
<b>Site name</b>	The Engine Running Shed, Steamtown, Carnforth
<b>NGR</b>	SD 49570 70856
<b>HER no.</b>	PRN 15715
<b>Designation</b>	Listed Building (Grade II) 1342134
<b>Site type</b>	Railway Building
<b>Period</b>	Modern
<b>Sources</b>	HER
<b>Description</b>	Engine running shed opened in 1944. Constructed from reinforced concrete with asbestos sheeting roof.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>22</b>
<b>Site name</b>	The Ash Plant, Steamtown, Carnforth
<b>NGR</b>	SD 49595 70764
<b>HER no.</b>	PRN 15710
<b>Designation</b>	Listed Building (Grade II) 1078215
<b>Site type</b>	Railway Building
<b>Period</b>	Modern
<b>Sources</b>	HER
<b>Description</b>	Ash plant 1939-43. Built by LMS using Italian POW labour. Reinforced concrete and was used for converting ash to building blocks.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>23</b>
<b>Site name</b>	The Coaling Plant, Steamtown, Carnforth
<b>NGR</b>	SD 49585 70719
<b>HER no.</b>	PRN 15716
<b>Designation</b>	Listed Building (Grade II)
<b>Site type</b>	Railway Building
<b>Period</b>	Modern
<b>Sources</b>	HER

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**Description** Ash plant 1939-43. Built by LMS using Italian POW labour. Reinforced concrete and was used storing and loading coal.

**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 24

**Site name** Water Tower, Steamtown, Carnforth

**NGR** SD 49550 70700

**HER no.** PRN 15711

**Designation** Listed Building (Grade II) 1342135

**Site type** Railway Building

**Period** Modern

**Sources** HER

**Description** Water Tower probably built c 1938. Skeleton of iron posts and cross ties supporting a 175,000 gallon tank. Has elliptically-profiled roof. The tank is unusual in that it is constructed of small panels.

**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 25

**Site name** Hall Gate Farmhouse, Carnforth Station area

**NGR** SD 49599 70655

**HER no.** PRN 24321

**Designation** None

**Site type** Building (Site of)

**Period** Industrial

**Sources** HER

**Description** Site of Hall Gate or Hall Garth farmhouse, probably in existence by 1817. The site also may have had a barn belonging to a former hall, possibly at Kitching Hall. Demolished pre-1894.

**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 26

**Site name** Signal Box, rear of 29-31 Haws Avenue, Carnforth

**NGR** SD 49602 70589

**HER no.** PRN 20678

**Designation** None

**Site type** Railway Building (Site of)

**Period** Industrial

**Sources** HER

**Description** Signal box built post-1848 but pre-1893 (OS maps)

**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 27  
**Site name** Post Office adjacent to No 4 Station Buildings, Carnforth  
**NGR** SD 49763 70713  
**HER no.** PRN 20652  
**Designation** None  
**Site type** Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** Post office, post-1848. No longer extant.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 28  
**Site name** Political Club, Station Buildings, Market Street, Carnforth  
**NGR** SD 49765 70696  
**HER no.** PRN 24320  
**Designation** None  
**Site type** Building  
**Period** Industrial  
**Sources** HER  
**Description** Built in 1886 (on a datestone). Opened in 1887, the Conservatives and Liberals met there by 1899.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 29  
**Site name** Toad Pludd House, Hunter Street, Carnforth  
**NGR** SD 49794 70707  
**HER no.** PRN 24311  
**Designation** None  
**Site type** Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** The area near the station was known as Toad Pludd, where a large house was called by that name.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 30  
**Site name** Smithy, Back Hunter Street, off market Street, Carnforth  
**NGR** SD 49838 70691  
**HER no.** PRN 20653  
**Designation** None  
**Site type** Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** Smithy post-1849, no longer extant

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**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 31  
**Site name** Salvation Army Barracks, Ashtrees Way, off Market Street, Carnforth  
**NGR** SD 49870 70690  
**HER no.** PRN 20654  
**Designation** None  
**Site type** Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** Salvation Army Barracks post-1848, no longer extant  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 32  
**Site name** Market Street, Carnforth, Market Place  
**NGR** SD 49814 70655  
**HER no.** PRN 24310  
**Designation** None  
**Site type** Market Place  
**Period** Industrial  
**Sources** HER  
**Description** Pre-1890 market place for the town of Carnforth  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 33  
**Site name** Station Hotel, Carnforth  
**NGR** SD 49777 70634  
**HER no.** PRN 1209  
**Designation** None  
**Site type** Findspot  
**Period** Neolithic  
**Sources** HER  
**Description** Two stone axes, one polished were found on the site of the Station Hotel c 1890  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 34  
**Site name** Station Hotel, Carnforth  
**NGR** SD 49786 70630  
**HER no.** PRN 20659  
**Designation** None  
**Site type** Building

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<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Station Hotel post-1848, still extant, now called the Royal Station Hotel
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>35</b>
<b>Site name</b>	Gravel pit, Royal Station Hotel, Carnforth
<b>NGR</b>	SD 49784 70612
<b>HER no.</b>	PRN 24306
<b>Designation</b>	None
<b>Site type</b>	Gravel Pit
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Shown on the 1848 Ordnance Survey map. No longer extant. Two stone axes were found here (PRN 1209) in c 1890.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>36</b>
<b>Site name</b>	Queen's Hotel, 34-36 Market Street, Carnforth
<b>NGR</b>	SD 49890 70636
<b>HER no.</b>	PRN 20655
<b>Designation</b>	None
<b>Site type</b>	Building
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Hotel marked on OS 1891 map. Extant.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>37</b>
<b>Site name</b>	Bank, 44 Market Street, Carnforth
<b>NGR</b>	SD 49940 70623
<b>HER no.</b>	PRN 20656
<b>Designation</b>	None
<b>Site type</b>	Building
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Bank marked on OS 1893 map. Extant.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 38  
**Site name** Carnforth Inn, west side of junction between, Lancaster Road and Market Street  
**NGR** SD 49920 70592  
**HER no.** PRN 20657  
**Designation** None  
**Site type** Building (Site of)  
**Period** Industrial  
**Sources** HER  
**Description** Pre-1848 Inn shown on OS 1848 map. No longer extant  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 39  
**Site name** Buckle frame findspot, Carnforth (known as)  
**NGR** SD 49900 70600  
**HER no.** PRN 32811  
**Designation** None  
**Site type** Findspot  
**Period** Late - post-medieval  
**Sources** HER  
**Description** Late medieval cast copper alloy circular buckle frame with central bar. Found in 2007.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

---

**Site number** 40  
**Site name** Hellbank of Hallback, Carnforth  
**NGR** SD 49900 70600  
**HER no.** PRN 3382  
**Designation** None  
**Site type** Long Barrow (Site of)  
**Period** Early Neolithic to early Bronze Age  
**Sources** HER  
**Description** Site of possible Neolithic long barrow, recorded in the eighteenth century by John Lucas, local historian.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 41  
**Site name** Rear of 29 Market Street, Carnforth  
**NGR** SD 49894 70591  
**HER no.** PRN 35624  
**Designation** None  
**Site type** Building  
**Period** Industrial  
**Sources** HER

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**Description** Late nineteenth century barn. Rebuilt in 2011  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 42  
**Site name** Police Station, 22 Lancaster Road, Carnforth  
**NGR** SD 49873 70537  
**HER no.** PRN 20675  
**Designation** None  
**Site type** Building  
**Period** Industrial  
**Sources** HER  
**Description** Police Station marked on OS 1893 map. Extant.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 43  
**Site name** Pestle/slickstone Carnforth  
**NGR** SD 49700 70600  
**HER no.** PRN 18935  
**Designation** None  
**Site type** Findspot  
**Period** Post-medieval  
**Sources** HER  
**Description** Stone pestle/slickstone found in 1897. Exact findspot unknown  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 44  
**Site name** Gravel pit, Carnforth  
**NGR** SD 49700 70580  
**HER no.** PRN 5214  
**Designation** None  
**Site type** Gravel Pit  
**Period** Industrial  
**Sources** HER  
**Description** Several gravel pits are shown on the 1848 OS map.  
**Assessment** The site is outside of the proposed development area and will not be impacted by it.

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**Site number** 45  
**Site name** Hole House, Carnforth  
**NGR** SD 49855 70603  
**HER no.** None  
**Designation** None  
**Site type** Building (Site of)

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<b>Period</b>	Industrial
<b>Sources</b>	Map regression
<b>Description</b>	Collection of buildings labelled 'Hole House' on the 1893 OS map.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

---

<b>Site number</b>	<b>46</b>
<b>Site name</b>	Little North Western Railway
<b>NGR</b>	SD 49730 71041 (centred)
<b>HER no.</b>	None
<b>Designation</b>	None
<b>Site type</b>	Railway
<b>Period</b>	Industrial
<b>Sources</b>	HER
<b>Description</b>	Railway line, opened in 1867 connecting Barrow to Yorkshire. The line curves around the north of the study area to join the west coast main line. The line passes over Warton Road via a bridge dated 1880 and via an undated stone bridge over the A6, Scotland Road. The 1880 bridge has obviously been altered in the twentieth century. Recorded on the 1893 Ordnance Survey map. Extant
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>47</b>
<b>Site name</b>	Lancaster and Carlisle Railway
<b>NGR</b>	SD 49894 70851 (centred)
<b>HER no.</b>	None
<b>Designation</b>	None
<b>Site type</b>	Railway
<b>Period</b>	Industrial
<b>Sources</b>	Map Regression
<b>Description</b>	Lancaster to Oxenholme section of the Lancaster and Carlisle Railway was opened in 1846. Recorded on the 1848 OS map. Extant, survives as the west coast main line.
<b>Assessment</b>	The site is outside of the proposed development area and will not be impacted by it.

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<b>Site number</b>	<b>48</b>
<b>Site name</b>	Bridge over Lancaster and Carlisle Railway
<b>NGR</b>	SD 49745 70723
<b>HER no.</b>	None
<b>Designation</b>	None
<b>Site type</b>	Railway building
<b>Period</b>	Industrial
<b>Sources</b>	Map Regression

**Description** Stone bridge carrying Warton Road over the Lancaster to Oxenholme section of the Lancaster and Carlisle Railway, which was opened in 1846. Recorded on the 1848 OS map.

**Assessment** The site is outside of the proposed development area and will not be impacted by it.

## 6 ASSESSMENT OF THE SIGNIFANCE OF THE REMAINS

### 6.1 INTRODUCTION

- i. In total, 48 gazetteer sites, or heritage assets, have been identified within the study area (Table 2). Sites **02**, **04** and **45-48** were identified from the site visit and map regression. The remaining 42 sites were identified from the HER. Four of the sites are within, or partially within, the proposed development area (Sites **04**, **05**, **06**, and **08**). The remainder are outside of the development area, and all but 10 of these sites (Sites **07**, **09**, **10**, **11**, **12**, **13**, **14**, **18**, **26** and **47**) are within the Carnforth Conservation Area.

Period	No of Sites	Site Type
Prehistoric	2	Findspot (Site <b>33</b> ); Long Barrow (Site <b>40</b> )
Romano-British	0	-
Early Medieval	0	-
Medieval	1	Building (Site <b>11</b> )
Post-medieval	3	Building (Site <b>12</b> ); Findspot (Site <b>39</b> and <b>43</b> )
Industrial	38	Buildings (Sites <b>01</b> , <b>02</b> , <b>03</b> , <b>04</b> , <b>17</b> , <b>25</b> , <b>27</b> , <b>28</b> , <b>29</b> , <b>30</b> , <b>31</b> , <b>34</b> , <b>36</b> , <b>37</b> , <b>38</b> , <b>41</b> , <b>42</b> and <b>45</b> ); Wall (Site <b>03</b> ); Tramway (Site <b>05</b> ); Industrial works (Sites <b>06</b> , <b>07</b> and <b>08</b> ); Railway buildings (Sites <b>09</b> , <b>10</b> , <b>13</b> , <b>14</b> , <b>15</b> , <b>16</b> , <b>19</b> , <b>20</b> , <b>26</b> and <b>48</b> ); Railway (Site <b>18</b> , <b>46</b> and <b>47</b> ); Market Place (Site <b>32</b> ); Gravel Pits (Site <b>35</b> and <b>44</b> )
Modern	4	Railway buildings (Sites <b>21</b> , <b>22</b> , <b>23</b> and <b>24</b> )

Table 2: Number of sites by period

- 6.1.2 In the NPPF, the Department of Communities and Local Government (DCLG 2012) sets out the Government's planning policy and framework for England, and how these are expected to be implemented. NPPF places particular emphasis on assessing the development proposals in line with an up-to-date local plan (*op cit*, Section 3.28). In determining applications, local planning authorities must be able to understand the significance of any heritage assets affected by the proposed development in order to assess its impact. This would enable the conservation of 'heritage assets in a manner suitable to their significance so that they can be enjoyed for their contribution to the quality of life of this and future generations' (*op cit*, para 17), or else they can be recorded 'and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible' (*op cit*, Section 12.141).

6.1.3 Therefore, the following section will determine the nature and level of the significance of the archaeological resource, as detailed in *Sections 3, 4 and 5*). This is an iterative process, beginning with the guideline criteria outlined in Table 3, below. In general terms, the recording of a heritage asset, e.g. HER, scheduled monuments (SM) or listed building, and any subsequent grading thereafter, by its nature, determines its importance. However, this is further quantified by factors such as the existence of surviving remains or otherwise, its rarity, or whether they form part of a group. There are a number of different methodologies used to assess the archaeological significance of heritage assets, but that employed here (*Section 5.2*) is the ‘Secretary of State’s criteria for scheduling ancient monuments’ (Annex 1; DCMS 2010).

Importance	Examples of Heritage Asset
National	Scheduled monuments (SMs), Grade I, II* and II listed buildings
Regional/County	Conservation Areas, Registered Parks and Gardens (Designated Heritage Assets) Sites and Monuments Record/Historic Environment Record
Local/Borough	Assets with a local or borough value or interest for cultural appreciation Assets that are so badly damaged that too little remains to justify inclusion into a higher grade
Low Local	Assets with a low local value or interest for cultural appreciation Assets that are so badly damaged that too little remains to justify inclusion into a higher grade
Negligible	Assets or features with no significant value or interest

*Table 3: Guideline criteria used to determine Importance of Heritage Assets*

## 6.2 QUANTIFICATION OF IMPORTANCE

6.2.1 Only those gazetteer sites listed as being within the site (Sites **01-06** and **08**) were considered using the criteria for scheduling ancient monuments, with the results below. This information will contribute to the overall assessment of the importance of each heritage asset.

6.2.2 **Period:** all of the sites outlined for consideration as described above, date to the industrial period, and the sites individually are not especially significant due to period in this regard. None of the sites is earlier than 1846, which reflects the general nature of the development of the town of Carnforth. Much of Carnforth developed as a result of both the coming of the railways and the building of the iron works, so the sites may be considered significant as a whole in terms of the impetus for industrial development of the town.

6.2.3 **Rarity:** none of the sites are considered to be significant due to rarity and are part of the general industrial landscape of the town.

6.2.4 **Documentation:** none of the sites are considered to be significant due to documentation as the sites are well-documented from available sources. No

additional documentation was discovered that may add detail to that provided in the HER.

- 6.2.5 **Group Value:** individually, the sites are considered not to be overly significant, but when treated as a whole the sites do have significant value. The sites within the conservation area (Sites **01-04**) are significant when treated as a group in the conservation area and all of the sites together are significant as a group within the context of the iron works.
- 6.2.6 **Survival/Condition:** much of the iron works complex was demolished soon after it closed in 1929. It was subsequently used as a World War II fuel dump and military compound, and later for light industrial warehouses and buildings. The nature of the survival of below ground remains over much of the site is unknown (but extensive survival may be a possibility), although surviving remains of the elevated railway (Site **05**) are visible in a form sufficient enough to determine their original purpose and are, therefore, considered significant.
- 6.2.7 The upstanding structures (Sites **01-04**) also survive in reasonable condition, the former office range (Site **01**) being still used for offices. The survival and condition of the buildings is sufficient enough for them to be considered significant. The buildings are also within the conservation area and have been specifically highlighted as ‘positive buildings’ in the Carnforth Conservation Area Appraisal (LCC 2012).
- 6.2.8 **Fragility/Vulnerability:** the sites within the proposed development area (Sites **05, 06** and **08**) are of indeterminate survival and extent. The redevelopment proposals are, at present, unknown, so the vulnerability of the sites cannot be adequately assessed. The upstanding elements within the development area (Site **05**) are considered to be significant in this respect however, as any redevelopment scheme, unless specifically designed to avoid these structures, would affect them. Site **05** is, at this stage, considered to be significant.
- 6.2.9 The upstanding structures (Sites **01-04**) are considered to be highly vulnerable to any redevelopment within the proposed area, as they are earmarked for possible demolition or modification as part of the scheme. They are considered to be significant in this respect.
- 6.2.10 **Diversity:** the sites are not considered to significant in this respect.
- 6.2.11 **Potential:** prior to 1846, the development site consisted of a collection of open fields and there are no prehistoric, Roman or medieval sites known within the site. However, given that there are known prehistoric (Site **33**) and Roman findspots (HER PRN33721, PRN33722 and PRN33828) within the locality, the potential for these exists. The potential for surviving below ground remains relating to the iron works (Sites **05, 06** and **08**) is significant, although of unknown extent at this stage.

### 6.3 CONCLUSIONS OF IMPORTANCE

- 6.3.1 Using the guideline criteria outlined in Table 3, together with further quantification (*Section 5.2*), and informed professional judgement; each of the gazetteer sites has been assessed for importance as a heritage asset (Table 4). Following discussion of their importance in *Section 6.2* all of gazetteer sites

within the area for assessment (Sites **01-06** and **08**) are considered to be of *regional/county importance* due to their inclusion as a group within the HER as Carnforth Iron Works (Site **06**). In addition, the upstanding structures (Sites **01-04**) are also included within the conservation area.

No	Site name	Importance
<b>01</b>	Carnforth Iron Works Offices	Regional/County Importance
<b>02</b>	Iron Works Cottage	Regional/County Importance
<b>03</b>	Perimeter Stone Walls	Regional/County Importance
<b>04</b>	Current and former structures	Regional/County Importance
<b>05</b>	Supporting walls for elevated railway	Regional/County Importance
<b>06</b>	Carnforth Iron Works	Regional/County Importance
<b>08</b>	Engine House	Regional/County Importance

*Table 4: Importance of each gazetteer site*



## 7 IMPACT ASSESSMENT

### 7.1 IMPACT

7.1.1 Heritage assets are considered to be ‘*a finite, irreplaceable and fragile resource*’ (DCMS 2010). Therefore, it has been the intention of this assessment to identify their significance and potential of the proposed development area, and assess the impact of the proposals, thus allowing the advice of NPPF (2012) 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 the proposals;
- reviewing the evidence for past impacts that may have affected the archaeological sites;
- outlining suitable mitigation measures, where possible at this stage, to “*avoid, or minimise conflict between the heritage assets’ conservation and any aspect of the proposal*” (*op cit*, Section 12.129).

7.1.2 The impact is assessed in terms of the importance, or sensitivity, of the site to the magnitude of change or potential scale of impact during the proposed redevelopment. The magnitude, or scale, of an impact is often difficult to define, but will be termed 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 heritage asset 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 heritage asset 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 heritage asset 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 heritage asset. 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*

7.1.3 The scale of impact, when weighted against the importance of the archaeological site, produces the impact significance. This may be calculated by using the matrix shown in Table 6, below.

Resource Value (Importance)	Scale of Impact Upon Heritage Asset			
	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 7: Impact Significance Matrix

7.1.4 The impact of the proposed redevelopment on the upstanding structures is dependent upon the extent and nature of the planned scheme. However, the buildings are treated, whether that be full or part demolition, they will be impacted upon significantly. The extent of any previous disturbance to buried archaeological levels is an important factor in assessing the potential impact of the redevelopment scheme. The iron works was demolished soon after it closed in 1929 and was subject to subsequent redevelopment during World War II and in the late twentieth century. The extent of the survival and, therefore, nature of the impact of redevelopment upon below ground remains, is impossible to quantify. Nevertheless, significant below ground remains may still survive and may, therefore, be impacted upon, the scale of the impact requisite with the nature of the proposals.

## 7.2 SIGNIFICANCE OF IMPACT

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 and other modification/additional works associated with the proposed development, and that the present condition of the heritage assets/gazetteer sites is known or assumed. The results are summarised in Table 7, below, in the absence of mitigation. *The following will require review once detailed design/ construction proposals are known.*

Site No.	Site name	Nature of Impact	Scale of Impact	Impact Significance
01	Carnforth Iron Works Offices	Possible direct impact (modification/demolition)	Substantial/moderate	Major/intermediate
02	Iron Works Cottage	Possible direct impact (modification/demolition)	Substantial/moderate	Major/intermediate
03	Perimeter Stone Walls	Possible direct impact (modification/demolition)	Substantial/moderate	Major/intermediate
04	Current and former structures	Possible direct impact (modification/demolition)	Substantial/moderate	Major/intermediate

Site No.	Site name	Nature of Impact	Scale of Impact	Impact Significance
05	Supporting walls for elevated railway	Possible direct impact (modification/demolition)	Substantial/moderate	Major/intermediate
06	Carnforth Iron Works	Probable disturbance of below ground remains	Substantial/moderate	Major/intermediate
08	Engine House	Probable disturbance of below ground remains	Substantial/moderate	Major/intermediate

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

7.2.2 Given the current unknown nature of the redevelopment proposals, and given the unknown survival and extent of any below ground remains, the impact of development on all of the sites has been rated as *substantial/moderate* and the significance of this as *major/intermediate*. This assessment is, as has already been outlined, subject to change once the specific details of the development scheme have been published.

7.2.3 Heritage assets within the wider study area must also be considered for any impact from the proposed development, albeit indirect impacts, such as any settings issues. There are a number of listed buildings within close proximity of the development area, which their statutory designation deems them to be of national importance. Most of these are within the railway complex, directly opposite the site, and are contained within its boundaries defined by high walls. Some of the buildings are also within the town centre of Carnforth, which for the most part are detached from the setting of the development site. The settings and views of the buildings are considered not to be impacted by the proposed development assuming low level residential properties are planned, and the significance of impact is, therefore *neutral*.

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## 8 RECOMMENDATIONS

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### 8.1 INTRODUCTION

- 8.1.1 A heritage assessment is the first stage of an iterative process of investigating the significance and presence of heritage assets within or surrounding a proposed development area. Having identified the potential for such assets, and the significance of the impact by the development, further investigation is required to determine the exact nature, survival, extent, and date of the remains. However, in terms of the requirement for further archaeological investigation, it is necessary to consider only those heritage assets identified that will be affected by the proposed redevelopment. Such further investigation would strive to reach a stage wherein a mitigation strategy can be agreed for affected assets: current legislation draws a distinction between designated heritage assets and other remains considered to be of lesser significance; *“when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation. The more important the asset the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset, or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. 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, notable scheduled monuments, protected wreck sites, battlefields, grade I or II\* listed buildings, grade I or II\* listed parks or gardens, and World Heritage Sites, should be wholly exceptional”* (NPPF 2012, Section 12.132).
- 8.1.2 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, *“the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset”* (op cit, Section 12.135).

### 8.2 REQUIREMENTS FOR FURTHER ARCHAEOLOGICAL INVESTIGATION

- 8.2.1 There are three heritage assets (Sites **05**, **06** and **08**) identified in the assessment gazetteer that are positioned directly within the proposed development area and four sites that are under consideration for inclusion (Sites **01-04**) that may be impacted by the proposed development.
- 8.2.2 **Standing Structures:** the extant elements of the former office range of the Iron Works (Site **01**), Iron Works Cottage (Site **02**), the surviving walls (Site **03**) and current and former buildings surrounding these (Site **04**) are not listed buildings/structures but they are within the conservation area and as such conservation area. Consequently, consent would be required prior to any

development. The upstanding remains of the elevated railway (Site **05**) are not within the conservation area and would, therefore, not require any such consent. The appearance of all of these structures does add value to the character of the surrounding area, and is in keeping with the railway complex directly opposite, the internal appearance of the former office range and cottage are not considered to add value to the character of the surrounding area as they appear to have been extensively modernised (although earlier fabric may yet be revealed by more detailed inspection, above suspended ceilings for example). The former office range and cottage are have, however been highlighted as positive buildings in the conservation area assessment. It must be reiterated that the exact nature of the proposals are, at this stage, unknown but the impact of the development was rated as *major/intermediate*.

- 8.2.3 To mitigate this impact, the nature of the preservation or recording strategy will need to be decided once the nature of the proposed development has been finalised. Therefore, any methodology for the preservation of these structures either *in situ* or by record, will need to be outlined once the development plans are known. It should be assumed that some mitigation will be required whatever the nature of the development plans. Should mitigation in the form of recording be required then this must be in accordance with current planning policy guidelines to ‘*advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible (op cit, Section 12.141)*. This will take the form of a drawn, photographic and descriptive record (to the relevant English Heritage level) to elucidate the historical development and significance of the structures and to provide a permanent archive.
- 8.2.4 **Buried Remains:** potentially, buried remains of all the elements of the former iron works (as well as World War II remains) exist within the development site. There is potential for revealing these remains during development, but as the extent of the remains is unknown, a programme of targeted evaluation trenching or test-pitting in advance of any development is recommended. The results of any evaluation work, when weighted against detailed construction proposals, may necessitate further archaeological work in mitigation.
- 8.2.5 Recommendations are outlined in Table 8, below, after consideration of the current development proposals. However, should these proposals alter, the recommendations should be reviewed accordingly.

Gaz no	Description	Importance	Impact Significance	Recommendations
<b>01</b>	Carnforth Iron Works Offices	Regional/ County Importance	Major/ intermediate	Dependent upon proposals – probable building recording
<b>02</b>	Iron Works Cottage	Regional/ County Importance	Major/ intermediate	Dependent upon proposals – probable building recording

<b>Gaz no</b>	<b>Description</b>	<b>Importance</b>	<b>Impact Significance</b>	<b>Recommendations</b>
<b>03</b>	Perimeter Stone Walls	Regional/ County Importance	Major/ intermediate	Dependent upon proposals – probable building recording
<b>04</b>	Current and former structures	Regional/ County Importance	Major/ intermediate	Dependent upon proposals – probable building recording
<b>05</b>	Supporting walls for elevated railway	Regional/ County Importance	Major/ intermediate	Dependent upon proposals – probable building recording
<b>06</b>	Carnforth Iron Works	Regional/ County Importance	Major/ intermediate	Targeted evaluation trenching/test pitting
<b>08</b>	Engine House	Regional/ County Importance	Major/ intermediate	Targeted evaluation trenching/test pitting

*Table 8: Summary of site-specific recommendations for further archaeological investigation*

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## 9 CONCLUSIONS

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### 9.1 DISCUSSION

- 9.1.1 In total, 48 heritage assets have been identified in a gazetteer compiled for the study area, three of which are within the proposed development area (Sites **05**, **06** and **08**) and four are being considered for inclusion (Sites **01-04**). Within the development area, Sites **05**, **06** and **08** belong to the former Carnforth Iron Works, which was established in 1864, closed in 1929 and demolished soon after. The sites are considered to be of *regional/county* importance. The other sites not within the current proposed development site but for consideration, and also within the Carnforth Conservation Area, comprise upstanding buildings associated with the former iron works (Sites **01-04**); these are also of *regional/county* importance.
- 9.1.2 Until at least 1864, when the iron works was opened, the site of the proposed development area comprised open fields, as depicted on the tithe map of 1846 and OS mapping of 1848. Carnforth at this stage was still a small village positioned to the east of the proposed development area strung out along the Over Kellet road. Following the opening of the Lancaster to Oxenholme section of the Lancaster to Carlisle railway line in 1846, which forms the southern boundary of the development area, and the opening of a station also in 1846 at Keer Meadows, a second line, the Furness Railway, was opened in 1857 linking Lancaster to Ulverston and beyond. The station was rebuilt and enlarged and opened as Carnforth Station. A further line connecting Carnforth to Yorkshire was opened in 1867, and in 1879, the ‘Carnforth Curve’, forming the northern extents of the site boundary, was opened. Carnforth Station was again rebuilt and opened in 1888. The expansion of the railways led to industrial growth in the town and a need for workers, and so several terraced streets of workers housing were built.
- 9.1.3 The building and expansion of the railways led to the development of the Carnforth Iron Works which affected the development of the whole town shifting the emphasis from the former village in the east to the west, closer to the railway and its station. At its peak, the iron works had five working blast furnaces and two Bessemer converters for making steel. The steel works was opened in 1871, but had closed by 1890 and demolished by the time of the OS map of 1893. The iron works continued in operation until the First World War, but finally closed in 1929, due to the working out of the mines owned by the company. The site was levelled soon afterwards, and subsequently became the site of a World War II fuel dump and store, housing as many as 2000 troops. A number of nissen huts were built and the network of tracks within the site maintained for the transportation of fuel. In the latter part of the twentieth century, the site was developed for light industrial and storage use.
- 9.1.4 The parts that both the railway and the iron works had to play in the development of the modern town of Carnforth cannot be underestimated. They both ultimately shaped the layout of the town by a consequential shift in the whole focus of the settlement from the medieval core to the west in a

relatively short space of time. This is dramatically illustrated on the OS mapping, where in 1848 the area was just fields, to 1893 with the massive development of the railways, iron works and townscape evolving. Other developments, such as hotels, shops, a police station and Carnforth Parish Church (finished 1873), are also intrinsically linked to the railway and iron works.

- 9.1.5 Although the exact nature of the proposed development is not yet finalised, and the nature of the below ground remains of the former iron works remain unknown, any remains that do survive will be directly impacted and require further archaeological work. Consequently, further investigation to establish the presence or absence of below ground remains through trial trenching or test-pitting has been recommended for the components of Sites **06** and **08**, so as to assess their risk and vulnerability to impact from the proposed development. This would be aided by information from any geotechnical SI works for the site, particularly concerning potential contamination of below ground deposits.
- 9.1.6 The upstanding buildings and other structures within the outlined site (Sites **01-04** and **05**) are also likely to be impacted upon by any development. Any proposals for alteration/development of these structures is likely to require Conservation Area consent as these (except Site **05**) are within the conservation area.
- 9.1.7 All of the features associated with the iron works, are of *regional/county* significance and, should it transpire that the existing below ground remains are to be impacted, then a programme of recording prior to their being removed by the development, would be required. With regard to the upstanding buildings, the nature of either the *in situ* preservation or preservation by record will be determined by the extent of the development proposals. The levels of both recording strategies must be agreed in consultation with Lancashire County Archaeology Service (LCAS).



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## 11 ILLUSTRATIONS

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Figure 3: Plan of heritage assets

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Figure 5: Site boundary superimposed on the Ordnance Survey first edition 6": 1 mile map of 1848

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Plate 9: One of the oriel windows on the rear elevation

Plate 10: Oriel window supported by iron bracket set above the main entrance on the rear elevation

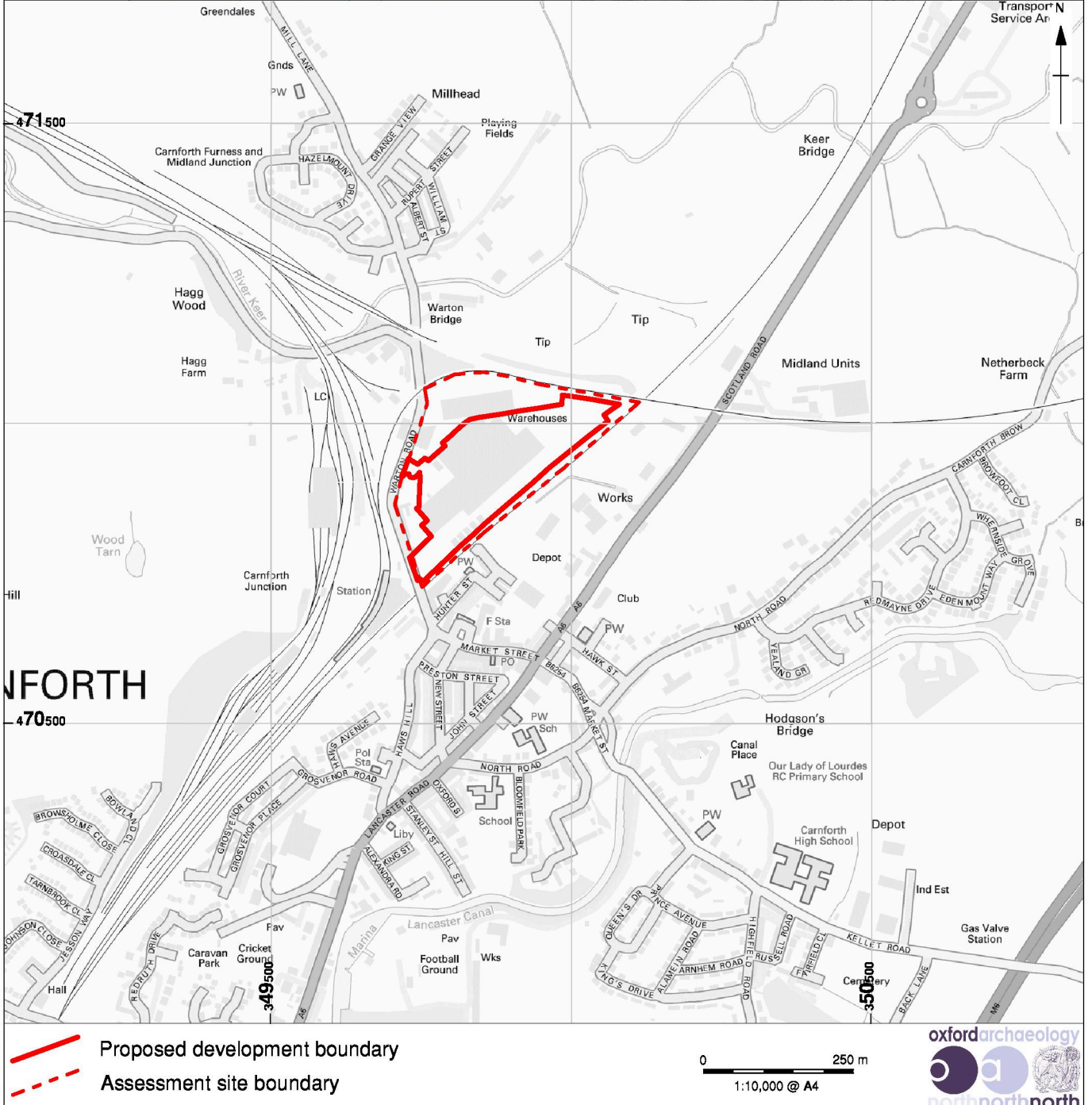
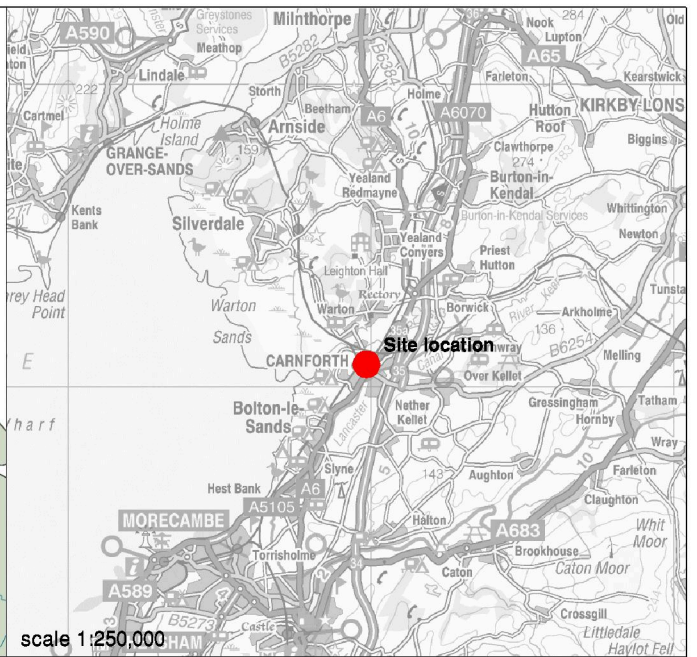
Plate 11: Entrance on the principal elevation showing the distinctive iron lintel bearing the name 'CARNFORTH IRON WORKS'

Plate 12: Stone perimeter wall (Site **04**) to the south of the main office building showing phasing

Plate 13: Example of structure at the rear of the south perimeter wall (Site **04**)

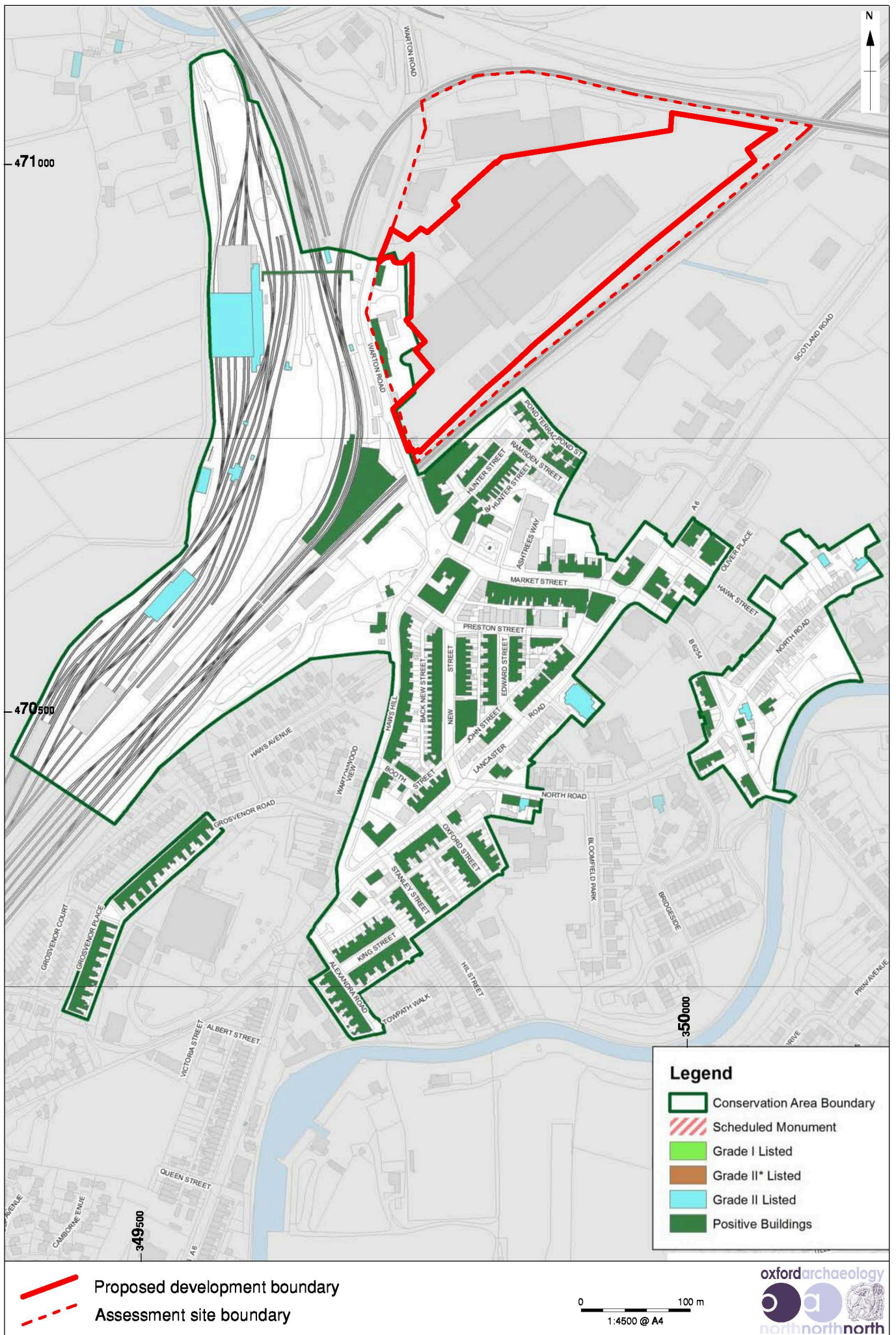
Plate 14: Front elevation of Iron Works Cottage showing the perimeter wall at the extreme right side and blocked door

Plate 15: Example of stone elevated railway supporting wall (Site **05**) at the south end of the site close to the Lancaster to Carlisle Railway





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Figure 1: Site location



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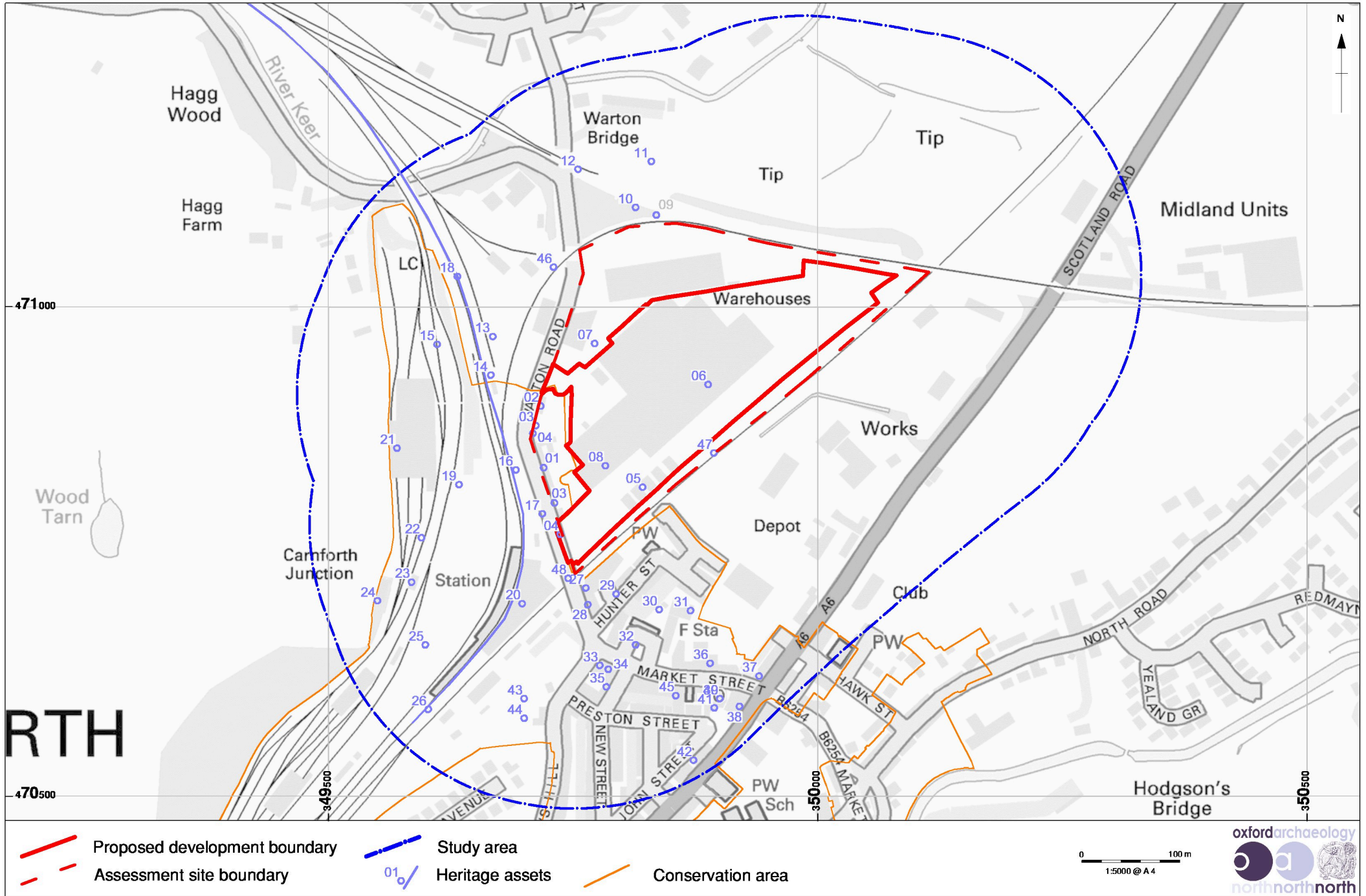
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 Assessment site boundary

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Figure 2: Plan of Carnforth conservation area showing listed and positive buildings





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- - Assessment site boundary
- · - · Study area
- Heritage assets
- Conservation area

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Figure 3: Plan of heritage assets

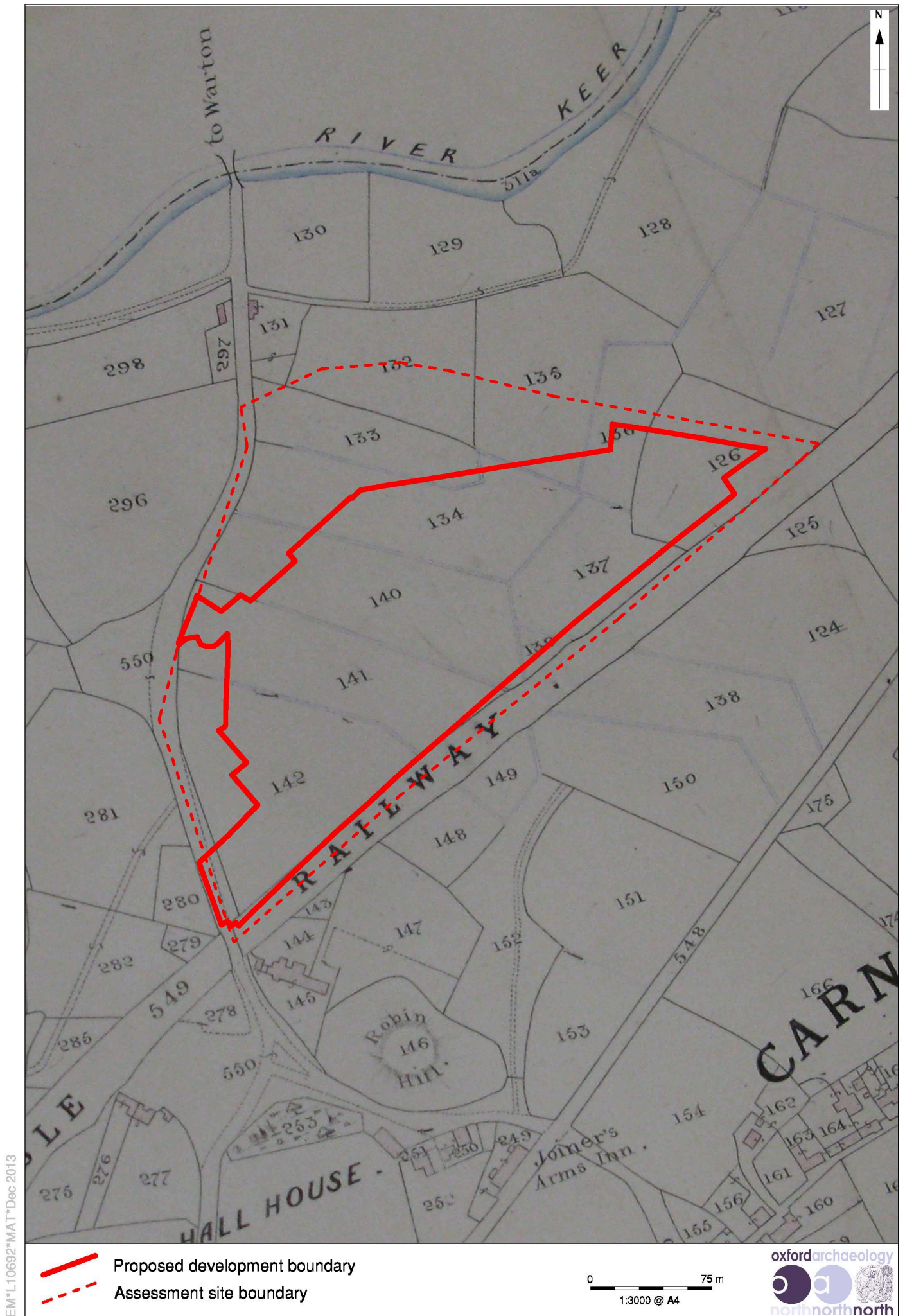
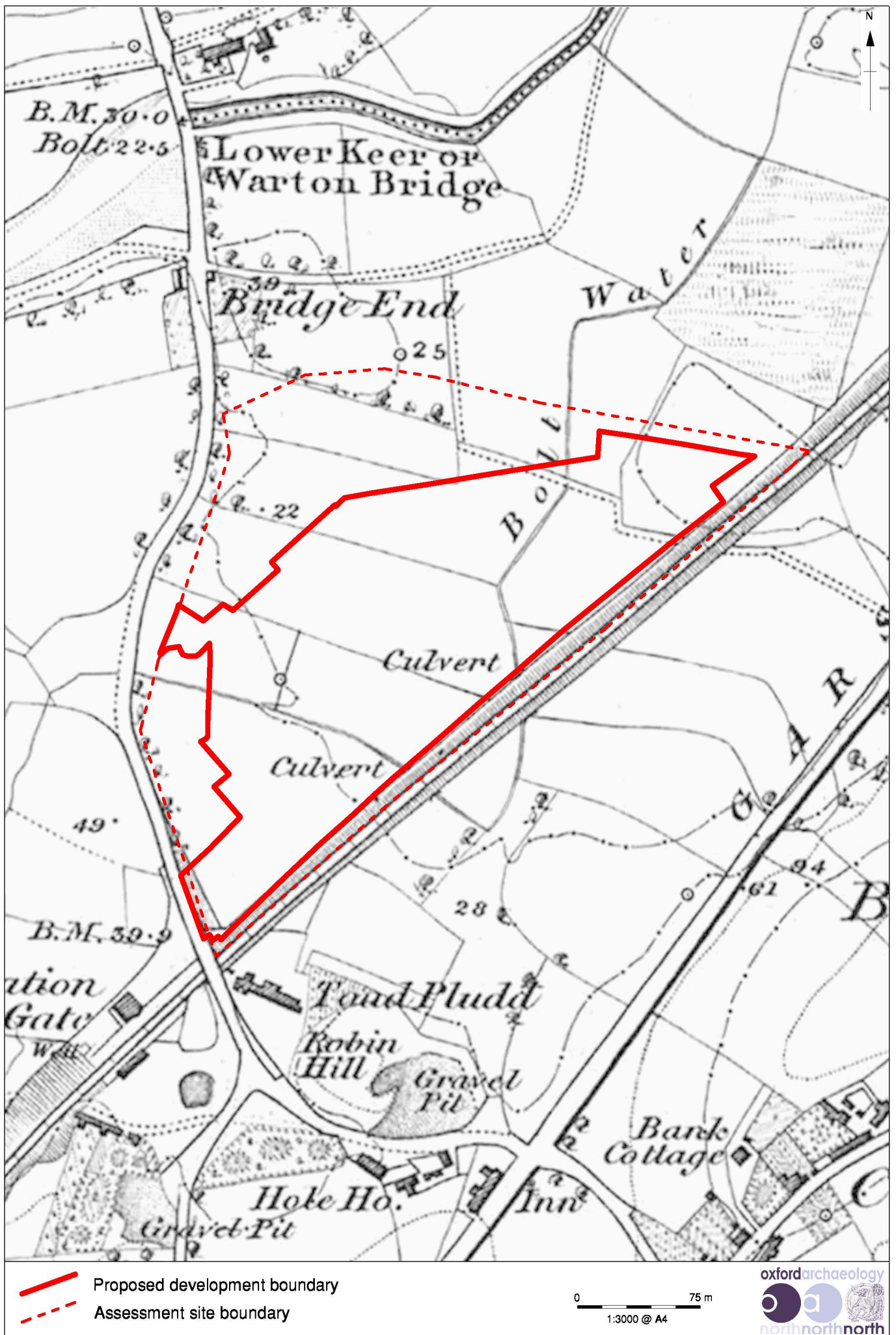


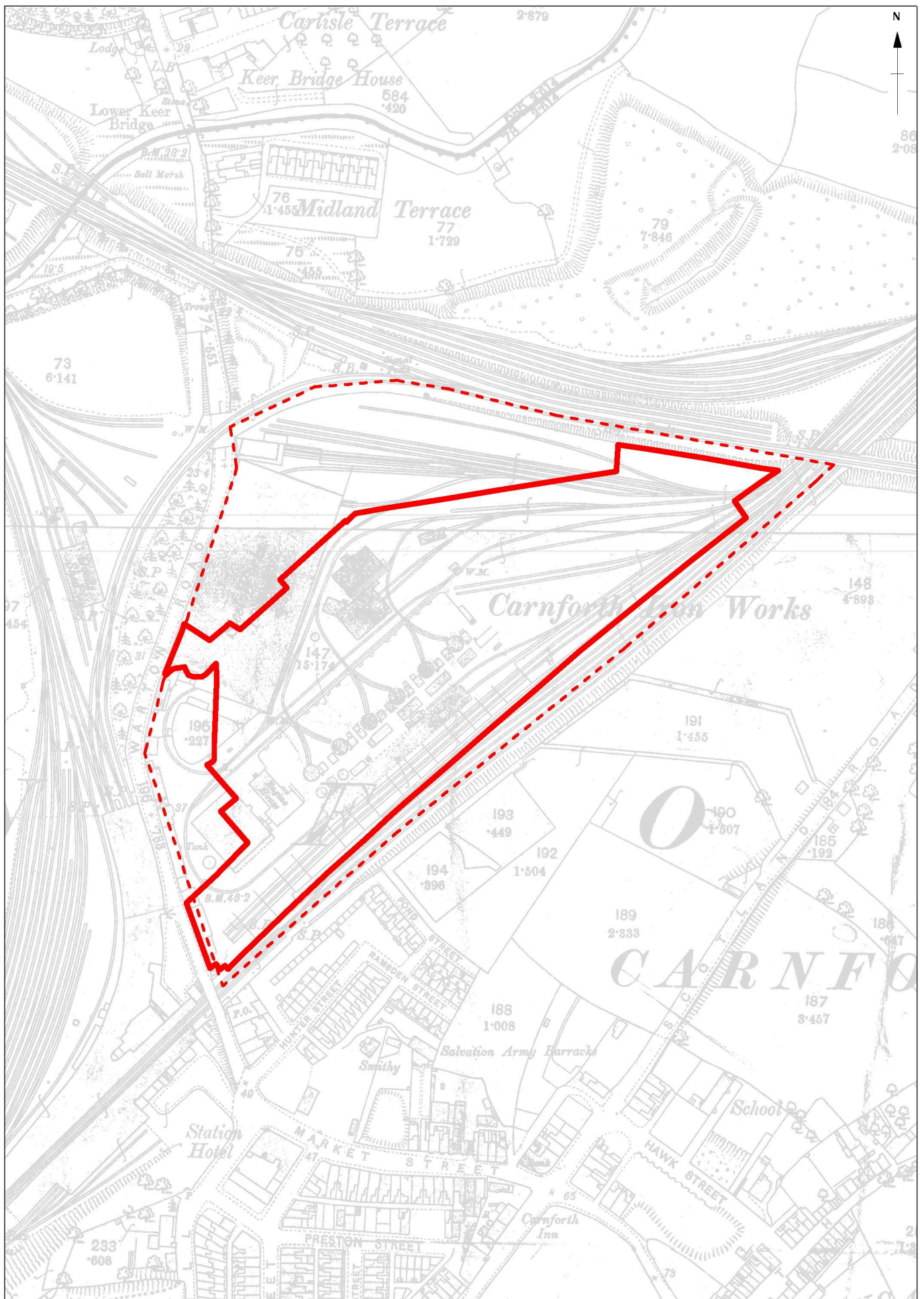
Figure 4: Site boundary superimposed on the Tithe Map of 1846

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Figure 5: Site boundary superimposed on the Ordnance Survey first edition 6":1 mile map of 1848



- Proposed development boundary
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Figure 6: Site boundary superimposed on the Ordnance Survey first edition 25":1 mile map of 1893

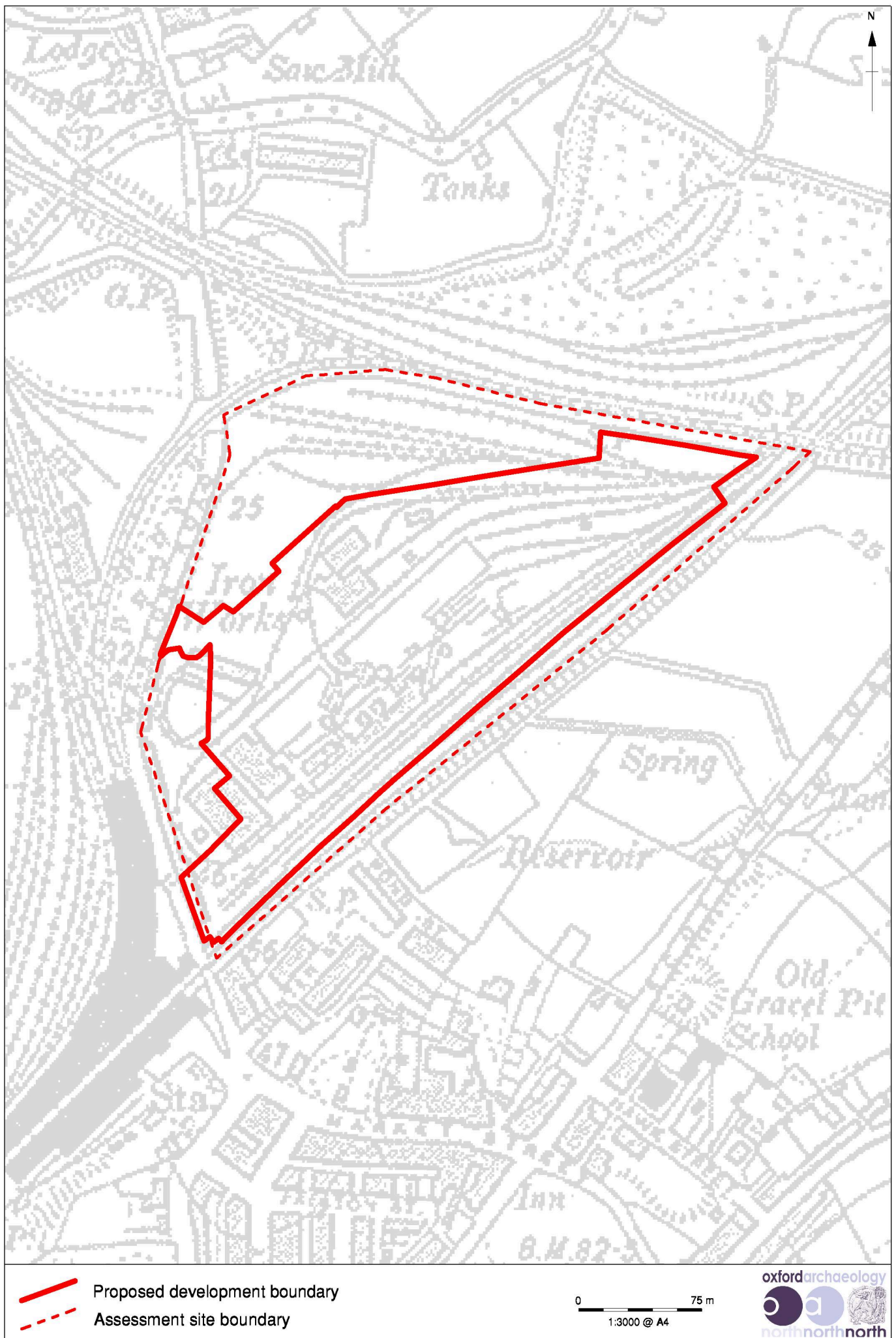


Figure 7: Site boundary superimposed on the Ordnance Survey third edition 6":1 mile map of 1919



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