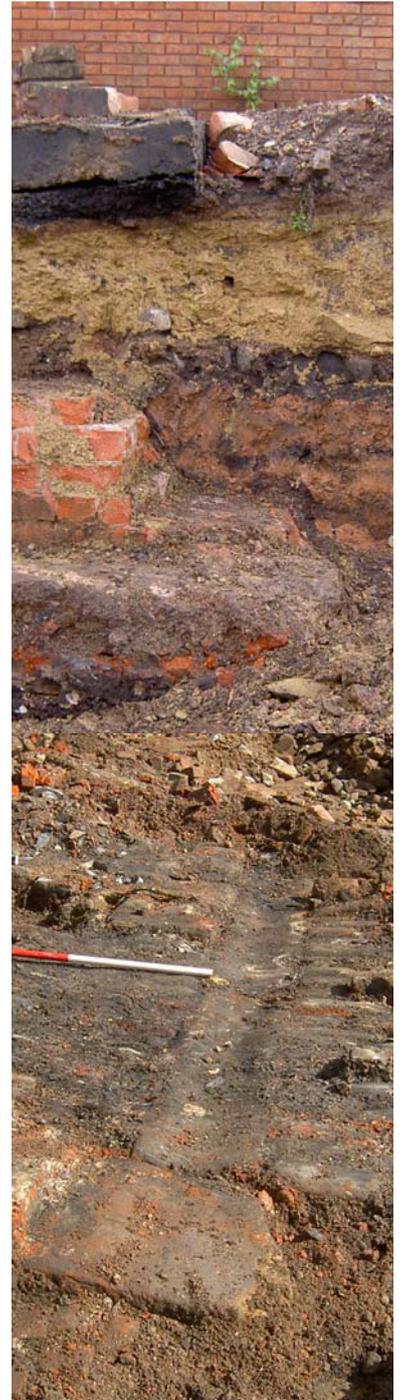


LAND ADJACENT TO FOX STREET AND 52-62 CORPORATION STREET, PRESTON, LANCASHIRE

Archaeological Watching Brief



Client: Marcus Worthington and
Co Ltd

Planning Application No.:
06/09/0060

NGR: 353655 429378

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November 2009



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Non-Technical Summary

Following the submission of a planning application on behalf of Marcus Worthington and Co Ltd for the erection of a seven storey hotel a programme of archaeological work was requested by Preston City Council after consultation with Doug Moir, the Planning Officer (Archaeology) at Lancashire County Council. This comprised a watching brief on all below ground works associated with the proposed development. Greenlane Archaeology carried out the watching brief in September and October 2009 after the acceptance of their project design.

The site is situated in an area considered to have only developed in the 18th century, although it is on the western edge of the medieval core of Preston. The extent of surviving archaeological remains in the area dating to this period and earlier was not known, so the redevelopment of the site offered a potential opportunity for this to be determined. Boreholes revealed a thick deposit of made ground across the site, and it was thought that the GPO building that once stood on the site may have truncated some of the earlier deposits.

The work revealed that the natural ground surface of the site had been truncated by up to 2m; this truncation had been retained by a substantial gritstone block wall that ran along Fox Street and at least part of the south side of the site. The purpose of the truncation was to form an extensive flat area for a coal yard on land that originally sloped slightly. The cobbled surface of the yard was evident across most of the excavated area, and was buried under a thick deposit of 19th century made ground and an area of demolition rubble. The floor of a stable block adjacent to Fox Street was also recorded; this may have housed horses which were used to pull the coal yard's trams.

Horse drawn trams were used to move the coal between Walton Summit on the south side of the River Ribble to the coal wharf in Preston. This five mile tramline, which ran under Fishergate, bridged a gap in the Lancaster Canal that was necessary due to the huge costs that would have been involved in trying to extend it across the Ribble river valley via an aqueduct. The coal yard was constructed in 1803 and the necessary landscaping had completely removed any earlier deposits; this degree of truncation was presumably necessary to increase storage space behind the street frontages and keep the tram lines at a similar level to the nearby canal head. The yard was backfilled to ground level sometime after 1864, when the tramway was known to have gone out of use, although this may have occurred in two phases. Areas of the coal yard in the north and west parts of the site were truncated by the footings and basement of the GPO building constructed between 1938 and 1960, and a stanchion relating to the site's function as a bus station, evident on the 1960 Ordnance Survey map, was also recorded.

Acknowledgements

Greenlane Archaeology would like to thank Marcus Worthington and Co Ltd for commissioning and supporting the project, in particular Giles Worthington. Further thanks are due to the staff of Pete Marquis (contractors and plant hire), whose ground workers facilitated the recording.

The site work was carried out by Sam Whitehead who also wrote this report. The finds were examined by Jo Dawson, who also edited the report along with Dan Elsworth. The project was managed by Dan Elsworth. The illustrations were produced by Sam Whitehead and Tom Mace, the latter of whom also copyedited the text.

1. Introduction

1.1 Circumstances of the Project

1.1.1 As part of a planning requirement relating to the construction of a hotel (No. 06/09/0060) on land adjacent to Fox Street and 52-62 Corporation Street in Preston, Lancashire (NGR 353655 429378), a programme of archaeological work was requested by Preston City Council. After consultation with Doug Moir, Planning Officer (Archaeology) at Lancashire County Council, it was determined that the work should comprise the archaeological monitoring of any below ground works resulting from the proposed planning application, which was submitted on behalf of Marcus Worthington and Co Ltd. After the project design was accepted Greenlane Archaeology carried out the work in accordance with the Institute for Archaeologists guidelines (IfA 2008) in September and October 2009.

1.2 Location, Geology, and Topography

1.2.1 Although the extent of the town's known medieval core is thought to lie a short distance to the east, the site is in a part of town considered to be post-medieval which was probably first developed around the turn of the 19th century with an industrial focus linked to the Lancaster Canal. The site is approximately 26m above sea level (Ordnance Survey 1992).

1.2.2 Preston lies on a low rise on the north side of the River Ribble, and is on the eastern edge of the Lancashire and Amounderness coastal plains; to the west lie the Lancashire valleys and the Bowland fringe. The solid geology comprises Permian and Triassic Red New Sandstones which is overlain by deposits of glacial drift, comprising clay with a deep deposit of sand overlying it, which is up to 9m thick in places (LCC and ELC 2006, 9). The plains lush green pasture and rich arable land are a creation of the last two centuries, prior to this it was marshland which was created by rising sea levels after the last glaciation (Countryside Commission 1998, 87-88).

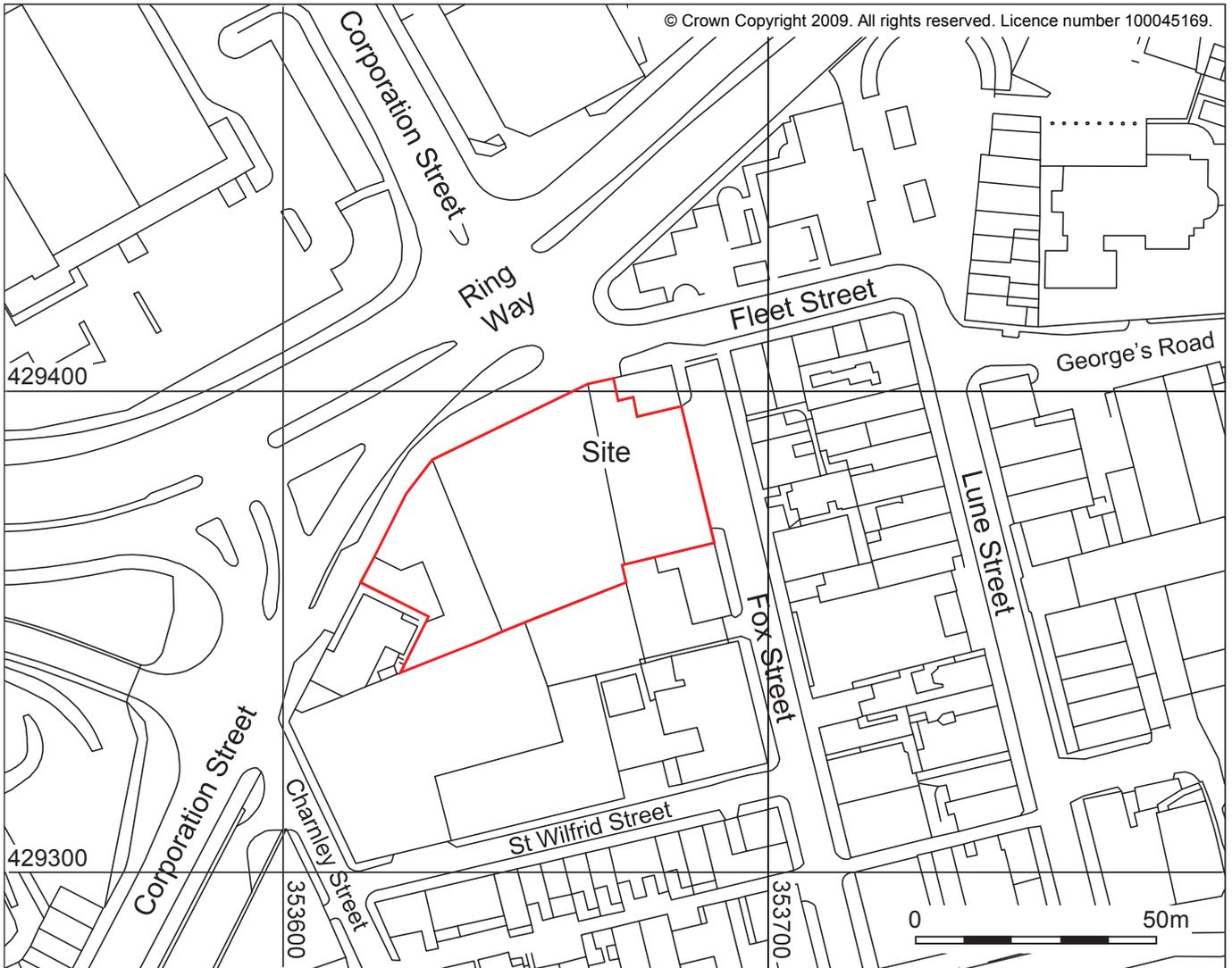
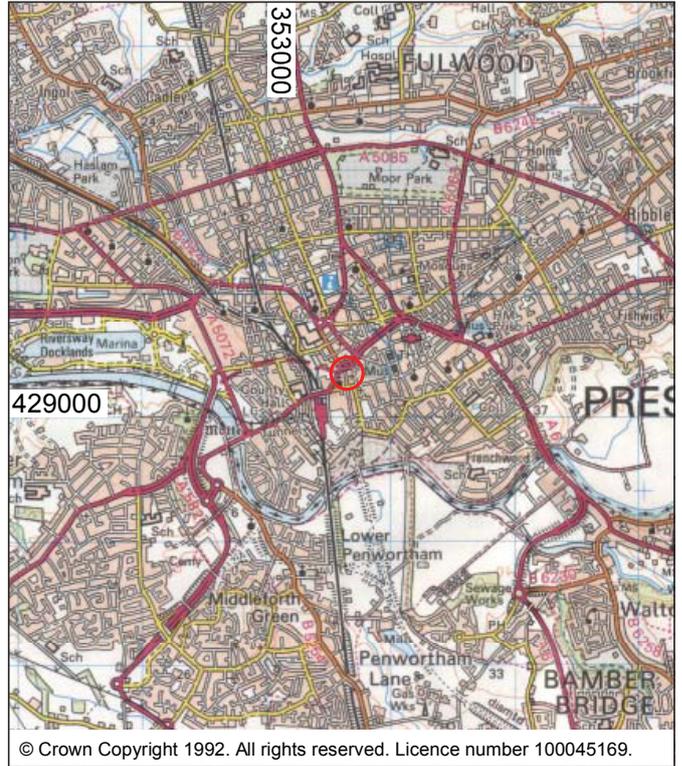
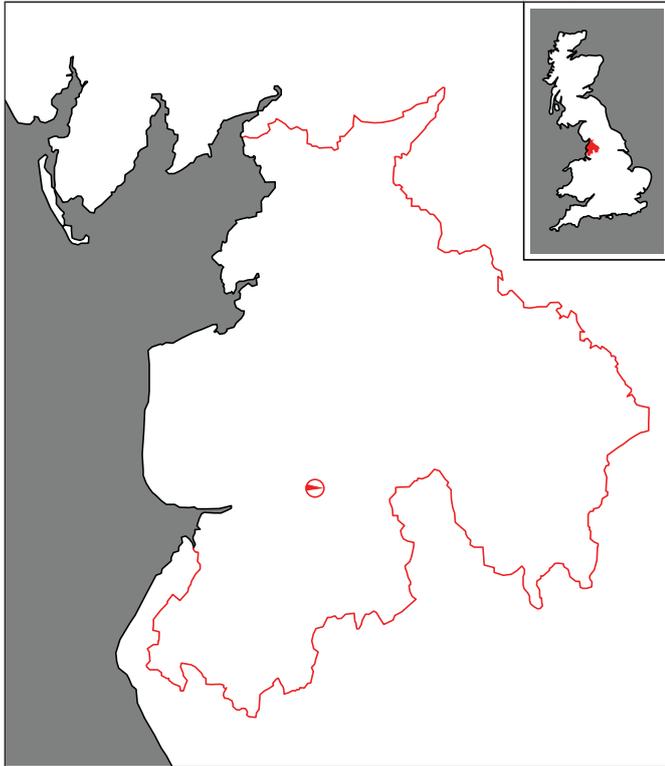


Figure 1: Location plan

Client: Marcus Worthington and Co Ltd

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2. Methodology

2.1 Introduction

2.1.1 This project comprised an archaeological watching brief, the intention of which was to observe necessary below ground works and record any archaeological deposits which were uncovered.

2.1.2 All aspects of the archaeological recording were carried out according to the standards and guidance of the Institute for Archaeologists (IfA 2008).

2.2 Archaeological Watching Brief

2.2.1 The watching brief involved the archaeological monitoring of ground reduction over an area of approximately 1,400 square metres, which was recorded in the following manner:

- **Written record:** descriptive records of all deposits and features were made using Greenlane Archaeology *pro forma* record sheets. In addition, a general record was made of each trench and the day's events;
- **Photographs:** photographs in both 35mm colour slide, 35mm black and white print, and colour digital format were taken of all archaeological features uncovered during the watching brief, as well as general views of the site, the surrounding landscape, and working shots. A selection of the colour digital photographs is included in this report, and the remainder are presented on the accompanying CD. A written record of all of the photographs was also made using Greenlane Archaeology *pro forma* record sheets;
- **Drawings:** drawings were produced on site as follows:
 - i. site plans were produced at a scale of 1:100;
 - ii. sketch sections were added to the context sheets.

2.2.2 Features of interest were recorded relative to the known location of nearby buildings and other structures that were evident on the site plans and Ordnance Survey maps. Spot heights produced by the sites engineers provided the height above datum.

2.3 Finds

2.3.1 **Processing:** artefacts were washed, naturally air-dried, and packaged appropriately in self-seal bags with white write-on panels.

2.3.2 **Assessment and recording:** the finds were assessed and identified and a list of them was compiled (see *Appendix 3*).

2.4 Environmental samples

2.4.1 No samples were deemed necessary as no suitable contexts were encountered.

2.5 Archive

2.5.1 A comprehensive archive of the project has been produced in accordance with the project design (*Appendix 1*) and current IfA and English Heritage guidelines (English Heritage 1991, Brown 2007). The archive, which comprises the drawn, written, and photographic record, will be deposited with the Lancashire Record Office in Preston (LRO(P)). A copy of the written report will also be submitted to the client, Greenlane Archaeology will retain a copy, and digital copies will be produced for the Lancashire Historic Environment Record HER and the OASIS scheme (English Heritage 2007).

3. Historical Background

3.1 Map Regression

3.1.1 The following maps have been included and were the primary point of reference in reconstructing the history of the site. The earliest map consulted was a plan of the town from 1715 (LRO DDP 141/1 1715); it has not been included though, as it shows little detail except that the area of the site is amongst fields and not part of the town at this date. The three latest Ordnance Survey maps referred to (Plates 5-7) are taken from a Site Investigation Report (Geotechnics 2006).

3.1.2 Lang's map of Preston (Plate 1) of 1774 (LRO DDK 1549/6 1774) shows the site to be just to the west of the town, and at this date it is within the 'Great Field'. The chapel shown to the east no longer exists but its location equates to what is now Lune Street.



Plate 1: Extract from *A copy of the township of Preston* by George Lang, 1774

3.1.3 Shakeshaft's plan (Plate 2) of 1808 (LRO DX 2044/147 1808) is the first available plan that shows the Lancaster Canal, and the site which is just south of the canal basin has clearly been developed by this date. The tramway which was constructed in 1803 can be seen leaving south from the canal head.

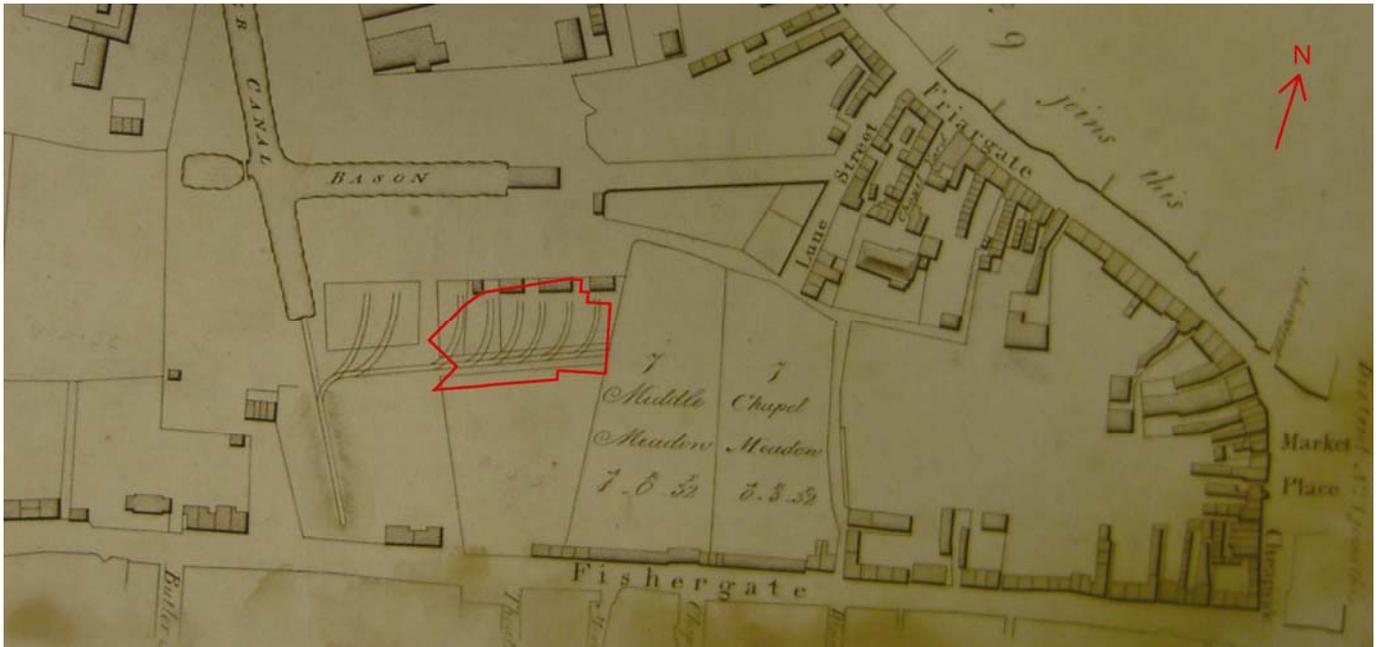


Plate 2: Extract from *Plan of the township of Preston* by William Shakeshaft, 1808

3.1.4 Myers' map of Preston (Plate 3) of 1836 shows houses fronting onto Fox Street and the rest of the site is taken up by coal yards. These yards are presumably what are shown on Shakeshaft's earlier plan of 1808; there appear to be tracks that link the yards to the main tramway heading south.



Plate 3: Extract from *Map of the town of Preston* by JJ Myers, 1836

3.1.5 The 1st edition 1:2,500 Ordnance Survey map of 1893 (Plate 4) illustrates major changes to the road network have taken place, principally the construction of Corporation Street. The canal has been backfilled and re-developed along with the coal yards. The site has also been re-developed and two small buildings are shown on Fleet Street, two larger buildings occupy the west part of the site and there are structures on the south side of the site as well. The buildings along Fox Street appear to remain unchanged.

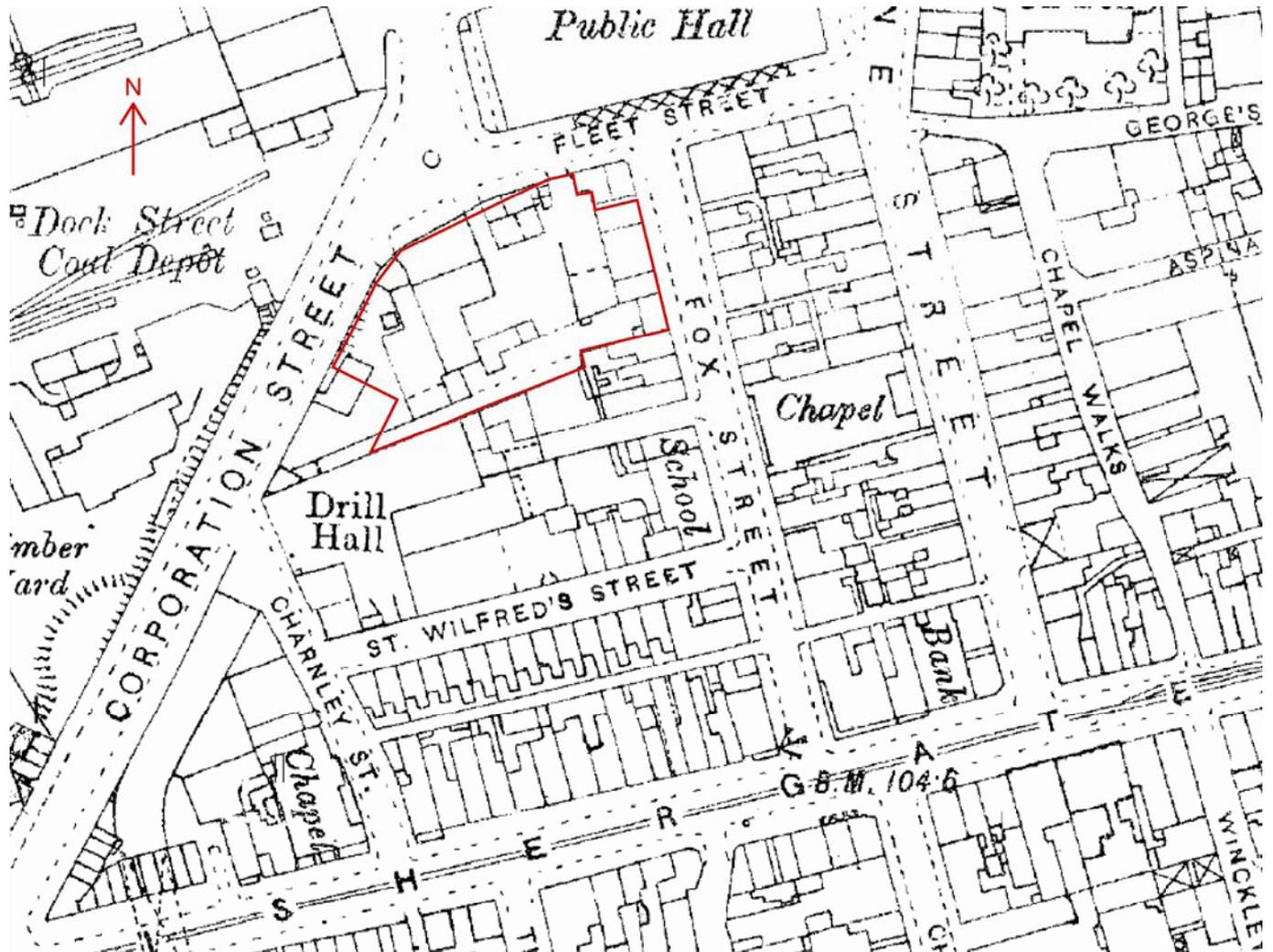


Plate 4: Extract from the Ordnance Survey map 1:2,500 map of 1893

3.1.6 The 1912 Ordnance Survey map (Plate 5) shows further development of the site, largely in the southern part and to the west where a chapel has been constructed.

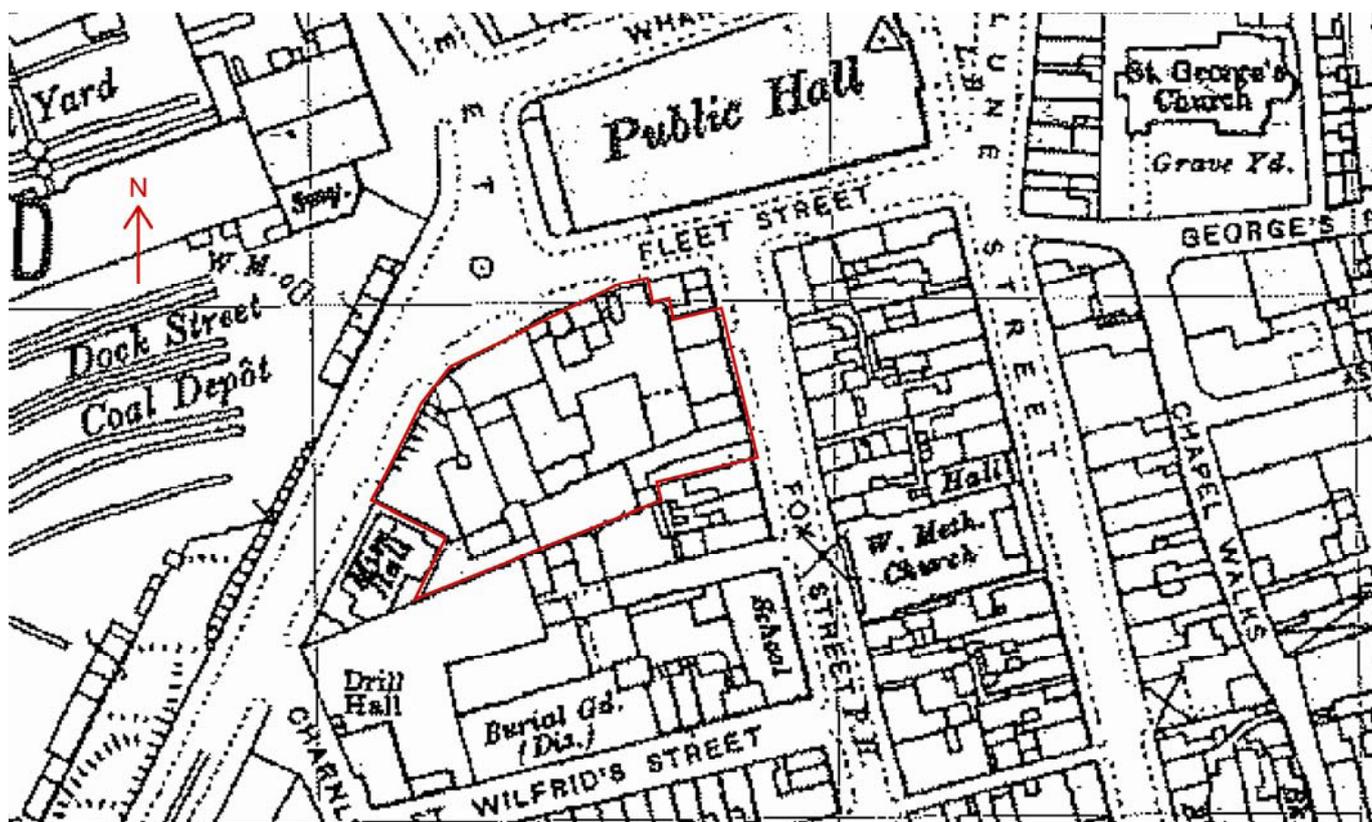


Plate 5: Extract from the Ordnance Survey 1:2,500 map of 1912

3.1.7 The 1938 Ordnance Survey map (Plate 6) shows that the Fox Street frontage has been opened up by the removal of a number of buildings in this area; this may be to allow vehicles onto the site where a large Post Office building has been constructed. This new building occupies the central part of the site, and the location of a cellar is indicated.

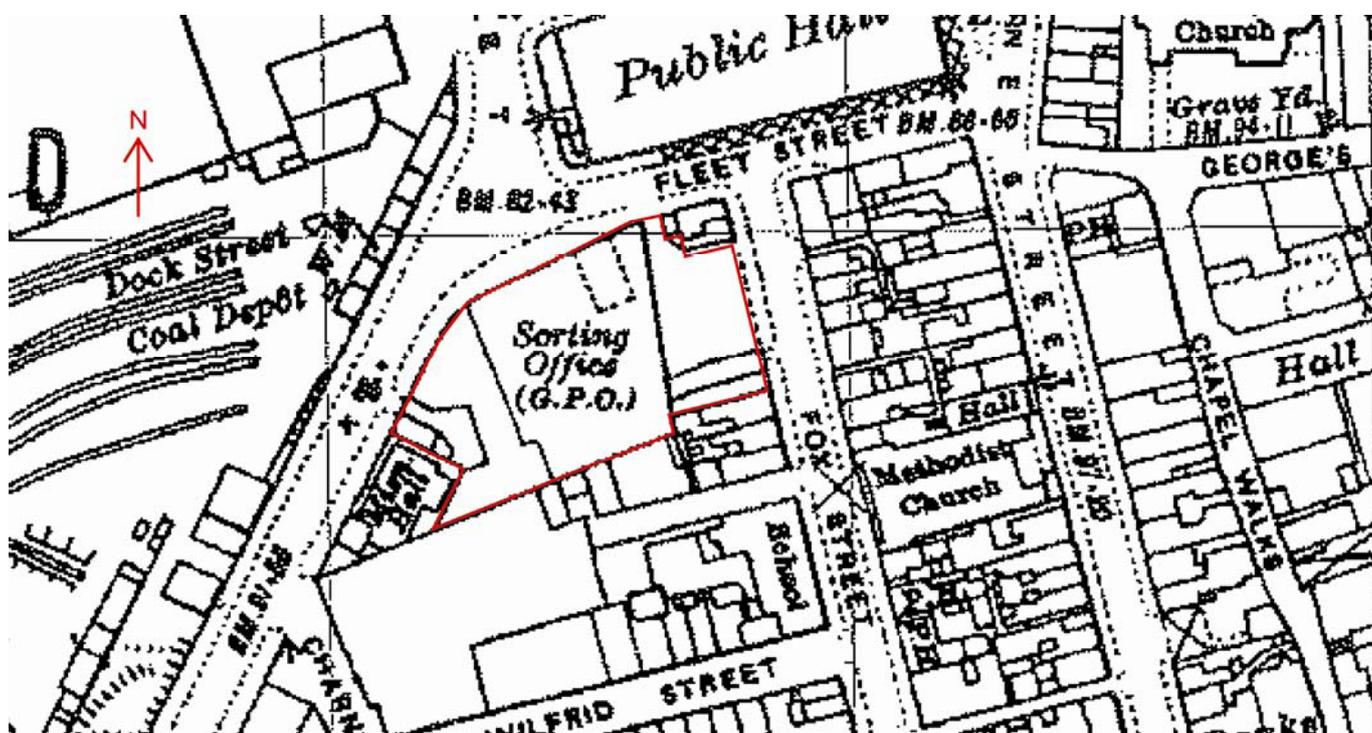


Plate 6: Extract from the Ordnance Survey 1:2,500 map of 1938

3.1.8 The 1960 Ordnance Survey map (Plate 7) shows little change at the site, but does indicate that the area to the east of the sorting office is a bus station.

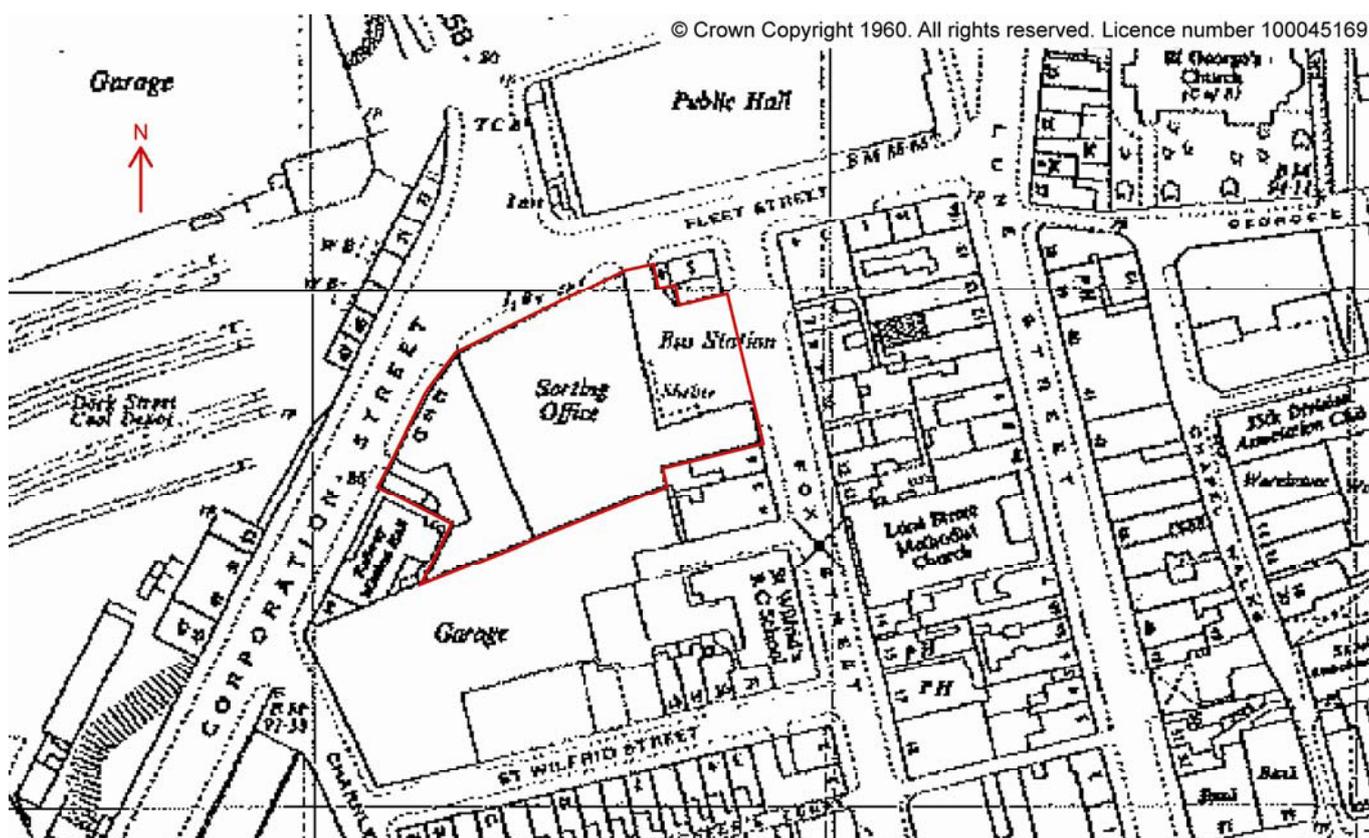


Plate 7: Extract from the Ordnance survey 1:2,500 map of 1960

3.2 Historical background

3.2.1 **Introduction:** although the site is situated on the edge of the medieval core of Preston it is evident from the map regression that the investigated area was not developed until the early 19th century. Its development is also entirely due to the construction of the canal and associated coal yards so it is necessary to include some historical information about these.

3.2.2 The Lancaster Canal was constructed after an act of Parliament was passed in 1792 and it was intended to link the towns of Wigan, Preston, Lancaster, and Kendal, principally to facilitate the trade of coal from the south and limestone from the north; Preston itself required an estimated 20,000 tons of coal a year to supply its factories at this time (Barritt 2000). Due to the prohibitive costs that would have been incurred in constructing an aqueduct over the River Ribble valley, a five mile section of tram road was built instead that linked Preston with Walton summit to the south (LCC and ELC 2006, 56). The north side of the canal basin in Preston was designated a public wharf, and the south side was set out for the limestone trade with the coal yards being sited closer to Fishergate. The coal wharves were divided equally for the use of John Turner, The Earl of Balcarras, Thomas Dewhurst, Mr K. McKenzie, John Hodgson and Pearse Barker and company (Barritt 2000, 78). The early tram roads of the 17th century were constructed on timber rails, which were later superseded by iron rails; tests showed that even on these primitive rails a horse could pull 42 cwt as opposed to just seven cwt over land (*op cit*, 22). The tram road took three years to construct and was ready for business at the end of 1803; it comprised a dual cast-iron plate way upon which horses pulled up to six wagons in an endless chain. The north end of the Lancaster Canal enjoyed a monopoly over the transportation of heavy goods for 35 years, however, the Lancaster and Preston Junction Railway, which opened in 1840, heralded its decline (*op cit*, 81) and the tramway was eventually closed in 1864 (LCC and ELC 2006, 56).

4. Fieldwork Results

4.1 Watching Brief

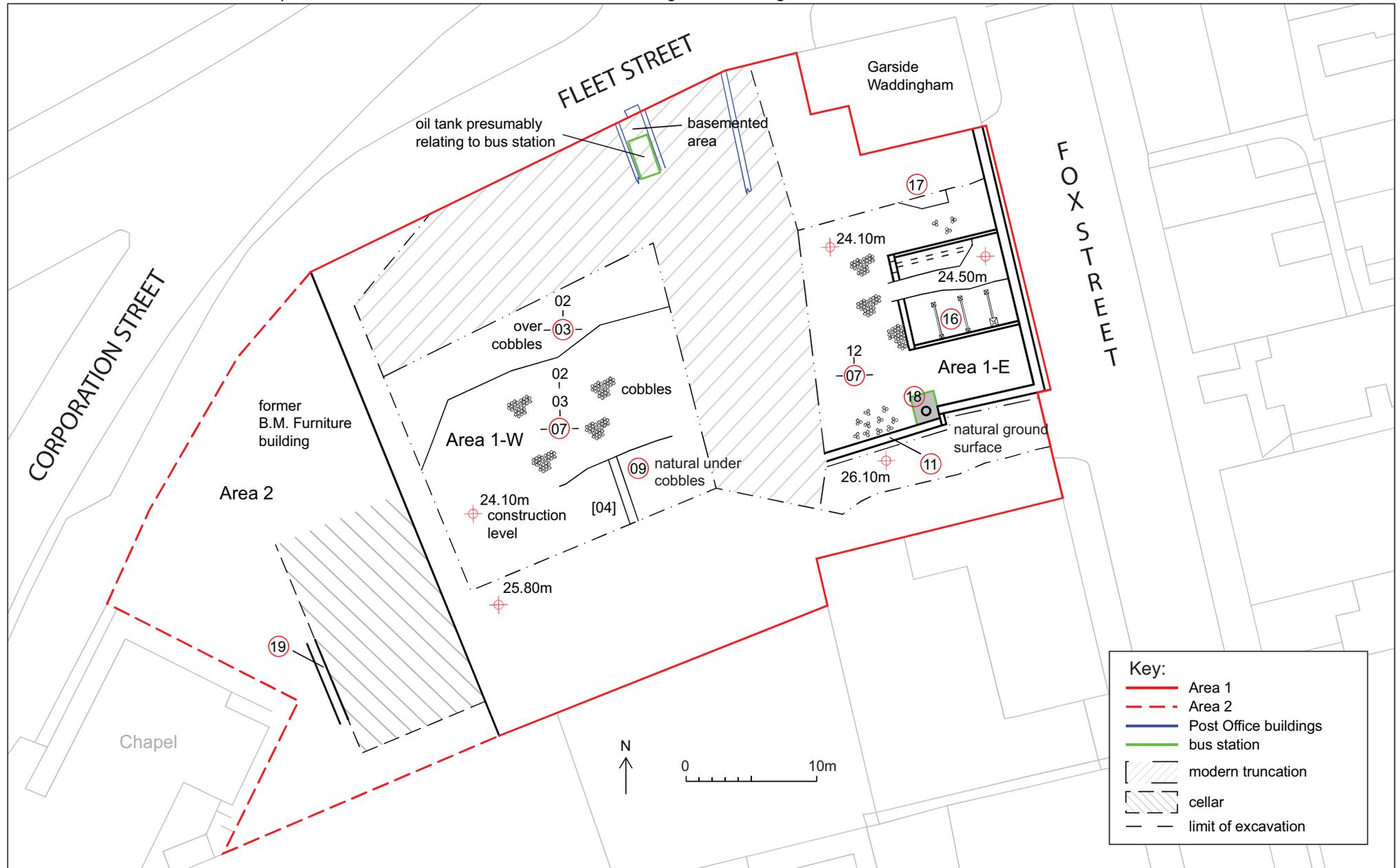
4.1.1 **Introduction:** the excavation of 1,400 square metres of overburden was monitored (Area 1) comprising an area that was approximately 30m north/south by 50m east/west, and typically 2.00m deep. This gives an approximate total of 2,800 cubic metres of overburden. The site had initially been divided into two areas as the work was broken by a period of time while ownership of buildings at the west end of the site was negotiated. In the end any intrusive work to the west part of the site (Area 2) was deemed unnecessary for the initial stage of development at the site, and this area was left as it was following the demolition of the buildings. Colour print and digital photographs were taken at the site before excavation, as well as after excavation when the ground reinstatement had been completed. Plans were made of any archaeological deposits below the thick deposit of overburden, with reference to standing buildings shown on maps and plans of the site (see Figure 1 and 2). Sketch sections were produced on the context sheets recording the encountered deposits.

4.1.2 **Area 1 - overburden:** this area was reduced by up to 2m with a 33 tonne mechanical excavator using a flat bladed bucket. The ground reduction largely involved the removal of a massive deposit of made ground which had been imported to level the site. It is likely that this infilling of the earlier coal yard occurred in two phases, and two distinct deposits were recognised – one at the Fox Street end of the site and another in the west part of the site. The areas that these deposits occupied roughly respected the central truncation evident on Figure 2, which was caused by the removal of a substantial wall, as well as footings associated with the GPO building, which stood on the site in the middle of the 20th century. The overburden at the east side, (**12**), comprised demolition rubble, largely brick pieces, stone, plaster, concrete and slate (Plate 9), with the proportion of sand within this deposit increasing to the west. It seems likely that it relates directly to the demolition of buildings that once fronted Fox Street; these buildings may have been two storeys or more, the lower levels possibly relating to the coal yard. The buildings in this area would appear to have been demolished at some time between 1912 and 1938 (see Plates 5 and 6). Deposit (**02**) was the overburden in the west part of the site and comprised re-deposited fine sandy natural, mixed with demolition rubble and dark brown silty-sands (Plate 8), and it also included several large lenses of coal dust. It seems likely that this deposit had been imported to the site to build up the ground level soon after the tramway went out of use in the 1864 (LCC and ELC 2006, 56). A thin layer (**03**) separated this deposit from the yard surface (**07**) and this presumably related to a period of disuse before the yard was re-developed. Finds from all these deposits were sparse, generally 19th century in date, and typical of what one would expect in made ground (see *Appendix 2*).



Plate 8 (left): Ground reduction and overburden (02) in the west part of Area 1

Plate 9 (right): Overburden (12) in the east part of Area 1



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Figure 2: Site plan

4.1.3 **Area 1 – features:** two features were recorded in the west part of this area; a ditch (Plate 12) and the cobbled yard surface. In the east part of this area the yard surface continued and appeared to respect a retaining wall that ran along the south and east part of the site (Plate 11). A stable floor (Plate 10) and a brick surface were recorded within the yard area.

4.1.4 **Cobbled yard (07):** this yard surface was present across most of the site and comprised a single layer of sub-rounded river-rolled cobbles, typically 0.15m–0.25m in diameter, and was laid directly on the freshly truncated natural sands. The surface was very well compacted and this was aided by the coal dust that had got in between the stones. Some areas of the surface had apparently been truncated by the GPO building, particularly along the northern boundary of the site (see Figure 2).



Plate 10 (left): Cobbles (07) at the west side of the stable

Plate 11 (right): Coal yard retaining wall (11) at the south of the site

4.1.5 **Linear feature (04):** this feature was evident in the south-west part of the site and was orientated north-west/south-east. The cut was very regular and had vertical sides (Plate 12), although it was not possible to examine enough of the feature to reveal the base. It was a minimum of 5m in length, 0.65m wide, and at least 0.70m deep. Two fills were recorded; the upper fill (05) was a dark-grey silty-sand which incorporated brick fragments, window glass, coal dust cinders and furnace slag and extended to a depth of 0.30m. The lower fill (06) was pale grey and largely comprised crushed mortar with occasional brick fragments, ceramics and blast furnace slag suggesting a 19th century date. The true extent and nature of this feature is unknown, although it would seem likely, given the quantity of ground water observed on site and the homogenous backfills of the feature, it was cut to aid drainage. It would seem most likely that it was cut prior to the yard surface being laid, although it may have been cut later and re-surfaced; the finished ground level being worked to at the site made this relationship difficult to determine (see Figure 2). Poor drainage and ground water in the town is also hinted at by many of Preston's street names, the closest to this site being Marsh Lane.

4.1.6 **Retaining wall (11):** this wall was evidently constructed to retain the truncated natural sands when the coal yard was created. It ran for a minimum of 20m along Fox street (presumably extending under the standing building in the north-east corner of the site), and extended for a minimum of 17.55m back from the street frontage before being truncated. It was constructed from two skins of roughly faced gritstone ashlar blocks that were typically 0.25m long by 0.12m wide and deep. The height of the wall

from the natural ground surface down to the cobbled yard surface was typically 1.90m. A small quantity of backfill was evident between the wall and the truncated natural sands, and this comprised mid-brown sandy-gravels that included mortar, rubble, coal, slag, clinker and glass. No closely dateable artefacts such as pottery were recovered, but the composition was broadly similar to the fills of ditch [04].



Plate 12 (left): Linear cut [04]

Plate 13 (right): East end of the retaining wall (11)

4.1.7 **Stable floor (16)**: this structure utilised the retaining wall to form its east elevation, against which two brick walls extended perpendicularly forming the north and south elevations; the west elevation was apparently constructed from gritstone. The building had been demolished and all that remained was the floor surface and the wall bases, which had been truncated to floor level (Plate 16). The structure measured 9m east/west and 7.50m north/south, and the floor utilised edge-set gritstone setts that were typically 0.23m deep, 0.18m long and 0.10m wide. Three partition scars were evident running perpendicular to the southern elevation. At each end of the partition scars were post settings formed by a stone with a central socket in the upper face from which the stone sloped down to floor level on all four sides (Plate 15). Close to the north side of the floor there was a shallow channel that had been cut into the stonework; this appeared to respect a threshold stone in the west elevation which was larger than its neighbours (Plate 14). It seems likely that this stable block was the ground floor of a taller building that would have had upper floors fronting on to Fox Street; the rubble deposit (12) may be the remains of these levels.



Plate 14 (left): Channel at the south side of the stable floor (16)



Plate 15 (right): Stone for stall partition in the stable floor



Plate 16: Stable floor (16) viewed from the south

4.1.8 **Area 2:** this area was covered in standing buildings, the demolition of which was observed. The main building was found to be cellared and the west edge of the cellar wall had been constructed against an earlier substantial gritstone wall. The wall appeared to be similar to the retaining wall for the coal yard and it is thought that this was part of the coal yard phase. No further ground work was proposed in this area so the wall was never fully exposed and its extent remains unknown.

4.2 Finds

4.2.1 A majority of the finds were derived from the two separate layers of made ground, these were introduced to the site to facilitate further development after the coal yard went into disuse as a result of the closure of the tram system. Finds from these deposits were residual, and largely comprised industrial debris along with some domestic refuse such as pottery and glass bottle pieces. Much of the pottery was coarse earthenware shards whose dates were entirely in keeping with the associated deposits. The industrial artefacts from the site largely comprised coal, blast furnace and cinders, although only small samples of these were retained.

5 Conclusion

5.1 Discussion

5.1.1 This section brings together the results of the historical background, map regression and field observations, in order to provide a basic synopsis of activity at the site.

5.1.2 The watching brief involved observing the removal of a large quantity of made ground that covered a former coal yard surface, which was constructed in 1803 (LCC and ELC 2006, 56). This ground reduction essentially replicated the degree of truncation of the natural alluvial sands carried out in 1803 to create a flat yard surface at the north end of the slope that runs from the present ring road up to Fishergate. The truncation of the natural ground level to create the yard removed all earlier anthropogenic deposits; however, the map regression has subsequently revealed that these would only have comprised agricultural soils.

5.1.3 The main features recorded were elements of the southern and eastern retaining wall, and a stable floor that would have been the lower level of one of the buildings shown on the historic maps to have been present on Fox Street between at least 1836 and 1912. The map evidence also shows that this building was constructed sometime between 1808 and 1836, and therefore, although evidently being associated with the coal yard was clearly constructed slightly later than it. It seems plausible that the stables were directly related to the coal yard and housed horses involved in pulling the trams; the upper floors of these buildings, which fronted Fox Street may well have been offices associated with the coal yard. Footings from the later GPO building were also recorded (see Figure 2), along with a stanchion that probably related to the bus station that existed on the east part of the site in the latter half of the 20th century. The uncovering of this coal yard and the evidence of stabling associated with the tramway provides a useful record of the history and development of this part of town during the industrial revolution and demonstrates the importance of the Lancaster Canal as a trade route that helped Preston's growth.

6. Bibliography

6.1 Primary and Cartographic Sources

LRO DDK 1549/6, 1774 *A copy of the township of Preston*

LRO DDP 141/1, 1715 *An Exact Plan of ye Town of Preston with the Barricades and Canon of the Rebels and Disposition of the Kings Forces*

LRO DX 2044/147, 1808 *Plan of the Township of Preston*

Myers, JJ, 1836 *Map of the Town of Preston*

Ordnance Survey, 1893 *Lancashire Sheet 61.10*, 1:2,500, surveyed 1891-2

Ordnance Survey, 1912 *Lancashire Sheet 61.10*, 1:2,500

Ordnance Survey, 1938 *Lancashire Sheet 61.10*, 1:2,500

Ordnance Survey, 1960 *Lancashire Sheet SD5329*, 1:2,500

Ordnance Survey, 1992 *Preston, Blackpool & Surrounding Area*, Landranger **102**, 1:50,000

6.2 Secondary Sources

Barritt, S, 2000 *The Old Tramroad-Walton Summit to Preston Basin*, Lancaster

Brown, DH, 2007 *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer, and Curation*, IFA, Reading

Countryside Commission, 1998 *Countryside Character, Volume 2: North West*, Cheltenham

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

English Heritage, 2007 *OASIS: Online Access to the Index of archaeological investigations*, <http://ads.ahds.ac.uk/project/oasis/>

Geotechnics, 2006 *Ground Investigation at Fox Street Preston for Kubic Design LLP, Interpretive Report*

IfA, 2008 *Standard and Guidance for Archaeological Watching Brief*, revised edn, Reading

LCC (Lancashire County Council) and ELC (Egerton Lea Consultancy), 2006 *Lancashire Historic Town Survey Programme: Preston with Walton-le-Dale and Penwortham Historic Town Assessment Report*, unpubl rep

Appendix 1: Project Design

LAND AT FOX STREET AND 52-62 CORPORATION STREET, PRESTON, LANCASHIRE

Archaeological Watching Brief Project Design



Client: Marcus Worthington

May 2009

1. Introduction

1.1 Project Background

1.1.1 As part of the repair of a telecommunications cable it is necessary to excavate an access trench across part of the car park adjoining the visitors' centre on the north side of Furness Abbey, Barrow-in-Furness, Cumbria (NGR 321768 471913). The site of this work is within the Scheduled Monument area of Furness Abbey and in order to gain Scheduled Monument consent one of the conditions placed by the Department of Media Culture and Sport (DCMS), on the advice of English Heritage, was that the excavation be monitored by an archaeologist (DCMS 2009). This project design has been produced in response to this request.

1.1.2 Furness Abbey was founded in 1127 as a Savignac monastery, originally based at Tulketh near Preston, but it was amalgamated into the Cistercian order by c1150 (Wood 1998, 23). The Cistercians were a much larger organisation who practised a very austere form of monasticism, but they became very powerful, with Furness one of their wealthiest sites (*op cit*, 26). It continued to grow and prosper and was even able to withstand the Scottish attacks of the early 14th century, making full use of its wealth in order to do so (*op cit*, 27). In its latter years, however, it declined somewhat and was finally closed as part of Henry VIII's Dissolution in 1536 (*op cit*, 29). Following its closure it was initially acquired by the Curwen family and passed through their descendants who had a large manor house close to the south-west gateway (*op cit*, 31). By the later 18th century the manor house was infrequently used and had become a mere farmhouse (*ibid*), before being remodelled into a hotel with the coming of the railway and tourists in the 19th century (*op cit*, 34).

1.2 Greenlane Archaeology

1.2.1 Greenlane Archaeology is a private limited company based in Ulverston, Cumbria, and was established in 2005 (Company No. 05580819). Its directors, Jo Dawson and Daniel Elsworth, have a combined total of over 16 years continuous professional experience working in commercial archaeology, principally in the north of England and Scotland. Greenlane Archaeology is committed to a high standard of work, and abides by the Institute for Archaeologists', formerly the Institute of Field Archaeologists' (IFA) Code of Conduct. The desk-based assessment and building recording will be carried out according to the Standards and Guidance of the Institute of Field Archaeologists (IFA 2001a; 2001b).

1.3 Project Staffing

1.3.1 The project will be managed by **Dan Elsworth (MA (Hons), AlFA)**. Daniel graduated from the University of Edinburgh in 1998 with an honours degree in Archaeology, and began working for the Lancaster University Archaeological Unit in 1999, which became Oxford Archaeology North (OA North) in 2001. After six and a half years at OA North, during which time worked on excavations and surveys, building recordings, desk-based assessments, and conservation and management plans and ultimately became a project officer, Daniel established Greenlane Archaeology in 2005 with his partner Jo Dawson. He has continued to carry out similar projects since that time, and these have principally taken place in the North West, an area in which he has a particular interest. He has recently managed a wide variety of projects including building recordings of various sizes, watching briefs, and excavations.

1.3.2 The watching brief will be carried out by **Steve Clarke** or **Sam Whitehead (BSc (Hons), MA)**, depending on scheduling constraints. Steve began working for Albion Archaeology in 2001, before moving to OA North in 2004, where he worked in a supervisory capacity principally on excavation projects, and has carried out large numbers of watching briefs on sites across the north-west of England. He joined Greenlane Archaeology in 2008 and has since been involved in a wide variety of projects including building recordings, desk-based assessments, and excavations. Sam has extensive experience of excavations, evaluations, and watching briefs, as well as report writing and illustration production. He joined Greenlane Archaeology in 2006 having worked for several previous companies including Pre-Construct Archaeology, Network Archaeology, and Cambridge County Council Archaeological Field Unit, and since then he has increasingly been involved in running larger excavations and evaluations, as well as all aspects of building recording projects. He recently carried out a watching brief at Furness Abbey Cottage, a short distance to the north-west of the visitors' car park (Greenlane Archaeology 2008).

1.3.3 All artefacts will be processed by Greenlane Archaeology, and it is envisaged that they will initially be examined by Jo Dawson, who will fully assess any of post-medieval date. Finds of earlier date will be assessed by specialist sub-contractors as appropriate, and in this case it is envisaged that medieval pottery will be examined by Ian Miller and/or Jeremy Bradley at Oxford Archaeology North. English Heritage will be notified of any specialists, other than those named, who Greenlane Archaeology wishes to engage, before any specialist contracts are awarded, and their approval will be sought.

1.3.4 Environmental samples and faunal remains, should significant deposits of these be recovered, will be processed by Greenlane Archaeology. It is envisaged that charred plant remains will be assessed by Scott Timpany of Headland Archaeology Ltd, and faunal remains by Auli Tourunen, also at Headland Archaeology. Should any human remains be recovered it is envisaged that these will be assessed by Malin Horst at York Osteoarchaeology, following appropriate advice on initial processing. English Heritage will be informed and their approval will be sought for any changes to these arrangements should they be necessary.

2. Objectives

2.1 Rapid Desk-Based Assessment

2.1.1 To examine early maps of the site and any other relevant primary and secondary sources in order to better understand its dating and development, and set it in its historic context.

2.2 Watching Brief

2.2.1 To identify any surviving archaeological remains and to investigate and record any revealed archaeological remains or deposits.

2.3 Report

2.3.1 To produce a report detailing the results of the watching brief, which will outline the nature, form, extent, and date of any archaeological remains discovered.

2.4 Archive

2.4.1 Produce a full archive of the results of the watching brief.

3. Methodology

3.1 Rapid Desk-Based Assessment

3.1.1 An rapid examination of both primary and secondary sources, particularly maps, but also published and unpublished local histories, pieces of research, articles and studies relating to the proposed development site and a suitable area around it (the 'study area') will be carried out. Much of this information has already been gathered for a similar piece of work carried out close to the site (Greenlane Archaeology 2008) and so it will not be necessary to re-visit the original sources in most cases. The sources will be or have been consulted at the following locations:

- **Cumbria Historic Environment Record (HER):** this is a list of all of the recorded sites of archaeological interest recorded in the county, and is the primary source of information for a study of this kind. The details of sites recorded in the HER from a suitably sized study area around the development site will be obtained. Each HER site is recorded with any relevant references, a brief description, and location related to the National Grid. All of the references relating to sites identified in the HER will be examined in order to verify them and add any necessary background information. In addition, relevant secondary sources, particularly details of previous archaeological investigations in the immediate area and relevant aerial photographs, will also be examined;
- **Cumbria Record Office (Barrow-in-Furness):** the majority of original and secondary sources relating to the site are deposited in the Cumbria Record Offices in Barrow-in-Furness. Of principal importance are early maps, especially those produced by the Ordnance Survey. These will be examined in order to trace the development of the study area, its previous uses, and details of any structures present within it. This is particularly useful in order to identify the potential for further, as yet unknown, sites of archaeological interest and areas of likely disturbance that might be present. In addition, information relating to the general history and archaeology will also be consulted, in order establish the local context of the site;
- **Greenlane Archaeology:** a number of copies of maps, local histories, unpublished reports, and journals are held in Greenlane Archaeology's library. These will be consulted in order to provide further information about the development of the site, and any other elements of archaeological interest.

3.1.2 The results of this assessment will be used to establish the location, extent, date, and development of any sites of archaeological interest demonstrated to be present within the proposed development area. The extent of all of the sites identified will be shown on an appropriately scaled map where possible. In addition, areas of archaeological interest or significance will be shown and the extent or level of their potential expressed.

3.2 Watching Brief

3.2.1 The groundworks are to be monitored, with one archaeologist on site.

3.2.2 The watching brief methodology will be as follows:

- The service trench will be excavated by machine under supervision by staff from Greenlane Archaeology;
- All deposits of archaeological significance will be examined by hand if possible in a stratigraphic manner, using shovels, mattocks, or trowels as appropriate for the scale;
- The position of any features, such as ditches, pits, or walls, will be recorded and where necessary these will be investigated in order to establish their full extent, date, and relationship to any other features. If possible, negative features such as ditches or pits will be examined by sample excavation, typically half of a pit or similar feature and approximately 10% of a linear feature;
- All recording of features will include detailed plans and sections at a scale of 1:20 or 1:10 where practicable or sketches where it is not, and photographs in both colour print and colour digital format;
- All deposits, drawings and photographs will be recorded on Greenlane Archaeology *pro forma* record sheets;
- All finds will be recovered during the watching brief for further assessment as far as is practically and safely possible. Should significant amounts of finds be encountered an appropriate sampling strategy will be devised;
- All faunal remains will also be recovered by hand during the watching brief as far as is practically and safely possible, but where it is considered likely that there is potential for the bones of fish or small mammals to be present appropriate volumes of samples will be taken for sieving;
- Deposits that are considered likely to have preserved environmental remains will be sampled. Bulk samples of between 10 and 40 litres in volume, depending on the size and potential of the deposit, will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches) and occupation deposits such as hearths and floors. An assessment of the environmental potential of the site will be undertaken through the examination of samples of suitable deposits by specialist sub-contractors (see *Section 1.3.4* above), who will examine the potential for further analysis. All samples will be processed using methods appropriate to the preservation conditions and the remains present;
- Any human remains discovered during the watching brief will be left *in situ*, and, if possible, covered. English Heritage will be immediately informed as will the local coroner. Should it be considered necessary to remove the remains this will require a Home Office licence, under Section 25 of the Burial Act of 1857, which will be applied for should the need arise;
- Any objects defined as 'treasure' by the Treasure Act of 1996 (HMSO 1996) will be immediately reported to the local coroner and secured stored off-site, or covered and protected on site if immediate removal is not possible;
- Should any significant archaeological deposits be encountered during the watching brief these will immediately be brought to the attention of the English Heritage so that the need for further work can be confirmed. Any additional work and ensuing costs will be agreed with the client and according to the requirements of the English Heritage, and subject to a variation to this project design.

3.3 Report

3.3.1 The results of the watching brief will be compiled into a report, which will incorporate the information collected during the desk-based assessment. The report will contain the following sections:

- A front cover including the appropriate national grid reference (NGR);
- A concise non-technical summary of results, including the date the project was undertaken and by whom;
- Acknowledgements;
- Project Background;
- Methodology, including a description of the work undertaken;
- Results of the rapid desk-based assessment;

- Results of the watching brief including descriptions of any deposits identified, their extent, form and potential date, and an assessment of any finds or environmental remains recovered during the watching brief;
- Discussion of the results, with specific reference to their relationship with previous discoveries at Furness Abbey and the information compiled during the desk-based assessment;
- Illustrations at appropriate scales including:
 - a plan showing the location of the ground works;
 - plans and sections of the watching brief ground works, as appropriate, showing any features of archaeological interest;
 - photographs of the watching brief, including both detailed and general shots of features of archaeological interest and the trenches;
 - photographs of individual artefacts as appropriate.

3.4 Archive

3.4.1 The archive, comprising the drawn, written, and photographic record of the watching brief, formed during the project, will be stored by Greenlane Archaeology until it is completed. Upon completion it will be deposited with the Cumbria Record Office in Barrow-in-Furness. The archive will be compiled according to the standards and guidelines of the IFA (Brown 2007), and in accordance with English Heritage guidelines (English Heritage 1991). In addition details of the project will be submitted to the Online Access to the Index of archaeological investigations (OASIS) scheme. This is an internet-based project intended to improve the flow of information between contractors, local authority heritage managers and the general public.

3.4.2 A copy of the report will be supplied to the client, and within six months of the completion of fieldwork, a digital copy will be supplied to English Heritage, and the Cumbria Historic Environment Record (HER). In addition, Greenlane Archaeology Ltd will retain one copy, a copy will be placed in the archive, and a digital copy will be provided to the OASIS scheme as required.

3.4.3 The client will be encouraged to transfer ownership of the finds to a suitable museum. Any finds recovered during the watching brief will be offered to Kendal Museum. If no suitable repository can be found the finds may have to be discarded, and in this case as full a record as possible would be made of them beforehand.

4. Work timetable

4.1 Greenlane Archaeology will be available to commence the project on **18th May 2009**, or at another date convenient to the client. It is envisaged that the project will involve tasks in the following order:

- **Task 1:** rapid desk-based assessment;
- **Task 2:** watching brief;
- **Task 3:** post-excavation work on archaeological watching brief, including processing of finds and production of draft report and illustrations;
- **Task 4:** feedback, editing and production of final report, completion of archive.

5. Other matters

5.1 Access

5.1.1 Access to the site will be organised through co-ordination with the client and/or their agent(s).

5.2 Health and Safety

5.2.1 Greenlane Archaeology carries out risk assessments for all of its projects and abides by its internal health and safety policy and relevant legislation. Health and safety is always the foremost consideration in any decision-making process.

5.3 Insurance

5.3.1 Greenlane Archaeology has professional indemnity insurance to the value of **£250,000**. Details of this can be supplied if requested.

5.4 Environmental and Ethical Policy

5.4.1 Greenlane Archaeology has a strong commitment to environmentally- and ethically-sound working practices. Its office is supplied with 100% renewable energy by Good Energy, uses ethical telephone and internet services supplied by the Phone Co-op, is even decorated with organic paint, and has floors finished with recycled vinyl tiles. In addition, the company uses the services of The Co-operative Bank for ethical banking, Naturesave for environmentally-conscious insurance, and utilises public transport wherever possible. Greenlane Archaeology is also committed to using local businesses for services and materials, thus benefiting the local economy, reducing unnecessary transportation, and improving the sustainability of small and rural businesses.

6. Bibliography

Brown, DH, 2007 *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer, and Curation*, Institute of Field Archaeologists (IFA), Reading

DCMS, 2009 *Ancient Monuments and Archaeological Areas Act 1979 (as Amended) – Section 2. Proposed Works at Furness Abbey Savignac and Cistercian Monasteries: Precinct Wall, Great Gatehouse, 'Chapel Outside the Gates', Southwest Gateway and Earthworks, Barrow-in-Furness, Cumbria*, letter

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

Greenlane Archaeology, 2008 *Furness Abbey Cottage, Abbey Approach, Barrow-in-Furness, Cumbria*, unpubl rep

HMSO, 1996 *Treasure Act*, <http://www.opsi.gov.uk/acts/acts1996/1996024.htm>

IFA, 2001 *Standard and Guidance for Archaeological Watching Brief*, revised edn, Reading

Wood, J, 1998 History, in English Heritage (ed), *Furness Abbey*, London, 22-33

Appendix 2: Summary Context List

Context	Type	Description	Interpretation
01	Layer	Crushed brick fragments with sand	Overburden
02	Layer	Yellowish-brown fine sand with silty lenses	Re-deposited natural
03	Layer	Dark-grey silty, sandy-grit	Coal dust
04	Cut	Linear	Land drain
05	Fill	Dark-grey silty-grit comprising industrial and demolition debris – 19 th C	Upper land drain fill
06	Fill	Pale-grey crushed mortar and brick fragments	Lower drain fill
07	Surface	Cobbled surface	Coal yard
08	Structural	Red brick	GPO footings
09	Natural	Reddish-yellow silty, fine-sand	Alluvial deposits
10	Layer	Dark-grey silty-sand with industrial and domestic artefacts	Layer representing disuse of yard surface
11	Structural	Roughly faced gritstone block wall	Coal yard retaining wall
12	Layer	Upper demolition brick rubble layer, east half Area 1	<i>In situ</i> demolition, early 20 th century
13	Layer	Lower demolition brick rubble layer, east half Area 1	<i>In situ</i> demolition, early 20 th century
14	Fill	Mid-brown sandy-gravel with industrial and demolition debris	Backfill of construction cut for wall 11
15	Cut	Vertical truncation of natural sands for retaining wall and coal yard surface	Landscaping
16	Surface	Yellow gritstone edge set blocks	Stable floor
17	Surface	Red brick	Floor of cellar, or base
18	Structural	Concrete stanchion	Held lighting for bus station
19	Structural	Gritstone wall of unknown extents	Possibly relating to coal yard

Appendix 3: Summary Finds List

Cxt	Fabric	Qty	Description	Date range
02	Pottery	1	Black-glazed red earthenware, coarseware, pancheon rim	Late 17 th to early 20 th century
02	Pottery	1	Mottled-glazed white-slip-coated red-earthenware coarseware, pancheon rim	Late 17 th to early 20 th century
02	Pottery	1	Brown-glazed and white slip-coated red earthenware, coarseware body fragment	Late 18 th – 20 th century
02	Pottery	1	Brown-glazed buff-coloured earthenware, fineware, tea pot spout	18 th – early 20 th century
02	Pottery	1	Light green-glazed, grey-bodied jar/bottle base with impressed marking 'J Wilkins Preston'	19 th – early 20 th century
02	Pottery	2	Glazed buff-coloured stoneware bottle body fragment from same bottle	19 th – early 20 th century
02	Pottery	2	Re-fitting brown-bodied stoneware jar body fragments	19 th – early 20 th century
02	Pottery	3	Brown-glazed grey-bodied stoneware, including re-fitting fragments from lid-seated jar	19 th – early 20 th century
02	Pottery	1	Electrical (porcelain) insulator fragment	Late 19 th – early 20 th century
02	Pottery	1	Glazed buff-coloured earthenware pie dish rim to base with slip-coated interior	19 th – 20 th century
02	Pottery	9	White earthenware fineware including blue transfer-printed Ashet rim to base; blue transfer basin and jug?; brown transfer-printed clobbered mug rim, factory produced slipware base; painted saucer base, and flow blue sponge-printed plate rim	Early 19 th – early 20 th century
02	Pottery	1	Creamware fragment	Mid 18 th – early 20 th century
02	Glass	1	Complete very light turquoise rectangular cross-sectional bottle mould; seams show lip was formed separately. Cork stopper closure, not embossed – paper label	Late 19 th – early 20 th century
02	Glass	1	Very light turquoise bottle mouth with mould seams over sip, internal screw top closure, embossed on side	Late 19 th – early 20 th century
02	Wood	1	Stake point	Not closely dateable
02	Bone	2	Butchered sheep bone fragment	Not closely dateable
02	Iron	1	Very corroded large nail?	Not closely dateable

Cxt	Fabric	Qty	Description	Date range
06	Ceramic	1	White earthenware chair leg (?) fragment with gilding and pink enamel	18 th – 19 th century
06	CBM	1	Small firebrick fragment	Late 18 th – 20 th century
06	Industrial	3	Blast furnace slag	19 th century
06	Iron	1	Large corroded nail	Not closely dateable
12	CBM	1	Red brick fragment	Not closely dateable
12	Pottery	1	Black-glazed red earthenware hollow ware rim	Late 17 th – early 20 th century
12	Pottery	2	Creamware bowl base fragment and factory-produced slipware jug fragment	Late 17 th – early 20 th century
12	Glass	1	Very light turquoise bottle stopper, with '14' embossed on top	Late 18 th – early 20 th century
12	Glass	1	Dark green bottle fragment	Not closely dateable
12	Coal	1	Un-burnt fragment	Not closely dateable
12	Iron	1	Corroded lump with small broken cylinder within	18 th – 20 th century