



# **LAND AT BARDEN HIGH SCHOOL, HEALD ROAD, BURNLEY, LANCASHIRE**

## **Archaeological Evaluation and Buildings Assessment**



**Oxford Archaeology North**

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### **Bovis Lend Lease**

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## SUMMARY

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A planning application (ref 12/06/0355) has been submitted by Catalyst Education Ltd, acting on behalf of Lancashire County Council, for the demolition of Barden High School, Heald Road, Burnley, Lancashire (NGR SD 843 344; Fig 1). The proposals are to construct a sixth form college and primary school, together with a Generic Learning Difficulty (GLD) Primary Special School, public library and other works. The proposed development includes the construction of a turning circle and drop-off zone, together with a rainwater pumping station that will be situated on the site of a nineteenth century 'Hoffman' kiln and its associated structures. Proposals also include the demolition of a nineteenth century Board School known as Abel Street School. Consequently, a condition of the planning consent was that an archaeological investigation be undertaken prior to development in order that a suitable mitigation strategy can be adopted concerning the Hoffman kiln, and that a visual inspection be made of Abel Street School to assess the level of building recording required. An archaeological brief was issued by Lancashire County Archaeological Services (LCAS) for the work, including a visit to the Historic Environment Record (HER) in Preston to obtain background information. Oxford Archaeology North (OA North) was contracted by Bovis Lend Lease, acting on behalf of Catalyst Education Ltd, to excavate a single excavation trench measuring 10m x 2m and provide recommendations concerning the school buildings.

Preliminary background research, including examination of historic maps of the area, concluded that the site of the Hoffman kiln had been demolished before the 1912 Ordnance Survey (OS) map, and any remains will have been quarried away before the OS map of 1932. The quarry was subsequently used as a landfill. Therefore, the proposed excavation was cancelled as no remains of the Hoffman kiln exist. Changes to the proposed archaeological investigation were agreed with LCAS.

Research into Abel Street School revealed that this was the first Board School built in Burnley. Such schools chart an important development in the education system within England and Wales, and were erected nationwide following the 1870 Education Act. Abel Street School is a fine example of such a school, comprising a junior school, a separate infant's school, and a toilet block. It is recommended that prior to any further work being undertaken, a detailed desk-based assessment is completed to elucidate the significance of these structures and inform on the level of any subsequent building recording survey. The level of survey required also needs to reflect the future outcome of the structures.

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## ACKNOWLEDGEMENTS

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Oxford Archaeology North would like to express thanks to Victor Jackson of Bovis Lend Lease for commissioning the work, and to Simon Pratt and Tony Dowd of Bovis Lend Lease for their co-operation during the course of the project.

The map regression was undertaken by Andy Bates, and the buildings assessment by Chris Wild. The report written by Andy Bates and Chris Wild. Emily Mercer managed the project, and also edited the report.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 A planning application (ref 12/06/0355) has been submitted by Catalyst Education Ltd, acting on behalf of Lancashire County Council, for the demolition of Barden High School, Heald Road, Burnley, Lancashire (NGR SD 843 344; Fig 1). The proposals are to construct a sixth form college and primary school, together with a Generic Learning Difficulty (GLD) Primary Special School, public library and other works. The proposed development is for a turning circle and drop-off zone, together with a rainwater pumping station to be situated on the site of Mountree Hall, which was later replaced by a 'Hoffman' kiln. The demolition of the nineteenth century Abel Street School is also within the proposals. Both the kiln and school are shown on the First Edition 1:2500 Ordnance Survey (OS) map of 1893 (Fig 3).
- 1.1.2 A condition of the planning consent was that an archaeological investigation be undertaken prior to development in order that a suitable mitigation strategy can be adopted. Bovis Lend Lease, acting on behalf of Catalyst Education Ltd, requested a formal brief (*Appendix 1*) be issued by Lancashire County Archaeological Services (LCAS) for the required archaeological work. This brief included a visit to the Historic Environment Records (HER), and the excavation of a single evaluation trench, measuring 10m x 2m, targeting the remains of the Hoffman kiln associated within Byerden Brick Works (PRN 21999). A visual inspection of Abel Street School buildings was also required in order that recommendations can be made for any further recording prior to their demolition. Oxford Archaeology North (OA North) was commissioned to undertake the work in July of 2006 in line with the project design produced in accordance with the LCAS brief (*Appendix 2*).
- 1.1.3 This report sets out the results of this work, incorporating data extracted from the HER into the historical background below, and reports on the assessment of the school buildings. The concluding chapter includes a discussion of the results, assesses the archaeological value of the sites, the impact of the development on the identified archaeological remains and gives recommendations for any further work with regards to Abel Street School.

### 1.2 SITE LOCATION AND GEOLOGY

- 1.2.1 Barden High School is bound to the north by Heald Road, to the east by Barden Road, and to the south by St Phillip and Francis Street, with the Leeds and Liverpool Canal to the west (Fig 1). The area is an urban landscape that developed with the industrial expansion of Burnley during the eighteenth to twentieth centuries.
- 1.2.2 The site is situated on the Lancashire Coal Fields, which date to the Westphalian period (310-300 million years ago) of the Upper Carboniferous. Underlying the coal measures is Millstone Grit, also of the Upper

Carboniferous, formed in the Numurian period (327-310 million years ago; Edwards and Trotter 1954). The overlying drift geology comprises glacial till with some areas of sand west of Blackburn (Countryside Commission 1998). The soils, as mapped by the Ordnance Survey Soil Survey of England and Wales (1983), are predominantly of the Brickfield 3 series, which are cambic stagnogley soils, deriving from the underlying geology. In addition, there are small areas of the Wallsea 2 series, a pelo-alluvial gley, essentially alluvial in nature.

### 1.3 HISTORICAL BACKGROUND

- 1.3.1 Burnley is recorded in 1241, as *Bronley* (Farrer and Brownbill 1912), but the historical origins of this town lie some distance to the south of the development area. The site of Barden High School was once divided by the historic township boundary between Burnley and Reedley Hollows, within the Forest of Pendle (*op cit*, 489). At this point the boundary followed Barden (Fig 2), later Byerden (Fig 3), Clough. Reedley Hollows, however, was almost considered to be part of the township of Burnley (*op cit*, 441), and in 1893 part of it did become incorporated into the expanding industrial town of Burnley (*op cit*, 489). This expansion was due to the developing industry in the area and the coming of the railway and canal networks. The extension to the Accrington to Burnley line, from Burnley to Colne, of the Lancashire and Yorkshire Railway was opened in February of 1849, and passes to the west of the site. The Leeds and Liverpool Canal is also to the west of the site. The canal was opened in Leeds in 1777, although the work on its deviation south of the River Calder into the Nelson and Burnley districts did not begin until the 1790s (Clarke 1990, 85-100).
- 1.3.2 This extensive transport network was able to carry raw materials and the manufactured goods to and from the increasing number of mills. In the immediate vicinity of the proposed development site are Livingstone and Queens Mills (PRN 22008; 22009), which were cotton weaving mills identified from the 1893 Ordnance Survey (OS) map. Numerous other cotton mills can be seen further south, aligned on the eastern side of the Leeds and Liverpool Canal demonstrating the importance of the canal to the industry of the town.
- 1.3.3 The rapid growth of the developing industry is obvious by comparing the First Edition 6" OS map of 1848 (Fig 2) to the First Edition 25" OS map of 1893 (Fig 3). The map of the proposed development in 1848 shows a rural landscape with Mountree Hall sited on the east side of the site (Fig 2). By the OS map of 1893 (Fig 3) Mountree Hall had been demolished and replaced by the Byerden Brick Works (PRN 21999) with an associated Hoffman kiln, with the larger Reedley Hallows Brick Works on the west edge of the site. Between these two brick works the area was being extensively quarried for the source material.
- 1.3.4 A Hoffman kiln was the creation of Friedrich Hoffman in the mid nineteenth century, patented in England in the name of Alfred Vincent Newton in 1859 (Jones 1996, 181). The Hoffman kiln was arranged unlike traditional kilns,

with an open hearth, material to be combusted above the hearth, and exhaust gases dissipated through a vertical flue. The Hoffman kiln is a closed oval shape in plan, although the original design was circular, with a central chimney, and twelve to eighteen compartments or chambers within it, divided by removable partitions (*ibid*). In due course, the fire will travel right round the circuit, returning to its starting point. The whole firing process is turned on its side; material is stacked ready for combustion and the fire is permitted to travel forward while the product(s) of the process are removed from behind the fire ([cedarsgw.leeds.ac.uk/nchtjournal/Journals/1994/J94A6.html](http://cedarsgw.leeds.ac.uk/nchtjournal/Journals/1994/J94A6.html)). In this way, the chambers enable bricks to be loaded, fired and removed in a continual process. Coal is fed through holes in the kiln roof and ignited by hot gasses circulating through the chambers in turn on their way to the chimney. The movement of air and gasses is arranged so that hot gasses first pass through the chamber of unfired bricks to pre-heat them prior to firing. Incoming combustion air is drawn into the previous chamber containing fired bricks to cool them before unloading (Jones 1996, 181). The hottest zone of the kiln, therefore, gradually moves around the kiln at a rate of six inches per hour. The Hoffman kiln was economical on fuel consumption and quicker than conventional kilns due to the continual heat exchange via the movement of gasses (*ibid*). Two further Hoffman kilns were also located at the site of Reedley Hollows Brick Works (NGR SD 384118 434434).

- 1.3.5 Byerden Bricks Works was incorporated into the Reedley Hollows Brick Works by the time of the 1912 OS map (PRN 21998; Fig 4), by which time the Hoffman kiln had been demolished. Quarrying activity had also extended to the north and south necessitating the realignment of Barden Lane on the east side of the proposed development site. The 1932 OS map suggests that Reedley Hollows Brick Works is no longer in operation, with buildings removed and the name of the works absent from map (Fig 5). Most significantly, however, is that the quarry face has extended to the north of all the buildings of the former Byerden Brick Works, incorporating any remains that may have existed of the Hoffman kiln. Investigations undertaken for the purpose of the development has shown the quarry was infilled by approximately 19m of landfill waste prior to the construction of Barden High School. It is therefore unlikely that any trace of the Hoffman Kiln and associated buildings are extant.

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## 2. METHODOLOGY

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### 2.1 PROJECT DESIGN

- 2.1.1 The programme of archaeological works was conducted in adherence with a project design compiled by OA North (*Appendix 1*). However, initial research prior to the evaluation excavation showed the targeted site of the Hoffman kiln was no longer in existence (see 1.3.5, above). Therefore, with agreement from LCAS, the evaluation trench was cancelled. The work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

### 2.2 BACKGROUND COLLATION

- 2.2.1 Several sources of information were consulted, in accordance with the project design. The study area comprised a 0.5km radius centred on Barden High School. The principle source of information was the County Historic Environment Record, with a brief visit made to the County Records Office to consult historic maps. The resultant information was intended to provide an historical context to the evaluation investigation.
- 2.2.2 ***Lancashire County, Historic Environment Records (HER):*** the Lancashire County HER, formerly the Sites and Monuments Record (SMR), held in Preston was consulted. The HER is a database of all archaeological sites in Lancashire, and is maintained by Lancashire County Council. Aerial photographs of each site are also held by the HER and were consulted. Secondary sources held by the HER were also located.
- 2.2.3 ***Lancashire County, Records Office (CRO(L)):*** the County Records Office in Preston was visited to examine the Ordnance Survey maps relating to the study area.

### 2.3 BUILDINGS ASSESSMENT

- 2.3.1 A site visit was made to the school buildings situated in the south-west corner of the proposed development site known as Abel Street School to examine the exterior structure and provide a general description of the buildings. A photographic record was maintained with a digital camera. A cursory assessment of documentary sources was also made, as time allowed.

### 2.4 ARCHIVE

- 2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 2*), and in accordance with current IFA, English Heritage (1991) and UKIC (1998) guidelines. The paper and digital archive will be deposited in the Lancashire Records Office, Preston, with a copy to the Lancashire Historic Environment Record (HER).



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### 3. ABEL STREET SCHOOL BUILDINGS

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#### 3.1 BACKGROUND

- 3.1.1 The school comprises three local sandstone structures, first shown on the First Edition 25" OS map of 1893. The survey for the map was actually undertaken in 1890 and the school was not completed until 1891, as shown on a datestone in the western elevation of the western structure (Plate 1).
- 3.1.2 The school was originally called Abel Street Board School, with the name added to the upper west gable of the same structure. This is of especial significance as it was the first Board School built in Burnley (Burnley School Board Annual Report 1889). Such schools chart an important development in the education system within England and Wales, and were erected throughout the country following the 1870 Education Act. This allowed for school boards, elected by rate payers, to provide secular education for all children. They were particularly popular in industrialised towns and cities where the population explosion of the nineteenth century meant that inadequate education provision was provided by the more traditional faith schools. Furthermore, in the industrial North West, with its history of non-conformity, many parents wanted education independent of either Anglican or Catholic religious doctrine. It is, therefore, somewhat surprising that the first board school in Burnley, a major industrial centre of the Victorian period, was not constructed until the 1890s.
- 3.1.3 It was not until 1889 that plans were passed to build two board schools in Burnley, despite pressure from the education department in 1872, 1877 and 1883 (Young 1973, 10). In each case, at almost the last moment, one of the religious bodies managed to provide the accommodation required (*ibid*). However, in 1888 a detailed census undertaken by the School Board Visitors revealed that in St Andrew's Parish (where Abel Street is located) there were 5200 children, but the existing schools only had accommodation for 3618 pupils (Burnley School Board Annual Report 1888), a situation that many critics felt had existed for years (Young 1973, 184). The proposal for a school in Abel Street was agreed (Burnley School Board minutes 13.08.1888), intended to accommodate 1200 children. Total expenditure for the school had to be within the Education Department stipulated budget of £10 per child with an allowance up to £600 for a central hall (Young 1973, 193).
- 3.1.4 At the Burnley School Board meeting in April 1889 it was reported that nine architects had submitted plans for the new school, and that most had visited the Board School in Bradford, West Yorkshire. At the following meeting in May it was recommended that the design submitted by Mr Thomas Bell be accepted, and he was subsequently awarded a first prize of £30 (Burnley School Board Proceedings 1889, 3). The school was to consist of two blocks of buildings, one for mixed pupils and one for infants. The mixed school was to have separate entrances for boys and girls, with teachers, rooms and cloakrooms immediately adjoining. There was to be a large central hall, 80' x 40', round which would be ranged 11 classrooms to accommodate classes of 56-90 pupils. All classrooms would be visible for supervision by the headmaster by using glass partitions.

One room was to be fitted for cookery and the central hall was to be lighted by a clear storey and top lights. The infants' block was to have a central hall, 61'9" x 30', with a gallery, and the Babies Room would have a special gallery. The block would contain four classrooms each to accommodate 56 infants (Young 1973, 192).

3.1.5 The school opened on 7th September 1891, with about 200 children attended for the first morning and were given the afternoon holiday (County Borough of Burnley Education Committee 1968). Only the mixed department was completed for the opening day, the infants not opening until later. It was finally constructed to accommodate 1248 children at a total cost of £14,581 (*ibid*) and was the model for other schools in Burnley, also regarded as one of the most modern in the north of England (*ibid*). The opening of the Abel Street School was an important landmark in the development of education in Burnley. As a result of the 1891 Education Act, the school was the first in Burnley to comprise entirely free placed pupils. Previously, schools had charged at least 1d per week, but abolition of this fee under the new Act meant the school ran at an annual loss of c £500 (*ibid*).

3.1.6 One year later, commencing on 20th Sept 1892 Continuation Classes began at Abel Street School for adults. Classes in a wide range of subjects from writing and arithmetic to elementary science and physiology ran three nights per week with 320 students attending in the first week (Parker 1977, 36). The schools' name was changed in 1902 to Abel Street Council School, and by 1903 there were 802 pupils in the mixed block and 348 infants at the school (County Borough of Burnley Education Committee 1968). In 1915, the problem of increased pupil numbers and the shortage of staff (caused primarily by the First World War) lead to special permission being granted by the Director of Education to have classes of more than 60 pupils (*ibid*). The mixed school became a senior school in 1937 and was renamed Barden County Secondary Modern school for Boys in 1953. The Secondary Modern closed on 6th Sept 1968 (*ibid*), later becoming Barden County Primary School, which occupied the structures at the time of the survey.

## 3.2 EXTERIOR DESCRIPTION

3.2.1 The structures as built are a fine example of a late Victorian Board School, comprising a junior school, a separate infant's school, and a toilet block (Fig 3). The two school buildings are of similar style, with a courtyard of single storey classrooms around a central two-storey hall (Plate 2). That of the infant school has a mansard roof, enhancing its architectural value, whilst the western elevation of the junior school had separate entrances for boys and girls. The original structures shown on the 1893 map are all still extant, and with the exception of some later extension to the north of the infant school, appear almost unaltered. Although internal inspection of the building was not possible, both main halls appear to retain potentially interesting decorated cast-iron trusses.

3.2.2 Architecturally, the schools are typical of the period, incorporating string courses, plinths, and coped gables with dressed kneelers. The building is broadly



contemporary with the surrounding terraced houses, which it served, and is the most architecturally significant structure within the locality (Plate 2).

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## 4. DISCUSSION

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### 4.1 CONCLUSIONS

4.1.1 Background research undertaken prior to the evaluation trenching showed that any trace of the Hoffman kiln and other buildings of the Byerden Brick Works will have been completely removed by later quarrying of the Reedley Hollows Brickworks between 1912 and 1932. The quarry was subsequently filled with landfill waste up to 19m in depth, deposited prior to the construction of Barden High School in the 1960s. Consequently, the evaluation trench was not undertaken on agreement with LCAS.

4.1.2 The assessment of Abel Street School, however, showed the nineteenth century buildings to still exist in their original layout as shown on the OS map of 1893. The school was the earlier of only two Board Schools in Burnley (the other being constructed in 1892 in Burnley Wood). This fact combined with the excellent survival of all original features and its relationship with the surrounding dwellings makes it a significant complex, not only within the immediate locality but also within the Burnley district as a whole. The brief background research undertaken to accompany the site visit revealed a description of the planned construction of the school, suggesting that an accompanying original drawn record may survive. It is significant that the school was regarded by Burnley Education Committee in 1968 as 'one of the most modern schools in the northern England' and as 'the model for other schools in Burnley' at its time of construction.

### 4.2 IMPACT

4.2.1 The proposed development will have no effect on the site of the Hoffman kiln or any of the associated Byerden Brick Works structures, as these are no longer in existence. However, the Abel Street School buildings are designated for demolition as part of the development and will therefore be adversely affected.

### 4.3 RECOMMENDATIONS

4.3.1 It is recommended that prior to any further work being undertaken, a detailed desk-based assessment is undertaken to elucidate the significance of the school buildings and inform the level of any subsequent building recording survey. The level of survey required also needs to reflect the future outcome of the structures.

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## 5. BIBLIOGRAPHY

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### 5.1 CARTOGRAPHIC SOURCES

Ordnance Survey, 1848 *Lancashire Sheet 56*, first edition 1:10560

Ordnance Survey, 1893 *Lancashire Sheet LVI.14*, first edition 1:2500

Ordnance Survey, 1912 *Lancashire Sheet LVI.14*, second edition 1:2500

Ordnance Survey, 1932 *Lancashire Sheet LVI.14*, third edition 1:2500

Ordnance Survey, 1983 *Soil Survey of England and Wales: Soils of Midland and Western England*

### 5.2 PRIMARY SOURCES

#### ***Burnley Library***

Burnley School Board Annual reports 1888, 1889

Burnley School Board Minutes 13.08.1888

Burnley School Board Proceedings 1888, 1889

#### ***Lancashire Historic Environment Records (HER)***

PRN 21998, Reedley Hollows Brick Works

PRN 21999, Byerden Brick Works

PRN 22000, Abel Street School

PRN 22002, Mission Room, 25-25a New Hall Street, Burnley

PRN 22003, Chapel, opposite 1-5 Wood Street, Burnley Lane, Burnley

PRN 22004, Sunday School, opposite 7-11 Wood Street, Burnley Lane, Burnley

PRN 22006, Mile post

PRN 22007, Well

PRN 22008, Liningstone Mill, Cameron Street, Burnley Lane, Burnley

PRN 22009, Queen's Mill, New Hall Street, Burnley Lane, Burnley

PRN 22026, Post Office, 186 Coln Road, Burnley

### 5.3 SECONDARY SOURCES

Clarke, M, 1990 *The Leeds and Liverpool Canal: A History and Guide*, Leyland

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## ILLUSTRATIONS

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### FIGURES

Figure 1: Site location

Figure 2: Extract from First Edition Ordnance Survey map of 1848, 1:10560, showing Mountree Hall

Figure 3: Extract from First Edition Ordnance Survey map of 1893, 1:2500, showing Byerden Brick Works and Abel Street School

Figure 4: Extract from Second Edition Ordnance Survey map of 1912, 1:2500, showing Reedley Hollows Brick Works

Figure 5: Extract from Third Edition Ordnance Survey map of 1932, 1:2500

### PLATES

Plate 1: School plaque on west gable of main hall of mixed block

Plate 2: School from north, amongst rows of Victorian terraced housing

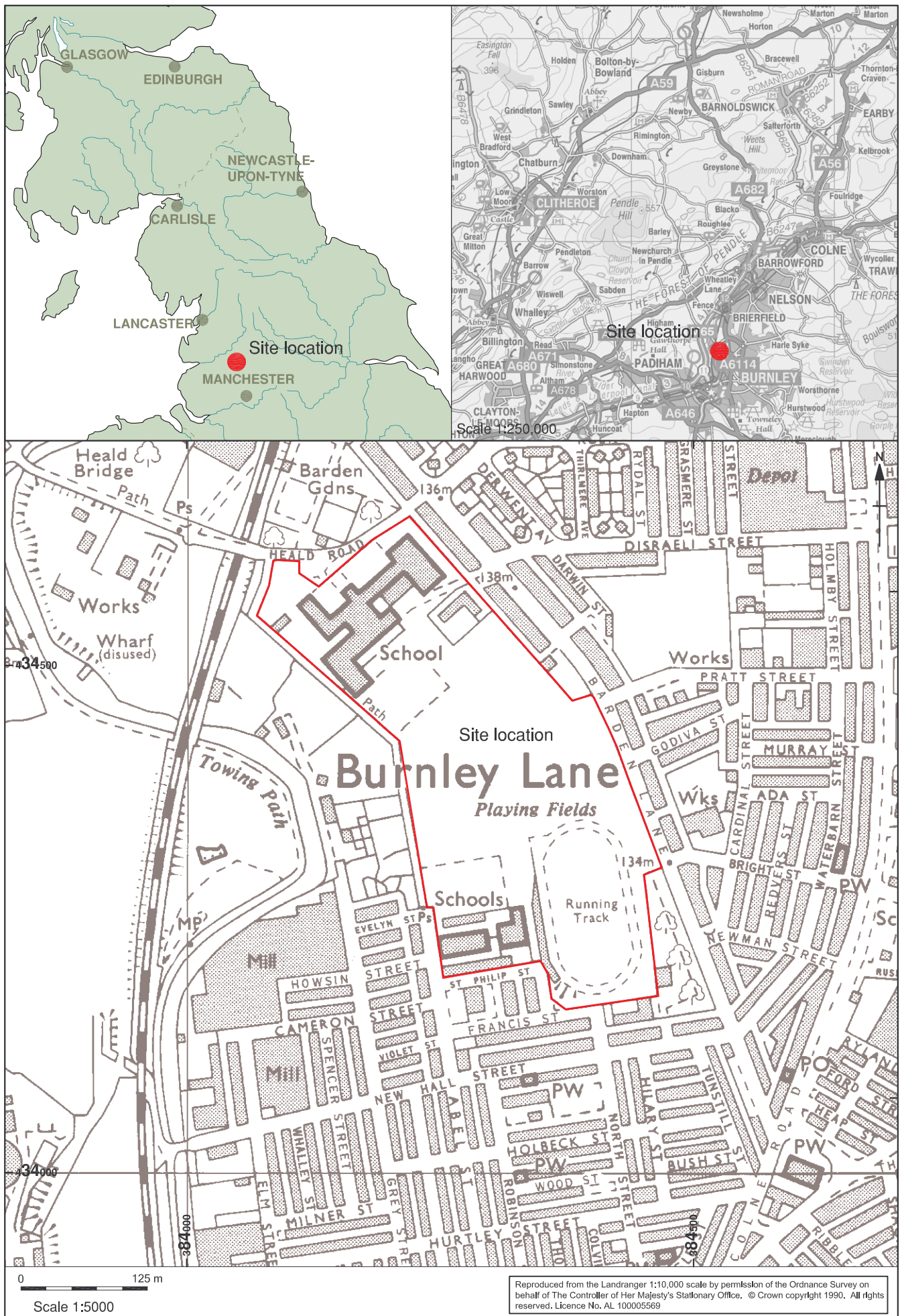


Figure 1: Site Location



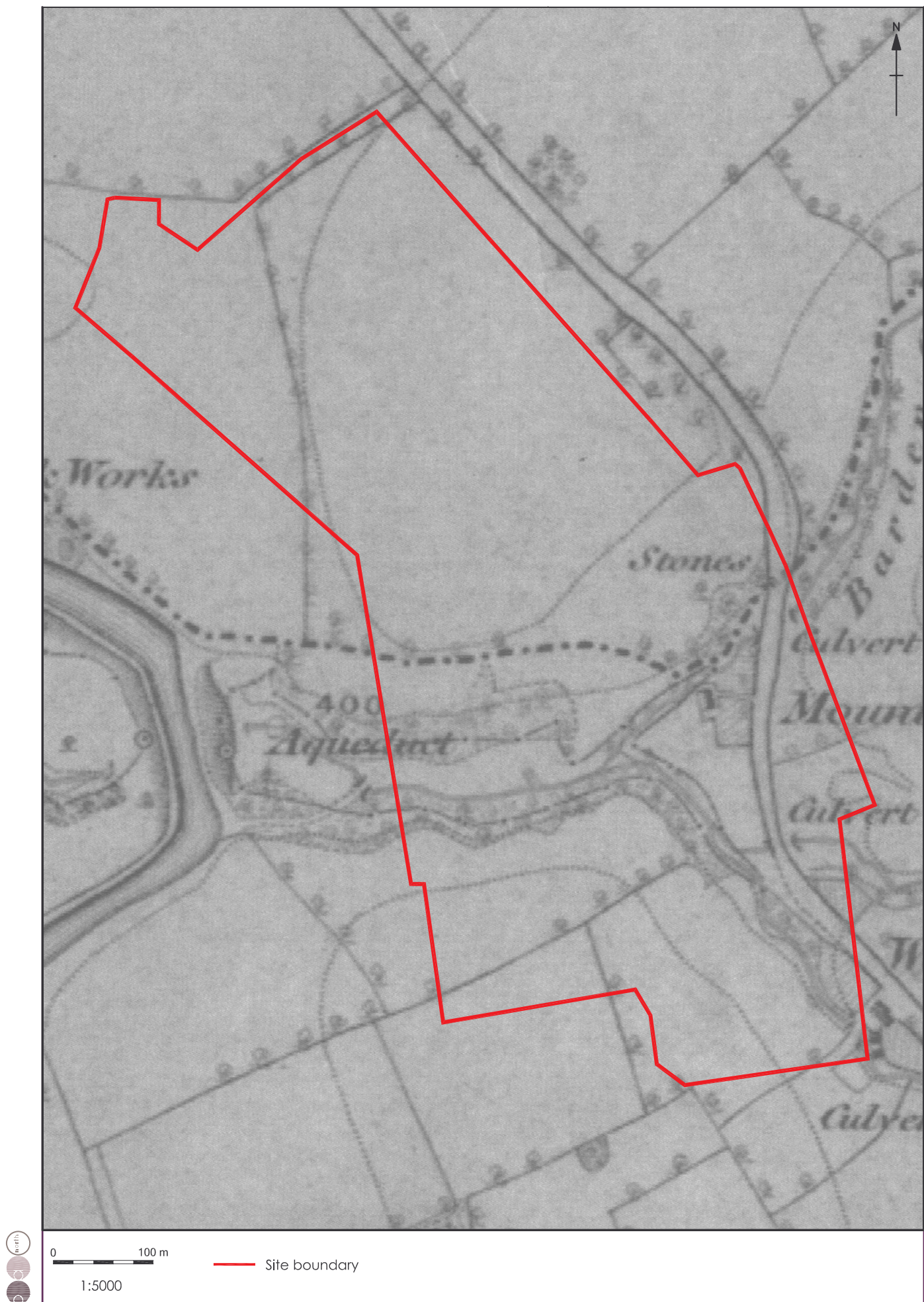


Figure 2: Extract from First Edition Ordnance Survey Map of 1848, 1:10560, showing Mountree Hall



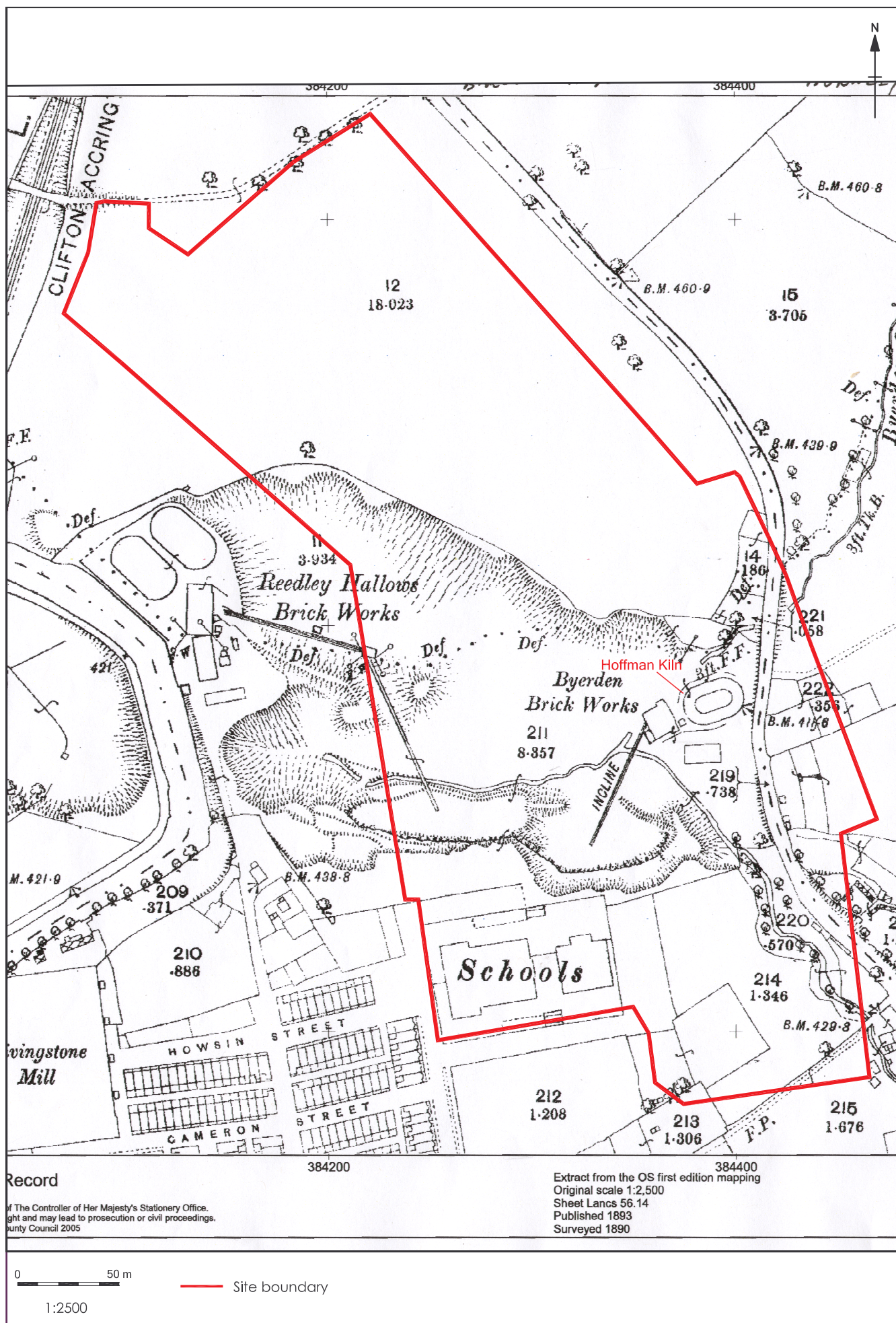


Figure 3: Extract from First Edition Ordnance Survey Map of 1893, 1:2500, showing Byerden Brick Works and Abel Street School



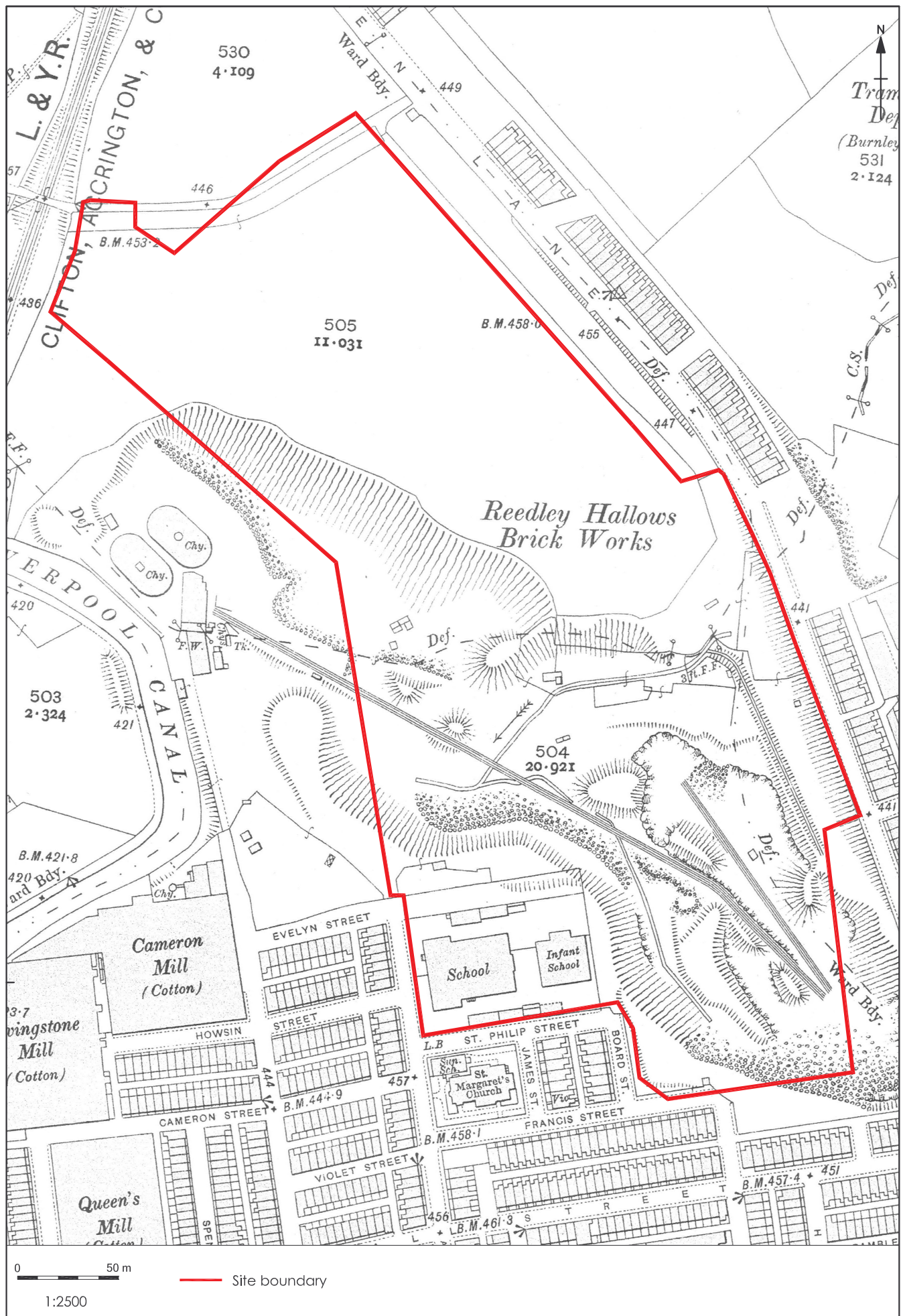


Figure 4: Extract from First Edition Ordnance Survey Map of 1912, 1:2500, showing Reedley Hollow Brick Works



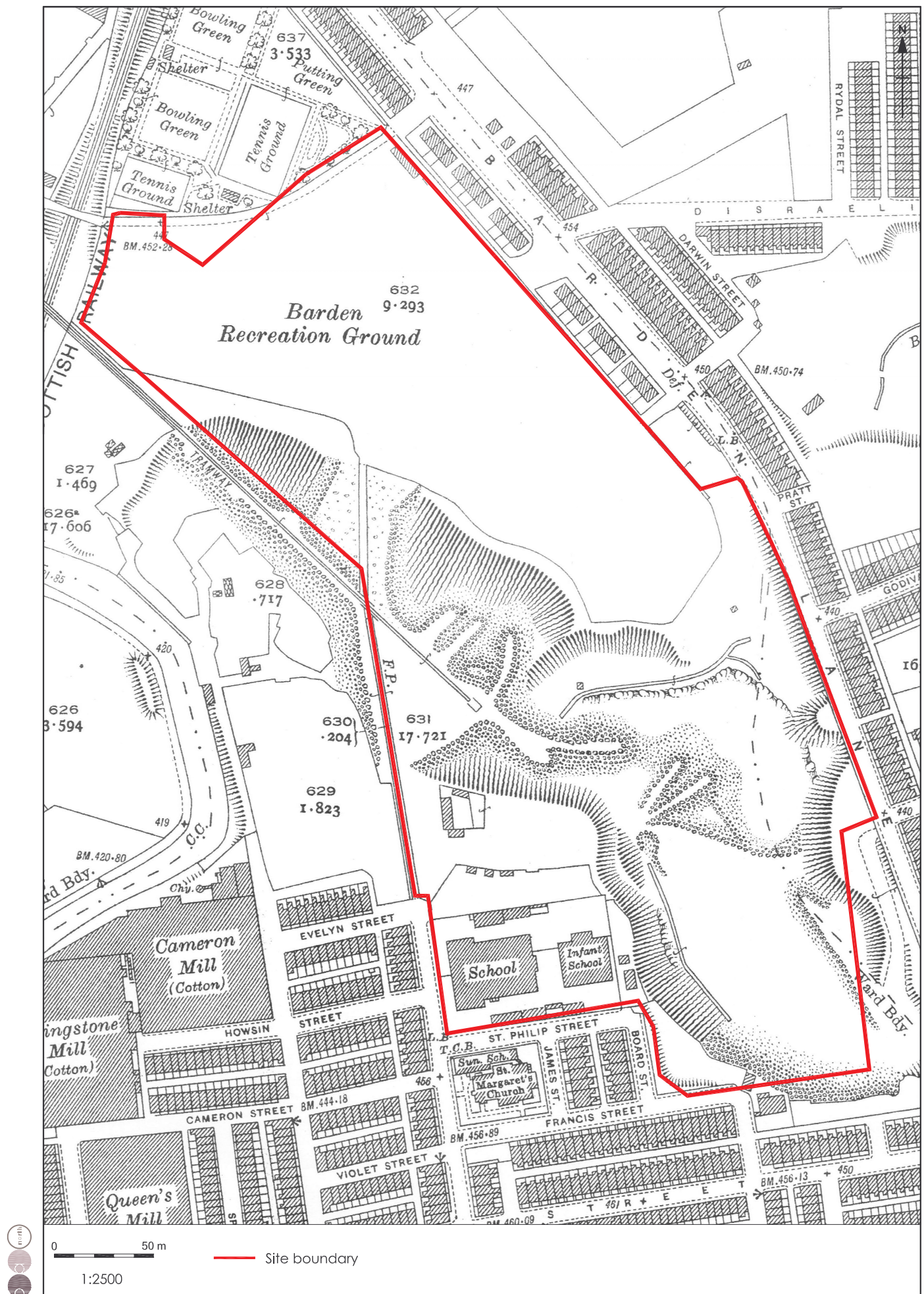


Figure 5: Extract from Third Edition Ordnance Survey Map of 1932, 1:2500





Plate 1: School plaque on west gable of main hall of mixed block



Plate 2: School from north, amongst rows of Victorian terraced housing

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## APPENDIX 1: PROJECT BRIEF

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## APPENDIX 2: PROJECT DESIGN

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### 1. INTRODUCTION

#### 1.1 PROJECT BACKGROUND

- 1.1.1 Catalyst Education Ltd, acting on behalf of Lancashire County Council, have submitted a planning application (ref: 12/06/0355) for the redevelopment of Barden High School, Heald Road, Burnley, Lancashire (NGR centred SD 843 344). The proposals are to construct a sixth form college and primary school, together with a Generic Learning Difficulty (GLD) Primary Special School, public library and other works. The Local Planning Authority (LPA), Burnley Borough District Council, have been advised by Lancashire County Archaeology Service (LCAS) that there is the potential for archaeological remains to be impacted upon by the proposed works, and that a programme of archaeological evaluation be undertaken to assess the requirements for any additional work prior to the redevelopment.
- 1.1.2 The current school buildings outlined for demolition on Abel Street/St Phillips Street are first recorded on the Ordnance Survey 1<sup>st</sup> edition map (1:2500) of 1890 (SMR PRN 22000). The application site also includes the former site of Mountree Hall. However, cartographic evidence also shows that by the 1890s the site of Mountree Hall was occupied by a 'Hoffman' Kiln used in the manufacture of bricks. It is likely that the construction of the kiln removed remains associated with Mountree Hall. Immediately to the left of the kiln is a structure associated with the Byerden Brick Works (SMR PRN 21999)
- 1.1.3 A Hoffman kiln was the creation of Friedrich Hoffman in the mid nineteenth century. The kiln was unlike traditional kilns with an open hearth and the material to be combusted above it with the exhaust gases dissipating through a vertical flue. Instead, the process is turned on its side; material is stacked ready for combustion and the fire is permitted to travel forward while the product(s) of the process are removed from behind the fire. New material is stacked ahead of the fire and the process continues. The kiln is a closed circular or oval loop and in due course the fire will travel right round the circuit, returning to its starting point. Hoffman kilns were initially used in the production of bricks, but their potential value for the production of lime was soon recognised and a considerable number of Hoffman lime kilns were constructed over a relatively brief period in the second half of the nineteenth century (<http://cedarsgw.leeds.ac.uk/nchtjournal/Journals/1994/J94A6.html>).
- 1.1.4 The proposals for redevelopment show a road and turning circle, forming a drop-off zone, and a rainwater pumping station are to be situated on the site of the kiln and associated structures.
- 1.1.5 Bovis Lend Lease (hereafter the 'client'), acting on behalf of Catalyst Education Ltd, requested LCAS prepare a formal brief for the required archaeological work. Accordingly, Bovis Lend Lease have invited Oxford Archaeology North (OA North) to submit proposals for the evaluation, to include the excavation of two trenches and an assessment of the current school buildings to determine whether a programme of recording is necessary prior to their demolition. The following project design has been prepared and should be read in accordance with the brief issued by LCAS.

### 2. OBJECTIVES

- 2.1 The assessment aims to evaluate archaeological deposits associated with the former Mountree Hall and Byerden Brick Works that may be threatened by the proposed development in order to determine their presence, extent, nature and significance. The current school buildings observed on nineteenth century mapping will also be assessed for any further recording work required. To this end, the following evaluation programme has been designed. The results will provide the LPA with the necessary information to determine the outcome of the planning application, as to whether further mitigation works are required prior to, or during, the development. The required stages to achieve these ends are as follows:
- 2.2 **SMR Visit:** to obtain an overview of the background information regarding the archaeological and historical context of the site, which will form the knowledge base for the evaluation trenching.

- 2.3 **Archaeological Evaluation:** to implement a programme of trial trenching examining two trenches measuring 10m x 2m within the outlined development area.
- 2.4 **Assessment of the Buildings:** a brief assessment will be undertaken on the current school buildings on Abel Street/St Phillips Street by means of a written description illustrated with digital images to determine the level and nature of any further recording work that may be required.
- 2.5 **Report and Archive:** the archaeological investigation will culminate with a written report, which will aim to assess the significance of the data generated by this programme within a local and regional context. It will present the results of the evaluation and would make an assessment of the archaeological potential of the area.

### 3 METHOD STATEMENT

#### 3.1 INTRODUCTION

- 3.1.1 The following work programme is submitted in line with the objectives summarised above.

#### 3.2 SMR VISIT

- 3.2.1 The first stage of the archaeological investigation will involve consultation of the Lancashire Sites and Monuments Record (SMR) in Preston and a review of sources held in the OA North library. The information will provide the basis of archaeological and historical knowledge for the site supervisor, and only relevant material will be incorporated into the final evaluation report.

#### 3.3 EVALUATION

- 3.3.1 The programme of trial trenching will establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample and provide information concerning the threatened available area.
- 3.3.2 **Trench configuration:** the evaluation is required to examine two trenches measuring 2m in width (the approximate width of a typical excavator bucket) and 10m in length. The location of these trenches will be situated within the proposed drop-off zone, turning circle and bin store, and will be agreed with LCAS prior to the fieldwork commencing.
- 3.3.3 A contingency is available for additional trenching measuring up to 10m<sup>2</sup>. This is dependant on the initial evaluation trenching results, and its use will be decided by LCAS.
- 3.3.4 Trenches will be located by use of GPS equipment, which is accurate to +/- 0.25m, or Total Station. The site grid is to be accurately recorded with respect to the National Grid. Altitude information will be established with respect to Ordnance Survey Datum.
- 3.3.5 **Methodology:** the topsoil will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision, and will be removed in successive spits of a maximum 0.2m thickness to the surface of the first significant archaeological deposit (pre nineteenth century). This deposit will then be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features.
- 3.3.6 The trenches will not be excavated deeper than 1.20m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting or will be subject to a variation.
- 3.3.7 All features of archaeological interest will be investigated and recorded unless otherwise agreed by the LCAS. However, they will not be entirely removed, unless unavoidable, in an attempt to preserve such deposits *in situ*. A 50% sample of any features identified is expected to be half-sectioned and the depths of archaeological deposits assessed. Modern artefacts are to be noted but not retained.
- 3.3.8 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information

retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.

- 3.3.9 **Scanning of spoil heaps:** the spoil will be scanned by a member of the OA North field team using a metal detector for non-ferrous metal artefacts.
- 3.3.10 **Recording:** all information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections, colour slides and monochrome contacts) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.3.11 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.
- 3.3.12 Plans must include OD spot heights for all principal strata and any features.
- 3.3.13 The stratigraphy of each trench will be recorded even when there are no archaeological deposits identified. In such cases, at least one long section of each trench will be recorded. All sections will contain heights OD.
- 3.3.14 **Reinstatement:** it is understood from the client that there will be no requirement for reinstatement of the ground beyond backfilling. The ground will be backfilled so that the topsoil is laid on the top, and the ground will be roughly graded with the machine.
- 3.3.15 **Fencing/hoarding requirements:** on request from the client heras security fencing will be required for any trenches remaining open overnight. For health and safety reasons, where possible trenches will be backfilled the same day once recorded.
- 3.3.16 **Environmental Sampling:** deposits will be sampled and assessed for their potential for palaeoenvironmental analysis. Environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). It may be necessary for OA North's environmental manager to attend site to discuss the sampling strategy, depending on the deposits, and request advice from English Heritage's Regional Science Advisor.
- 3.3.17 An assessment of the environmental potential of the site will be undertaken through the examination of suitable deposits by the in-house palaeoecological specialist, who will examine the potential for further analysis. This will be undertaken in accordance with English Heritage Guidelines (2002).
- 3.3.18 The assessment would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs and pollen from waterlogged deposits. It will also consider the potential for the dating of peat deposits and requirements for any radiocarbon and archaeomagnetic dating.
- 3.3.19 The costs for the palaeoecological assessment are defined as a contingency and will be called into effect if suitable deposits are identified.
- 3.3.20 **Faunal remains:** if there is found to be the potential for discovery of bones of fish and small mammals a sieving programme will be carried out. These will be assessed as appropriate by OA north's specialist in faunal remains, and subject to the results, there may be a requirement for more detailed analysis. A contingency has been included for the assessment of such faunal remains for analysis.
- 3.3.21 **Human Remains:** any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. LCAS and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and



sensitivity under the environmental health regulations. The cost of removal or treatment will be agreed with the client and costed as a variation.

- 3.3.22 **Treatment of finds:** all identified finds and artefacts will be retained, excluding modern material, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 3.3.23 All finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines. They will be assessed in terms of the potential for further investigation and preservation needs.
- 3.3.24 Only those finds that are of a quality worthy of display will be fully conserved, but metalwork and coinage from stratified contexts may be X-rayed. Any conservation requirements will be discussed with the client and costed as a variation.
- 3.3.25 **Treasure:** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft, which may require costing as a variation in discussion with the client.
- 3.3.26 **Contingency plan:** a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This has been included in the Costings document and would be charged in agreement with the client.
- 3.3.27 The evaluation will provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. In this way, an impact assessment will also be provided.
- 3.3.28 **Access:** liaison for site access will be undertaken through the client and it is understood that there is access for both pedestrian and plant traffic to the site.

### 3.4 ASSESSMENT OF BUILDINGS

- 3.4.1 An assessment will be undertaken by a suitably qualified OA North archaeologist of the current school buildings outlined for demolition. This will include those buildings identified on the Ordnance Survey 1<sup>st</sup> Edition 1:2500 map of 1890 on Abel Street/St Phillips Street. A brief written description will be illustrated using digital images. The information will be included in the full evaluation report.

### 3.5 REPORT AND ARCHIVE

- 3.5.1 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client. A digital copy of the report will be supplied as a pdf on CD ROM to the SMR held by LCAS within eight weeks following the completion of the fieldwork. However, this may need to be revised in agreement with LCAS should any specialist reports be outstanding. The report will include;
- a site location plan related to the national grid
  - a front cover to include the planning application number and the NGR
  - the dates on which the fieldwork was undertaken
  - a concise, non-technical summary of the results
  - an explanation to any agreed variations to the brief, including any justification for any analyses not undertaken
  - a description of the methodology employed, work undertaken and results obtained
  - an historical and archaeological background
  - plans and sections at an appropriate scale showing the location and position of deposits and finds located



- a list of and dates for any finds recovered and a description and interpretation of the deposits identified. This artefact analysis will include illustration of finds crucial to dating and interpretation
  - a description of any environmental or other specialist work undertaken and the results obtained
  - a copy of this project design and the LCAS project brief, and indications of any agreed departure from the details
  - the report will also include a complete bibliography of sources from which data has been derived.
- 3.5.2 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.
- 3.5.3 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context.
- 3.5.4 The deposition of a properly ordered and indexed project archive in an appropriate repository is essential and archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Lancashire SMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects with the Lancashire Record Office in Preston.
- 3.5.5 All artefacts will be processed to MAP2 standards and will be assessed by our in-house finds specialists. The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner the Museum of Lancashire. LCAS will be notified of the arrangements made.
4. HEALTH AND SAFETY
- 4.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available to LCAS, at the time of notification of commencement, and on request to all other interested parties.
- 4.2 Full regard will, of course, be given to all constraints (services etc) during the evaluation as well as to all Health and Safety considerations. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services, however, this is **only an approximate location tool**. Any drawings or knowledge of live cables or services that may pose a risk to OA North staff during evaluation **must be made known to the project manager** of OA North before site work. This will ensure the risk is dealt with appropriately.
- 4.3 There is a small amount of known contamination due to the presence of an infilled quarry in the vicinity. However, OA North has been advised by the client that the levels are below any trigger levels and protective measures are not required.
- 4.4 However, should areas of previously unknown contamination be encountered on site the works will be halted and the client contacted immediately for advice. A revision of the risk assessment will be carried out. Should it be necessary to supply additional PPE or other contamination avoidance equipment this will be costed as a variation.

## 5 OTHER MATTERS

### 5.1 PROJECT MONITORING

5.1.1 Whilst the work is undertaken for the client, LCAS will be kept fully informed of the work and its results, and will be notified at least one week in advance of the commencement of the fieldwork. Any proposed changes to the project design will be agreed with LCAS in consultation with the client.

5.1.2 The Museum of Lancashire's officer, Edmund Southworth, will also be notified of the start date of the fieldwork in writing.

### 5.2 WORK TIMETABLE

5.2.1 **SMR Visit:** one day will be required to undertake this element.

5.2.2 **Evaluation Trenching:** approximately one to two days will be required to complete this element.

5.2.3 **Assessment of Buildings:** approximately one day will be required for this element.

5.2.4 **Report:** the report and archive will be produced following the completion of all the fieldwork. The final report will be available within four weeks of completion of the fieldwork, and the archive deposited within six months.

### 5.3 INSURANCE

5.3.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

## 6. STAFFING

6.1 The project will be under the direct management of **Emily Mercer BA (Hons) MSc AIFA** (OA North Senior Project Manager) to whom all correspondence should be addressed.

6.2 The evaluation will be supervised by either an OA North project officer or supervisor experienced in this type of project. Due to scheduling requirements it is not possible to provide these details at the present time. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

6.3 Assessment of the finds from the evaluation will be undertaken under the auspices of OA North's in-house finds specialist **Christine Howard-Davis** (OA North finds manager). Christine has extensive knowledge of finds from many periods, although she does have considerable experience with Roman finds, being involved with the excavations at Ribchester and at present with the Carlisle Millennium Project.

6.4 Assessment of any palaeoenvironmental samples will be undertaken by or under the auspices of **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.

## REFERENCES

English Heritage, 1991 *Management of Archaeological Projects*, second edition, London

English Heritage, 2002 *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation*,

SCAUM (Standing Conference of Archaeological Unit Managers), 1997 *Health and Safety Manual*, Poole

UKIC, 1990 *Guidelines for the Preparation of Archives for Long-Term Storage*, London

UKIC, 1998 *First Aid for Finds*, London