Brownhill School, Rochdale,

Greater Manchester

Archaeological Desk-based Assessment

Oxford Archaeology North

December 2011

Capita Symonds, on behalf of Rochdale Metropolitan Borough Council

Issue No: 2011-12/1244
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SUMMARY

Planning permission has been granted by Rochdale Metropolitan Borough Council for the demolition of Brownhill School, Rochdale (NGR SD 89343 14139) and the construction of a replacement school on the site (Planning ref: 10/D53829). One of the planning conditions was to undertake a programme of archaeological work prior to development. The Greater Manchester Archaeological Unit (GMAU) were consulted and a brief for the programme of work was issued. Consequently, Capita Symonds commissioned Oxford Archaeology North (OA North) to undertake a desk-based assessment of the site to assess the potential impact of the proposed redevelopment on the archaeological resource. This was carried out by in November and December 2011.

The study area for the desk-based assessment comprised an area 250m in radius centred on the proposed redevelopment. The desk-based assessment comprised a search of both published and unpublished records held by the Greater Manchester Historic Environment Record (HER), the local studies centre at Touchstones, Rochdale, and the archives and library held at OA North. In addition to this, a walkover survey was carried out within the boundary of the proposed redevelopment, in order to relate the landscape and surroundings to the results of the desk-based assessment, and identify any additional features that would not be procured solely from documentary sources.

In total, 12 sites were identified within the study area, six of which are located within the proposed redevelopment area (Sites **04** and **08**-**12**). The earliest archaeological evidence within the study area is represented by a medieval settlement to the north of the proposed development area (Site **05**). Brownhill house (Site **04**), situated in the northern part of the proposed development area, dates to at least 1620, from which time the site was occupied by the house and its grounds. In the early 1920s the house was sold to the Rochdale Corporation, who established an open-air school on the site, utilising the house for administration, kitchens and dining, whilst erecting new purpose-built buildings in the grounds to the south of the house. Brownhill house was demolished in the 1960s, during the construction of the current school buildings. The site of the house was not redeveloped, however, but is currently occupied by a car park.

Four of the sites within the proposed development area may be directly impacted (Sites **04**, **08** and **10**-**11**). Site **04** is Brownhill house, considered to be of regional/county importance, and Site **08** is the sites of pathways in its grounds, considered to be of local/borough importance. Sites **10** and **11** are the sites of former school buildings constructed between the 1920s and the 1960s, which are considered to be of low local importance, and therefore no further work is recommended. However, an archaeological evaluation has been recommended across the proposed development area, in accordance with the GMAU brief, in order to establish the presence or absence of archaeological remains. The evaluation will focus on two areas: the northern area of the site, on the site of Brownhill house; and an area further south within the footprint of the proposed new school buildings, and therefore the location of most of the proposed groundworks and disturbance on the site.

ACKNOWLEDGEMENTS

OA North would like to thank Andrew Conroy of Capita Symonds for commissioning the project. Thanks are also due to Lesley Mitchell at the Greater Manchester Historic Environment Record (HER), Peter Leeming, Assistant Archaeologist at GMAU, and the staff at the local studies centre at Touchstones, Rochdale, for their assistance with this project.

The desk-based assessment and site visit were undertaken by Kathryn Blythe, and the drawings were produced by Mark Tidmarsh. The project was managed by Emily Mercer, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Planning permission has been granted by Rochdale Metropolitan Borough Council for the demolition of Brownhill School, Rochdale (NGR SD 89343 14139) and the construction of a replacement school on the site (Planning ref: 10/D53829). One of the planning conditions was to undertake a programme of archaeological work prior to development. The Greater Manchester Archaeological Unit (GMAU) were consulted and a brief for the programme of work was issued. Consequently, Capita Symonds commissioned Oxford Archaeology North (OA North) to undertake a desk-based assessment of the site to assess the potential impact of the proposed redevelopment on the archaeological resource. This was carried out by in November and December 2011.

1.1.2 The study area for the desk-based assessment comprised an area 250m in radius centred on the proposed redevelopment. The desk-based assessment comprised a search of both published and unpublished records held by the Greater Manchester Historic Environment Record (HER), the local studies centre at Touchstones, Rochdale, and the archives and library held at OA North. In addition to this, a walkover survey was carried out within the boundary of the proposed redevelopment, in order to relate the landscape and surroundings to the results of the desk-based assessment, and identify any additional features that would not be procured solely from documentary sources.

1.1.3 This report sets out the results of the work in the form of a short document, outlining the findings, followed by a statement of the archaeological potential and significance, and an assessment of the impact of the proposed redevelopment. The scheduling criteria employed by the Secretary of State (Annex 1; DCMS 2010) to understand the importance of a site has been used during this assessment to determine the significance of the archaeological resource and any impact upon it.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 Rochdale lies in the north-eastern part of the modern county of Greater Manchester, some 12km from the border with Yorkshire. The study area (centred on NGR SD 89343 14139) is situated north of Rochdale town centre (Fig 1). The site is bounded to the west by Falinge Park, to the north by houses on Brownhill View, to the east by Heights Lane, and to the south by housing off Heights Lane, Stanley Street and Sheriff Street.

1.2.2 Heights Lane is located on a hill, which climbs northwards out of Rochdale. The proposed redevelopment area, therefore, slopes northwards from approximately 140m OD to 160m OD. On the west side of the school, the ground noticeably slopes downwards towards Falinge Park.

1.2.3 The underlying solid geology consists of the Pennine Lower Coal Measures (Westphalian A) and millstone grit of the Carboniferous period. The predominant drift geology comprises glacial sands and gravels, with some alluvium (http://www.bgs.ac.uk/geoindex/beta. html).

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 This desk-based assessment was carried out in accordance with the relevant IfA and English Heritage guidelines (Institute for Archaeologists 2010 *Code of Conduct*; Institute for Archaeologists 2011, *Standard and Guidance for Archaeological Desk-based Assessments*; English Heritage 2006 *Management of Research Projects in the Historic Environment* (MoRPHE)) and generally-accepted best practice. A written brief for the work was issued by GMAU (*Appendix 1*).

2.2 DESK-BASED ASSESSMENT

2.2.1 The aim of the desk-based assessment is not only to give consideration to the potential for archaeological remains on the redevelopment site, but also to put the site into its archaeological and historical context. All below-ground statutory and non-statutory sites within a 250m radius of the redevelopment site were identified and collated into a gazetteer (*Section 4*), and their location plotted on Figure 2. The principal sources of information consulted were historical and modern maps of the study area, although published and unpublished secondary sources were also reviewed. The study has focused on the proposed redevelopment area, with information from the immediate environs summarised in order to place the results of the assessment into context. The results were analysed using the set of criteria used to assess the national importance of an ancient monument (DCMS 2010). Sources consulted include:

2.2.2 ***Greater Manchester Historic Environment Record (HER):*** the Greater Manchester HER, held in Manchester, was consulted to establish heritage assets already known within the study area. The HER is a Geographic Information System (GIS) linked to a database of all known archaeological sites in Greater Manchester, and is maintained by the Greater Manchester Archaeological Unit (GMAU);

2.2.3 ***Local Studies Centre, Touchstones, Rochdale:*** a search was undertaken of the Local Studies Centre catalogue for information relating to the study area, from which historic mapping was obtained, and a number of primary and secondary sources were consulted. The assessment also made use of the Local Studies Centre's website (www.link4life.org);

2.2.4 ***Oxford Archaeology North:*** OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 SITE VISIT

2.3.1 The site was visited on Tuesday 29th November 2011 to relate the existing topography and land use with the results of the desk-based assessment, as well as to check for any additional sites of archaeological potential that would not be identified through documentary sources (Plates 5-11). The site visit also allowed for an understanding of areas of impact by the proposed redevelopment, as well as areas of more recent disturbance that may affect the potential for the survival of archaeological deposits.

2.4 ARCHIVE

2.4.1 Copies of this desk-based assessment will be deposited with the Greater Manchester HER for reference purposes.

3. BACKGROUND

3.1 INTRODUCTION

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

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 4,000 BC
Neolithic	4,000 – 2,500 BC
Bronze Age	2,500 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – AD 410
Early Medieval	AD 410 – AD 1066
Late Medieval	AD 1066 – AD 1540
Post-medieval	AD 1540 – *c*1750
Industrial Period	*c*AD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

3.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.2.1 ***Prehistoric and Roman periods:*** various remains of prehistoric date have been identified in the general area, particularly in the upland areas (Fishwick 1889). The discovery of remains from these periods within Rochdale, however, is severely limited, although several Roman coins have been found on the periphery of the urban area (Lewis 1848). The sparsity of archaeological evidence predating the medieval period in Rochdale is likely to be due to the level of redevelopment of the town during the nineteenth and twentieth centuries (Pearson *et al* 1985).

3.2.2 There are no known sites for these periods within the study area.

3.2.3 ***Medieval period:*** evidence for early medieval activity in the region as a whole is drawn largely from place-names (Newman 1996), although there is little firm evidence for activity in Rochdale during this period. Rochdale was recorded in the Domesday Survey of 1086 under Recedham Manor. It was held by Gamel, one of the 21 thegns of Salford Hundred, whose holding was assessed as two hides or 12 plough-lands (Morgan 1978). It has been suggested that the parish of Rochdale at this time may have been co-extensive

with the manor of Rochdale (Lewis 1848). There seems to have been only one manor properly so called, and the Holts of Stubley were the principal resident family. Most of the land, however, was held by the Abbey of Whalley, and other ecclesiastical bodies; Rochdale was one of the largest ecclesiastical parishes in England, comprising several townships (Farrer and Brownbill 1911).

3.2.4 At the centre of the parish of Rochdale was the church of St Chad's; it is of note that the church served an enormous parish, rather than a substantial town (Hartwell *et al* 2004, 585). The oldest part of the existing church of St Chad, which occupies high ground on the south side of the town overlooking the river, dates to the thirteenth century (Hartwell *et al* 2004, 588). However, there is some evidence to suggest that an earlier church occupied the same site, and fragments of Norman masonry are said to have been discovered during renovation in 1815 (Fishwick 1889, 12).

3.2.5 By 1212, the whole manor had been assigned to the Lord of Clitheroe, and was held by Roger de Lacy, and several under tenants. By 1251, Rochdale had become important enough to have been granted a charter for a weekly market, which was held on Wednesdays, and an annual fair on the feast of St Simon and St Jude in October. It was probably during this period that a borough was also created (Farrer and Brownbill 1911), although the town continued to be governed through the manor court until 1825, when a Police Act was finally obtained (Fishwick 1889).

3.2.6 The focus of the medieval activity in the area remains uncertain, and the pattern of settlement may have comprised a spread of innumerable folds, representing little clusters of agricultural and proto-industrial buildings (Hartwell *et al* 2004, 585). Whilst it is tempting to suggest that the centre of the medieval town probably lay on the south side of the river, in proximity to St Chad's church, firm evidence is lacking.

3.2.7 Site **05** (*Section 4*) refers to probable medieval settlement around the edges of Cronkeyshaw Common to the east of the proposed redevelopment area. This is shown on Yates' map of 1786, and includes 'Foxholes House', and settlement around Shawclough Road and north of Bentmeadows and Mizzy Road.

3.2.8 ***Post-medieval and Industrial periods:*** in 1582, Camden described Rochdale as 'a market town well frequented' (Fishwick 1913). Manufacturing and mining industries became of increasing importance to the local economy during this period. The confiscation of the lands that had belonged to Whalley Abbey, and the general suppression of religious houses following the Dissolution of the Monasteries, produced a new strain of landlords, whose number was increased by the sale of Byron estates in the early part of the seventeenth century. The town certainly began to expand significantly during the 1600s, indicated to some degree by the Hearth Tax Returns; in 1666, 228 hearths were recorded for Rochdale (*ibid*).

3.2.9 Celia Fiennes, writing in *c* 1700, described Rochdale as 'a pretty neat town, built all of stone', whilst some 25 years later Defoe considered it 'a good market town, and of late much improved in the woollen manufacture, as are also the villages in its neighbourhood' (Furbank *et al* 1991). By the end of the eighteenth century, Rochdale had developed a formidable reputation as a

centre for the production of woollen cloth, and the town benefited from a lucrative export trade in woollen goods to Holland, Portugal, Spain, Italy, Russia and Germany (Aiken 1795, 248). Rochdale also became an important centre for the cross-Pennine trade in woollen cloth, represented by the numerous merchant's houses, warehouses and inns that were established in the town during the late 1700s to service this trade.

3.2.10 Rochdale rapidly became a boomtown of the Industrial Revolution, and amongst the first ever industrialised towns. The Rochdale Canal, one of the major navigable broad canals of Great Britain, was a highway of commerce during this time used for the haulage of cotton, wool, and coal to and from the area. The canal was opened between Rochdale and Manchester by 1799, and was completed as the first trans-Pennine route in 1804 (Hadfield 1994). The growth of the population as Rochdale became a manufacturing centre led to the enlargement of the parish church; and the building of new ones: St Mary's, Wardleworth, was consecrated in 1744; St James's, Wardleworth, in 1821; St Clement's, Spotland, in 1835; and Christ Church, Healey, in 1850 (Farrer and Brownbill 1911).

3.2.11 Rochdale rose to prominence during the nineteenth century as an important centre for the production of cotton goods, whilst maintaining a strong woollen industry, focusing in particular on the manufacture of flannel and baize. New cotton mills were established along the River Roch and, with the advent of steam power, throughout the town along the river valleys and canal banks. However, the town enjoyed a 'golden age' during the Cotton Famine of the 1860s, when woollens became once more price-competitive with cotton goods; the population of the town increased by over 60% during this period (Williams with Farnie 1992, 43; Pigot 1822). The socio-economic change brought by the success of Rochdale's textile industry in the nineteenth century led to its rise to borough status and it remained a dominant settlement in its region; a charter granted to the town in 1856 made Rochdale a Municipal Borough (Williams with Farnie 1992).

3.2.12 Site **03** (*Section 4*) refers to two post-medieval standing stones in the area, and Site **04** is Brownhill house, which dates from at least the early seventeenth century (see *Section 3.2.13*). Falinge Hall, also known as Mount Falinge (Sites **02** and **07**), situated to the east of Brownhill house dates to the late eighteenth century, and was built by James Royds. In 1894 the Mount Falinge estate, including the hall, which was by then in a dilapidated condition, was given to the Corporation of Rochdale. The grounds were landscaped by Thomas Mawson and opened as a public park (Site **01**) in 1906, with the main entrance (now a listed building, no. 358890) at its southern end (Site **06**).

3.2.13 ***Brownhill:*** Brownhill house (Plates 1-4) was in the township of Spotland, to the north of the centre of Rochdale. The first known occupant of the house was Randall Hamer who died in 1620 leaving his estate to his wife and children (Fishwick 1889, 507). However, by the time of the 1626 manor survey, the estate was owned by Robert Holt, with the Hamers as tenants (Fishwick 1889, 507; Walker and Tindall 1985, 130). Brownhill house was one of several halls or houses in the local area mentioned in the 1626 manor survey (*op cit*, 127-38).

3.2.14 It should be noted here that there is an extant datestone from the house in the grounds of the school (Plate 11). The stone reads '1633 IBIB', which does not fit in with the manor survey of 1626 or the 1620 will of Randall Holmes. It is not known whom the initials IBIB stand for.

3.2.15 The Hamers were still tenants of Brownhill in 1641, but by 1684 the house was owned and occupied by the Holme family (Fishwick 1889, 507). The house passed down this family until it was purchased by James Royds at an unknown date, although he is known to have been living there by 1794 (*op cit*, 507-508).

3.2.16 In 1828 Butterworth described Brownhill as '*a low and ancient pile of building, the property of James Royds*' (Butterworth 1828, 192). The 1841 census lists Albert Royds, aged 25, a banker, as head of the household at Brownhill. Albert Royds went on to become a Justice of the Peace and died at Brownhill in 1890 (Annals of Rochdale - Brownhill file, Touchstones, Rochdale). However, during Albert's lifetime the house was occupied for a short time by Henry Halliwell Fishwick, who is listed as head of the household in both the 1861 and 1871 censuses. In 1861 he was described as a land agent and in 1871 as a coal proprietor. Fishwick died at Brownhill in 1872 (*ibid*).

3.2.17 The 1891 census lists Christina Royds, aged 80, as head of the household at Brownhill. Christina was living with her sister and there were three servants and a gardener also listed at the house. However, by the time of the 1901 census the house was occupied by Albert Shore, listed as a caretaker. This then appears to be the end of the Royds' occupation of the house (Brownhill file, Touchstones, Rochdale).

3.2.18 In 1923 Brownhill and its grounds of 2½ acres was purchased by the Rochdale Corporation for £2000 (Council Minutes 10/08/1923; Rochdale Observer 2/12/1922). The furniture from the house had been sold off separately (Rochdale Observer 7/7/1923). The site was to be an open-air school and would utilise the house for cooking, dining and administration, whilst a new three-roomed school house was built in the paddock of the house (Rochdale Observer 2/12/1922; Brownhill file, Touchstones, Rochdale). The open-air school was opened in March 1925, and two rooms were added to the new building in 1927 (Rochdale Observer 7/3/1925; Brownhill file, Touchstones, Rochdale).

3.2.19 An undated description of Brownhill (post-dating its 1925 conversion to the school) states that the main entrance to the house was towards its east side, in an angled wall of the building. This was thought to be the oldest part of the building and the 1633 datestone was positioned across it. The oak room (Plate 4) was also located in this part of the building (Brownhill file, Touchstones, Rochdale). There are stories of a stone-lined passage, which led from the oak room to an underground tunnel connected to the town centre. The passage is said to have been discovered during the demolition of the house and the construction of the current school buildings in the early 1960s (http://www.brownhill.rochdale.sch.uk/Brownhill%20History.htm). There are also said to have been cellars under the house, which contained wells (*c* 175' deep) for drawing drinking water. Stables with servants quarters above were positioned to the rear (north) of the house, which were later turned into the school kitchens (*ibid*). The construction of the house was quite unusual, in that

its walls were not set at right-angles to each other, which meant that none of the rooms was square. In addition, nearly every floor had a step in it, so that each room had floor height differences within it (Brownhill file, Touchstones, Rochdale).

3.2.20 The irregular plan of the house, and the reported differences in floor heights would appear to suggest that there were several phases of building to the house. Documentary evidence indicates that the 1633 datestone was not to commemorate the initial building of the house, and therefore must refer to a later addition, or an event, such as a marriage, which was important to the owners of the house at the time. It should also be noted that IBIB may not necessarily be initials but could be a reference to something else, the meaning of which is lost. The 1851 5' to 1 mile OS map (*section 3.3*) indicates the obliquely-aligned wall within which later documentary sources report that the datestone was incorporated. However, it is not possible to confirm that this is where the stone was positioned within the 1633 building. It is possible that parts, or all of Brownhill house were rebuilt between 1633 and 1851.

3.2.21 The house was demolished in the early 1960s, at the same time as the construction of the current school buildings at Brownhill (http://www.brownhill.rochdale.sch.uk/Brownhill%20History.htm).

3.3 MAP REGRESSION ANALYSIS

3.3.1 ***Introduction:*** a number of cartographic sources were examined at Touchstones, Rochdale, together with some held at OA North's offices.

3.3.2 ***Yates, 1786 (Fig 3):*** the extent of the town at this time is depicted on Yates' map of Lancashire, which provides the earliest reliable map of the town, albeit published at a small scale; it is likely that the layout of the town as depicted by Yates reflected the medieval street pattern. The study area is located on the west side of the main route heading northwards out of the town (Toad Lane/Heights Lane). A house, presumably Brownhill, is depicted just south of a turn in the road that takes it westwards. This area is labelled '*Hight*', with the estate marked as '*Royds Esq.*'

3.3.3 ***Ordnance Survey, First Edition 6": 1 mile, 1851 (Fig 4), and 5' to 1 mile, 1851 (Fig 5):*** these maps show both Brownhill and Mount Falinge (Site **02**) as part of the same estate, with paths on the west side of Brownhill connecting it to Mount Falinge. Brownhill comprises an irregular-shaped building constructed around a courtyard, with its east side on Heights Lane. The facade is south-facing, with a large bay window shown on its west side (Fig 5). A square projection to the east of the window indicates a doorway. The eastern end of the facade projects southwards, abutting a further south-projecting wing. Where these two meet, a path leads to an obliquely-aligned wall where the 1633 datestone is currently positioned. Cisterns, pumps and an aviary are annotated within the house and its extents, and a flag staff is located to the south of the house. To the west of the house is a series of outbuildings, including a conservatory. Gardens are depicted surrounding the house and outbuildings, with numerous paths (Site **08**). South of the house is the open ground of the estate.

3.3.4 ***Ordnance Survey, 25":1 mile 1893 (Fig 6):*** this mapping is very similar to the 1851 mapping, with the addition of a north/south aligned field boundary, which appears to separate the Brownhill estate from Mount Falinge.

3.3.5 ***Ordnance Survey, 25":1 mile 1910 (Fig 7):*** new housing along Stanley Street and Sheriff Street has been erected on the southern part of the Brownhill estate by the time of this mapping. To the north of the housing, a rectangular embankment (Site **09**) is shown, which may have been constructed to block the view of the new houses from Brownhill house. Alternatively, it may simply have been a large spoil heap resulting from the construction work for the houses. The remainder of the proposed development area appears as it did on the 1893 OS map.

3.3.6 ***Ordnance Survey, 25": 1 mile 1930 (Fig 8):*** this is the first map produced following the purchase of the Brownhill estate by the Rochdale Corporation. Brownhill house remains unchanged on this map, but a rectangular building marked as a school is shown to its south, with a smaller building to its south-east (Site **10**). A foot-path is marked from the school to Sheriff Street. The embankment (Site **09**) shown on the 1910 OS map is not depicted on this map.

3.3.7 ***Ordnance Survey, 1:1250 1960 (Fig 9):*** the house is labelled Brownhill Open Air School, but remains unchanged in plan. There are now two additional school buildings, one to the west of the main building shown on the 1930 OS map and one to the south-east (Site **11**). The area to the south of the new school is labelled as a playing field. The embankment (Site **09**) shown on the 1910 OS map but not on the 1930 OS map, is again depicted on this map.

3.3.8 ***Ordnance Survey, 1:1250 1990 (Fig 10):*** both Brownhill house and the four school buildings had been demolished or redeveloped by this time. One rectangular building is shown in the area of the former house, and new school buildings are shown to the south, in the approximate area of the earlier school buildings shown on the 1930 and 1960 OS maps. A flight of steps (Site **12**) shown on the south side of the conservatory on the 1851 OS map is shown as still extant on this map.

3.4 PREVIOUS ARCHAEOLOGICAL WORK

3.4.1 There are no records for previous archaeological investigations within the current study area.

3.5 GEOTECHNICAL INVESTIGATION

3.5.1 Two site investigations have been made within the proposed development area, comprising four boreholes (BH) and two test pits (TP) in 2007, and five window samples (WS) carried out in 2011 (Fig 11; *Appendix 2*). Boreholes 01 and 02 and Test Pit 01 were positioned to the north of the school. The boreholes were excavated to a maximum depth of 3m and identified a sandy topsoil overlying a gravelly-clay, which in turn overlay sandstone. Test Pit 01 was excavated to 1.5m and revealed made ground for the first 0.45m, which overlay 0.9m of gravelly-clay. Beneath this was sand and gravel. An examination of the historic maps indicated that Test Pit 01 was located over a former path (Site **08**) on the south side of the conservatory, and the made

ground therefore probably represents the remains of the path and foundation material beneath it.

3.5.2 Boreholes 03 and 04, Test Pit 02 and Window Samples 01 and 03-06 (n.b. there was no Window Sample 02) were positioned to the south of the school. This area is not thought to have been previously built on, and the results of the site investigation reflect this. Excavations were made to a maximum depth of 5.7m and all reflect the same natural layers of gravelly-clay overlying sandstone, which were seen in the northern investigation areas.

3.6 SITE VISIT

3.6.1 The site was visited on Tuesday 29th November 2011 (Plates 5-11; Fig 12). A car park and playground is located in the area to the north-east of the school buildings, off its entrance from Heights Lane. An area of grass containing some mature trees is located in the north-west corner of the school grounds, which continues on the west side of the school buildings, and adjacent to Falinge Park. A large open area of ground is positioned to the south of the school buildings (Plates 5 and 6). Outbuildings and a mature tree are located on the east side of the school, east of an area of hardstanding (Plate 7). The school buildings appear to have been built on slightly raised ground, presumably in order to level the natural slope of the ground here (Plates 8 and 9). Immediately to the south of the buildings is a fenced-off area used as a garden (Plates 9 and 10). The grounds are bounded to the west, south and east by fences and mature trees. To the north the school grounds are more open, separated from Brownhill View by low shrubs. No above ground remains of the former house at Brownhill were evident, aside from the datestone (labelled 1633 IBIB), which is positioned at the school entrance (Plate 11).

4 GAZETTEER OF SITES

Site number	**01**
Site name	**Falinge Park**
NGR	SD 8918 1408
HER no.	2369.1.0
Designation	Registered Park or Garden (II) - 1001521
Site type	Park
Period	Modern
Sources	HER
Description	Grounds to the hall (Site **02**) formerly known as Mount Falinge. Site **02** was in a dilapidated condition in 1902, and has since been partly demolished. Park designed by Thomas Mawson, opened to the public in 1906. Further extended by a gift of land made by Alderman Turner in 1911, to mark the coronation of King George V, and in 1912, which allowed the park to extend to the north and east and reach its present boundaries. Main entrance to the south of the hall at the corner of Falinge Road and Sheriff Street. Includes cast-iron double gates between sandstone piers (LB II status; Site **06**) and have decorative scrollwork and heraldic cartouches. Boundary marked by low stone wall. Original railings lost, replaced in 2000. Park divided into northern and southern halves. Present metal bandstand on site of an earlier stand, which stood near the small lake to the north-west of the stable court. Western boundary lined with trees. Hall dominates the park. Immediately to the east of the hall steps is an elaborate sunken Sun Garden, principle feature of Mawson's design. North of hall is a stable court. Bowling green in the north east corner of the park.
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**02**
Site name	**Falinge Hall**
NGR	SD 8924 1419
HER no.	2369.2.0
Designation	Hall (partly demolished)
Site type	Hall
Period	Industrial
Sources	HER
Description	House with garden and small park (Site **01**) or lawn to the east of Falinge Road, also known as Mount Falinge. Entrance from Falinge Road across lawn to area of trees and shrubs around the hall. Hall built by James Royds in the late eighteenth century, originally of five bays, the centre one being slightly advanced with a three bay pediment. Central Ionic porch. Paved area to the south of facade, pavilion with stone steps and balustrade. In 1894 the estate, together with a donation of £3628 towards the laying out of the grounds (Site **01**), was given to the Corporation for use as a public park. Hall was in a dilapidated condition at that time and has since been partly demolished. The hall facade and Pavilions are listed (Site **07**).
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**03**
Site name	**Quarry Hill/Heights Lane**
NGR	SD 8940 1400
HER no.	2403.1.0
Designation	None
Site type	Standing stones
Period	Post-medieval

Sources	HER
Description	Two dated (post-medieval) standing stones from the Heights Lane/Quarry Hill area.
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**04**
Site name	**Brownhill**
NGR	SD 8934 1424
HER no.	2481.1.0
Designation	None
Site type	Hall (site of)
Period	Post-medieval
Sources	HER
Description	The first known occupant of the house was Randall Hamer, who died in 1620, and by the time of the 1626 manor survey the estate was owned by Robert Holt. There is an extant datestone from the house, which reads '1633 IBIB'. By 1684 the house was owned and occupied by the Holme family, and by 1794 it had been purchased by the Royds family, who held it until the early twentieth century. In 1923 Brownhill and its grounds of 2½ acres was purchased by the Rochdale Corporation and was converted to an open-air school. The school utilised the house for cooking, dining and administration, whilst a new three-roomed school house was built in the paddock of the house. An undated description of Brownhill (post-dating its 1925 conversion to the school) states that the main entrance to the house was towards its east side, in an angled wall of the building. This was thought to be the oldest part of the building and the 1633 datestone was positioned across it. The oak room was also located in this part of the building. There are stories of a stone-lined passage, which led from the oak room to an underground tunnel connected to the town centre. The passage is said to have been discovered during the demolition of the house and the construction of the current school buildings in the early 1960s. There are also said to have been cellars under the house, which contained wells (*c* 175' deep) for drawing drinking water. Stables with servants quarters above were located to the rear (north) of the house, which were later turned into the school kitchens. The construction of the house was quite unusual, in that its walls were not set at right-angles to each other, which meant that none of the rooms was square. In addition nearly every floor had a step in it, so that each room had floor height differences within it. The house was demolished in the early 1960s, at the same time as the construction of the current school buildings at Brownhill.
Assessment	The site is within the proposed development area and may be impacted by it.

Site number	**05**
Site name	**Cronkeyshaw Common Settlement**
NGR	SD 8930 1440
HER no.	5216.1.0
Designation	None
Site type	Settlement
Period	Medieval
Sources	HER
Description	Yates' map of 1786 shows several buildings around the edges of Cronkeyshaw Common. 'Foxholes House' is named, with settlement around Shawclough Road and north of Bentmeadows and Mizzy Road. The 1851 OS map shows the area as before, with more development, including mills and housing.
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**06**
Site name	**Gateway to Falinge Park**
NGR	SD 8929 1391
HER no.	11562.1.0
Designation	Listed Building 358890
Site type	Gateway
Period	Modern
Sources	HER
Description	Park gates and abutting walls, *c* 1900. Sandstone and cast iron. Central double vehicular gates with pedestrian gates on either side and curved walls terminating in square piers. The piers, six in total, have projecting bases, recessed panels, floral festoons, modillion cornices and are surmounted by garland-enriched finials. The gates have enriched scrollwork and two central heraldic cartouches.
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**07**
Site name	**Falinge Park Hall Facade and Pavilions**
NGR	SD 8918 1413
HER no.	2369.3.0
Designation	Listed Building 358889
Site type	Facade and Pavilions
Period	Industrial
Sources	HER
Description	Facade, side walls and pavilions only of a mansion (Site **02**), now forming a pleasance and store rooms in a public park. Late eighteenth century. Ashlar. Facade, one bay of each side wall, and square pavilions to each side connected to the rear of the former side walls by linking passages. The facade consists of five bays, the central three being slightly advanced and with a pediment. Central Ionic porch with two detached columns, four pilasters, entablature, overlight and tall side lights. Ground floor openings to bays two and four are in arched recesses. First floor windows are all now blind, the central three having a moulded sill band and panels below. Plinth, bands, modillion cornice, parapet and pediment with central floral cartouche in relief. Linking passages are each three bays with central architraved door and openings to either side in arched recess. Pavilions each have tripartite windows with Doric pilasters and elliptical tympana, tripartite cornice, parapet and hipped roof.
Assessment	The site is outwith the proposed development area and will not be impacted by it.

Site number	**08**
Site name	**Brownhill House, Paths**
NGR	SD 89329 14230
HER no.	-
Designation	None
Site type	Paths (site of)
Period	Industrial
Sources	Map Regression
Description	Paths are shown in the grounds of Brownhill House on the 1851 5' to 1 mile OS map.
Assessment	The site is within the proposed development area and may be impacted by it.

Site number	**09**
Site name	**Brownhill House, Embankment**
NGR	SD 89329 14115
HER no.	-
Designation	None
Site type	Embankment (site of)
Period	Modern
Sources	Map Regression
Description	An embankment is shown in the grounds of Brownhill house on the 1910 OS map and the 1960 OS map.
Assessment	The site is within the proposed development area and may be impacted by it.

Site number	**10**
Site name	**Brownhill House, 1920s' School Building**
NGR	SD 89368 14186
HER no.	-
Designation	None
Site type	School Building (site of)
Period	Modern
Sources	Map Regression
Description	A school was built in the grounds of Brownhill House in the 1920s and is first shown on the 1930 OS map as two buildings. The school buildings were redeveloped in the 1960s. NB. The main 1920s' building is within the footprint of the current school, but the site of an additional building to the south-east has not been redeveloped and is depicted on Fig 2.
Assessment	The site is within the proposed development area and may be impacted by it.

Site number	**11**
Site name	**Brownhill House, Post-1930 School Buildings**
NGR	SD 89381 14152
HER no.	-
Designation	None
Site type	School Buildings (site of)
Period	Modern
Sources	Map Regression
Description	A school was built in the grounds of Brownhill house in the 1920s and is first shown on the 1930 OS map as two buildings (Site **10**). By the time of the 1960 OS map there were two additional buildings (Site **11**). A new school was built in the 1960s, and the earlier buildings had all been redeveloped or demolished by the time of the 1990 OS map. NB. One of the additional buildings was beneath the current school, but the site of the other additional building to the south-east has not been redeveloped and is depicted on Fig 2.
Assessment	The site is within the proposed development area and may be impacted by it.

Site number	**12**
Site name	**Brownhill House, Conservatory Steps**
NGR	SD 89316 14232
HER no.	-
Designation	None
Site type	Conservatory Steps (site of)
Period	Industrial
Sources	Map Regression
Description	A flight of steps is shown on the south side of the conservatory on the 1851 5' to 1 mile OS map and is shown as still extant on the 1990 OS map. The steps are no longer extant, but below ground remains of them may survive.
Assessment	The site is within the proposed development area and may be impacted by it.

5 ASSESSMENT OF THE SIGNIFICANCE OF THE REMAINS

5.1 INTRODUCTION

5.1.1 Twelve gazetteer sites, or heritage assets, have been identified within the study area. Sites **01**-**07** were identified from the HER, one of which was a Registered Park (Site **01**), and two of which were listed buildings (Sites **06** and **07**). The remaining five sites (Sites **08**-**12**) were identified through map regression analysis. Six of the sites are within the proposed redevelopment area (Sites **04** and **08**-**12**).

Period	No of Sites	Site Type
Prehistoric	0	-
Romano-British	0	-
Early Medieval	0	-
Late Medieval	1	Settlement around Cronkeyshaw Common (**05**)
Post-medieval	2	Standing stones (**03**), Brownhill House (**04**)
Industrial	4	Falinge Hall and Facade and pavilions (**02** and **07**), paths (**08**), conservatory steps (**12**)
Modern	5	Falinge Park and gateway (**01** and **06**), an embankment (**09**), 1920s school building (**10**), post-1930 school building (**11**)

Table 2: Number of sites by period

5.1.2 In its Planning Policy Statement 5, the Department of Communities and Local Government (DCLG) advises that for proposed developments meriting assessment the '*significance of the heritage assets affected and their contribution of their setting to that significance*' be understood in order to assess the potential impact (Policy HE6, PPS 5, DCLG 2010). Therefore, the following section will determine the nature and level of the significance of this archaeological resource, as detailed in *Sections 3* and *4*. This is an iterative process, beginning with the guideline criteria outlined in Table 3, below. In general terms, the recording of a heritage asset, e.g. HER, SM or listed building, and any subsequent grading thereafter, by its nature, determines its importance. However, this is further quantified by factors such as the existence of surviving remains or otherwise, its rarity, or whether it forms part of a group. There are a number of different methodologies used to assess the archaeological significance of heritage assets, but that employed here (*Section 5.2*) is the 'Secretary of State's criteria for scheduling ancient monuments' (Annex 1; DCMS 2010).

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

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

5.2 QUANTIFICATION OF IMPORTANCE

5.2.1 The gazetteer sites previously listed as being within the proposed development area (Sites **04** and **08-12**) were considered using the criteria for scheduling ancient monuments, with the results below. This information will contribute to the overall assessment of the importance of each heritage asset.

5.2.2 ***Period:*** none of the sites is significant due to period. Brownhill house (Site **04**), which dates from at least 1620 is one of several houses in the area, which date from this period or earlier.

5.2.3 ***Rarity:*** none of the sites is considered to be significant due to rarity.

5.2.4 ***Documentation:*** this report includes a search of documentation with particular reference to Brownhill house. It appears that there is very little information on the house itself and, therefore, the site is not considered significant due to documentation.

5.2.5 ***Group Value:*** Site **04**, Brownhill house, Site **08**, the paths in the grounds of the house, and Site **12**, the conservatory steps, that survived into the 1990s can be seen as a group, as they are all part of the Brownhill house estate. Brownhill also has group value with Mount Falinge (Sites **02**, **06** and **07**), which is immediately to the west of the proposed development area. The 1851 5' to 1 mile OS map indicates that the two houses were part of the same estate, with Mount Falinge being built by the Royds family, who owned Brownhill from the eighteenth to the twentieth century.

5.2.6 ***Survival/Condition:*** the survival of any buried remains of Brownhill house (Site **04**) is not known. The building was not demolished until the 1960s, and has since been occupied by a car park. It therefore seems likely that there will be below ground remains associated with the house. The areas of the paths (Site **08**), conservatory steps (Site **12**), and former school buildings (Sites **10** and **11**) have also remained largely undeveloped and therefore may survive as below ground remains. A test pit excavated in 2007 identified made ground (TP01, *para 3.5.1* above), which was probably the remains of one of the paths in the grounds of Brownhill house.

5.2.7 ***Fragility/Vulnerability:*** there are six gazetteer sites within the proposed redevelopment area (Sites **04** and **08**-**12**). Current proposals (Fig 13) indicate that Sites **09** and **12** will not be impacted upon. Sites **08**, **10** and **11** are in areas that will at least be partially impacted upon by the redevelopment. The footprint of Brownhill house (Site **04**) appears to be in an area that will not be impacted upon by the redevelopment. However, it is possible that associated remains (such as the rumoured tunnel to the town centre) could be impacted upon by the proposed redevelopment. Sites **04**, **08**, **10** and **11** are therefore considered to be vulnerable.

5.2.8 ***Diversity:*** the sites are not considered to be significant due to diversity.

5.2.9 ***Potential:*** there are no prehistoric, Roman or early medieval sites within the study area, and the potential for the discovery of archaeological remains from these periods is thought to be low. However, there is some evidence for medieval settlement in the area (Site **05**). It should also be noted that from the early seventeenth century onwards, the proposed development area has been part of the Brownhill house estate and therefore, aside from the recent school buildings, has not been developed. This means that should there be any buried archaeological remains from the medieval period or earlier, there is a good potential for their survival.

5.2.10 Brownhill house (Site **04**) dates from at least 1620, but could be earlier. The occupation of the site from the early seventeenth century onwards indicates that there is a high potential for archaeology from the post-medieval period onwards. Brownhill house was situated in the northern area of the proposed development site and, therefore, this is the most likely area for archaeological remains to be recovered.

5.3 CONCLUSIONS OF IMPORTANCE

5.3.1 Using the guideline criteria outlined in Table 3, together with further quantification (*Section 5.2*), and informed professional judgement, each of the sites listed in the gazetteer has been assessed for importance as a site of archaeological interest (Table 4). Falinge Park gateway (Site **06**) and Falinge Hall facade and pavilions (Site **07**) are considered to be of *national importance*, due to their listed building status. Falinge Park (Site **01**) is considered to be of *regional/county importance* due to its status as a registered park. The sites of Falinge Hall (Site **02**), Brownhill (Site **04**) and the Cronkeyshaw medieval settlement (Site **05**) have also been rated as being of *regional/county importance*, due to their inclusion within the HER. The standing stones (Site **03**) are also included in the HER, however little is known of these stones except that they are post-medieval in date. Given the obscurity of the site they are currently considered to be of *local/borough importance*, although this could change if the site were better understood. The paths (Site **08**) and conservatory steps (Site **12**) within the Brownhill estate have been considered to be of *local/borough importance* due to their group value with Brownhill house (Site **04**). The 1920s-1960s former school buildings have been considered to be of *low local importance*, and the embankment (Site **09**) is of *negligible importance*.

No	Site name	Importance
01	Falinge Park	Regional/ County
02	Falinge Hall	Regional/ County
03	Standing stones	Low Local
04	Brownhill	Regional/ County
05	Cronkeyshaw settlement	Regional/ County
06	Falinge Park gateway	National
07	Falinge Hall facade and pavilions	National
08	Brownhill grounds - paths	Local/Borough
09	Embankment	Negligible
10	1920s'school building	Low Local
11	Post-1930 school building	Low Local
12	Brownhill grounds - conservatory steps	Local/Borough

Table 4: Importance of each gazetteer site

6 IMPACT ASSESSMENT

6.1 IMPACT

6.1.1 Archaeological remains are '*a finite, irreplaceable and fragile resource*' (DCMS 2010). Therefore, it has been the intention of this assessment to identify the archaeological significance and potential of the proposed development area, and assess the impact of the proposals, thus allowing the advice of PPS 5 (DCLG 2010) to be enacted upon. Assessment of impact has been achieved by the following method:

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

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

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

Table 5: Criteria used to determine Scale of Impact

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

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

Table 6: Impact Significance Matrix

6.1.4 The extent of any previous disturbance to buried archaeological levels is an important factor in assessing the potential impact of the redevelopment scheme. The proposed development area is occupied by the site of Brownhill house (Site **04**) to the north, and its estate in the remaining area. Brownhill house was not demolished until the 1960s, and has since been occupied by a car park. It therefore seems likely that there will be below ground remains associated with the house. The areas of the paths (Site **08**), an embankment (Site **09**), former school buildings (Sites **10** and **11**), and conservatory steps (Site **12**), also identified within the proposed development area, have also remained largely undeveloped and, therefore, may survive as below ground remains. A test pit excavated in 2007 identified made ground, which was probably the remains of one of the paths (Site **08**) in the grounds of Brownhill.

6.2 SIGNIFICANCE OF IMPACT

6.2.1 Following on from the above considerations, the significance of effects has been determined based on an assumption that there will be earth-moving and other modification/additional works associated with the redevelopment, and that the present condition of the heritage assets/gazetteer sites is known or assumed. The results are summarised in Table 7, below, in the absence of mitigation. *The following will require review once detailed design/ construction proposals are known.*

Site No.	Site name	Nature of Impact	Scale of Impact	Impact Significance
01	Falinge Park	None	Neutral	Neutral
02	Falinge Hall	None	Neutral	Neutral
03	Standing stones	None	Neutral	Neutral
04	Brownhill	Possible disturbance of surviving below ground remains	Slight	Minor
05	Cronkeyshaw settlement	None	Neutral	Neutral
06	Falinge Park gateway	None	Neutral	Neutral

Site No.	Site name	Nature of Impact	Scale of Impact	Impact Significance
07	Falinge Hall facade and pavilions	None	Neutral	Neutral
08	Brownhill grounds - paths	Possible disturbance of below ground remains	Slight	Minor
09	Embankment	None	Neutral	Neutral
10	1920s' school building	Possible disturbance of below ground remains	Slight	Minor / neutral
11	Post-1930 school building	Possible disturbance of below ground remains	Slight	Minor / neutral
12	Brownhill grounds - conservatory steps	None	Neutral	Neutral

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

6.2.2 Table 7 indicates that there are four sites which are likely to be impacted by the proposed redevelopment (Sites **04**, **08** and **10**-**11**). The most significant impact of the proposed redevelopment would be on the site of Brownhill house (Site **04**), due not only to its archaeological importance, but also to its likelihood for survival as below ground remains. Whilst current proposals (Fig 13) indicate that the site of Brownhill house will not be impacted upon by the proposed redevelopment, it is possible that associated remains (such as the rumoured tunnel to the town centre) could be impacted upon. The impact of the proposed scheme has therefore been rated as ***slight***, and the significance of this as ***minor***. The paths in the grounds of Brownhill house (Site **08**) may be impacted upon by the proposed development, particularly on the eastern side of the site. The impact of the proposed scheme on this site has therefore been rated as ***slight***, and the significance of this as ***minor***. The former 1920s-1960s' school buildings (Sites **10** and **11**) appear to be at least partially impacted upon by the proposed redevelopment. However, these sites are of low archaeological significance, and the impact of the proposed scheme on them has therefore been rated as ***slight***, and the significance of this as ***minor/neutral***.

7 RECOMMENDATIONS

7.1 INTRODUCTION

7.1.1 A desk-based assessment is usually the first stage of an iterative process of investigating the archaeological resource within a proposed development area. Having identified the potential for archaeological remains, the significance of these remains, and the significance of the impact by the development, further investigation is required to determine the exact nature, survival, extent, and date of the remains. However, in terms of the requirement for further archaeological investigation, it is necessary to consider only those heritage assets identified in the desk-based assessment that will be affected by the proposed redevelopment. Such further investigation would strive to reach a stage wherein a mitigation strategy can be agreed for affected assets: current legislation draws a distinction between designated heritage assets and other remains considered to be of lesser significance; '*There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be…substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings and grade I and II* registered parks and gardens and World Heritage Sites, should be wholly exceptional*' (Policy HE9.1, PPS 5; DCLG 2010), and thereby preserved *in situ*. It is normally accepted that non-designated sites will be preserved by record, in accordance with their significance and the magnitude of the harm to or loss of the site as a result of the proposals, to '*avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposals*' (Policy HE 7.2, *ibid*).

7.2 REQUIREMENTS FOR FURTHER ARCHAEOLOGICAL INVESTIGATION

7.2.1 There are six heritage assets identified in the assessment gazetteer that are positioned within the proposed development area (Sites **04** and **08**-**12**), of which four (Sites **04**, **08**, **10** and **11**) may be impacted upon by the proposed development. The low archaeological value of the former school buildings (Sites **10** and **11**) means that no further work is required in these areas. The sites of the former house at Brownhill (Site **04**) and paths (Site **08**) in its grounds have been considered to be of <u>*regional/county*</u> and <u>*local/borough importance*</u> respectively, and further work is required in order to establish the survival of below ground remains across the site. Recommendations are outlined in Table 8 below.

7.1.5 ***Archaeological evaluation trenching:*** GMAU have recommended that a programme of trial trenching should take place to establish the survival of archaeological remains across the proposed development area (*Appendix 1*). This will be of particular interest in the area of Site **04**, Brownhill house, although it will also help to establish the presence or absence of remains associated with Brownhill house across the remainder of the site. The

evaluation should comprise a minimum of two 1.6m wide x 10m long trenches in the northern area of the site (on the site of Brownhill house), and six 1.6m wide x 10m long trenches in the area of the proposed new school building to the south (see *Appendix 1*).

Gaz no	Description	Importance	Impact Significance	Recommendations
04	Brownhill house	Regional/ County	Minor	Trial Trenching
08	Brownhill grounds - paths	Local/Borough	Minor	Trial Trenching
10	1920s school building	Low Local	Minor / neutral	None
11	Post-1930 school building	Low Local	Minor / neutral	None

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

8 CONCLUSIONS

8.1 DISCUSSION

8.1.1 The earliest archaeological evidence within the study area is represented by a medieval settlement to the north of the proposed development area (Site **05**). Brownhill house (Site **04**), situated in the northern part of the proposed development area dates to at least 1620. A datestone from 1633, indicates a probable addition to the house. The nineteenth century OS maps indicate that the house was very irregular in plan. In addition, documentary sources report that there were differences in floor heights throughout the house, which would also suggest that there were several phases of building to the house.

8.1.2 From at least 1620 the proposed development area was occupied by Brownhill house and its grounds. In the early 1920s the house was sold to the Rochdale Corporation, who established an open-air school on the site, utilising the house for administration, kitchens and dining, whilst erecting new purpose-built buildings in the grounds to the south of the house. Brownhill house was demolished in the 1960s, during the construction of the current school buildings. The site of the house was not redeveloped, however, but is currently occupied by a car park.

8.1.3 In total, 12 heritage assets have been identified in a gazetteer compiled for the study area, four of which are within the proposed development area and may be directly impacted upon (Sites **04**, **08** and **10**-**11**). Site **04** is the site of Brownhill house, considered to be of regional/county importance, and Site **08** comprises garden paths in its grounds, considered to be of local/borough importance. Sites **10** and **11** are the sites of former school buildings constructed between the 1920s and the 1960s, and are considered to be of low local importance. GMAU has recommended that a programme of trial trenching is carried out across the proposed development area in order to establish the presence or absence of archaeological remains. The trenching is to focus on two areas: the northern area of the site, on the site of Brownhill house; and an area further south within the footprint of the proposed new school buildings.

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Ordnance Survey, 1960 1:1250 Plan SD 8813/ SD 8913

Ordnance Survey, 1990 1:1250 Plan SD 8914 SW

Touchstones Local Studies Centre:

Brownhill file - a collection of newspaper clippings, details from the census, photographs and council minutes concerning the history of the house and the school. This includes:

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Walker, JSF and Tindall, AS, 1985 *Country Houses of Greater Manchester*, GMAU

Williams, M, with Farnie, DA, 1992 *Cotton Mills in Greater Manchester*, Preston

9.3 WEBSITES

http://www.brownhill.rochdale.sch.uk/Brownhill%20History.htm - Brownhill School website

http://www.bgs.ac.uk/geoindex/beta.html

www.link4life.org - Touchstones, Rochdale

10. ILLUSTRATIONS

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Figure 3: Extract from Yates' map of Lancashire, 1786

Figure 4: Extract from Ordnance Survey, First Edition, 6" to 1 mile, 1851

Figure 5: Extract from Ordnance Survey 5' to 1 mile, 1851

Figure 6: Extract from Ordnance Survey 25" to 1 mile, 1893

Figure 7: Extract from Ordnance Survey 25" to 1 mile, 1910

Figure 8: Extract from Ordnance Survey 25" to 1 mile, 1930

Figure 9: Extract from Ordnance Survey 1:1250, 1960

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Figure 11: Locations of site investigation work

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Plate 4: The Oak Room at Brownhill (n.d.) from Royds, 1910

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Plate 6: Field south of school, looking west towards Falinge Park

Plate 7: East side of school, looking north-east to Heights Lane

Plate 8: School buildings on raised ground, looking north-east

Plate 9: School buildings on raised ground, looking east-north-east

Plate 10: Area of school garden, south of main school buildings, looking north

Plate 11: Datestone from the former house at Brownhill

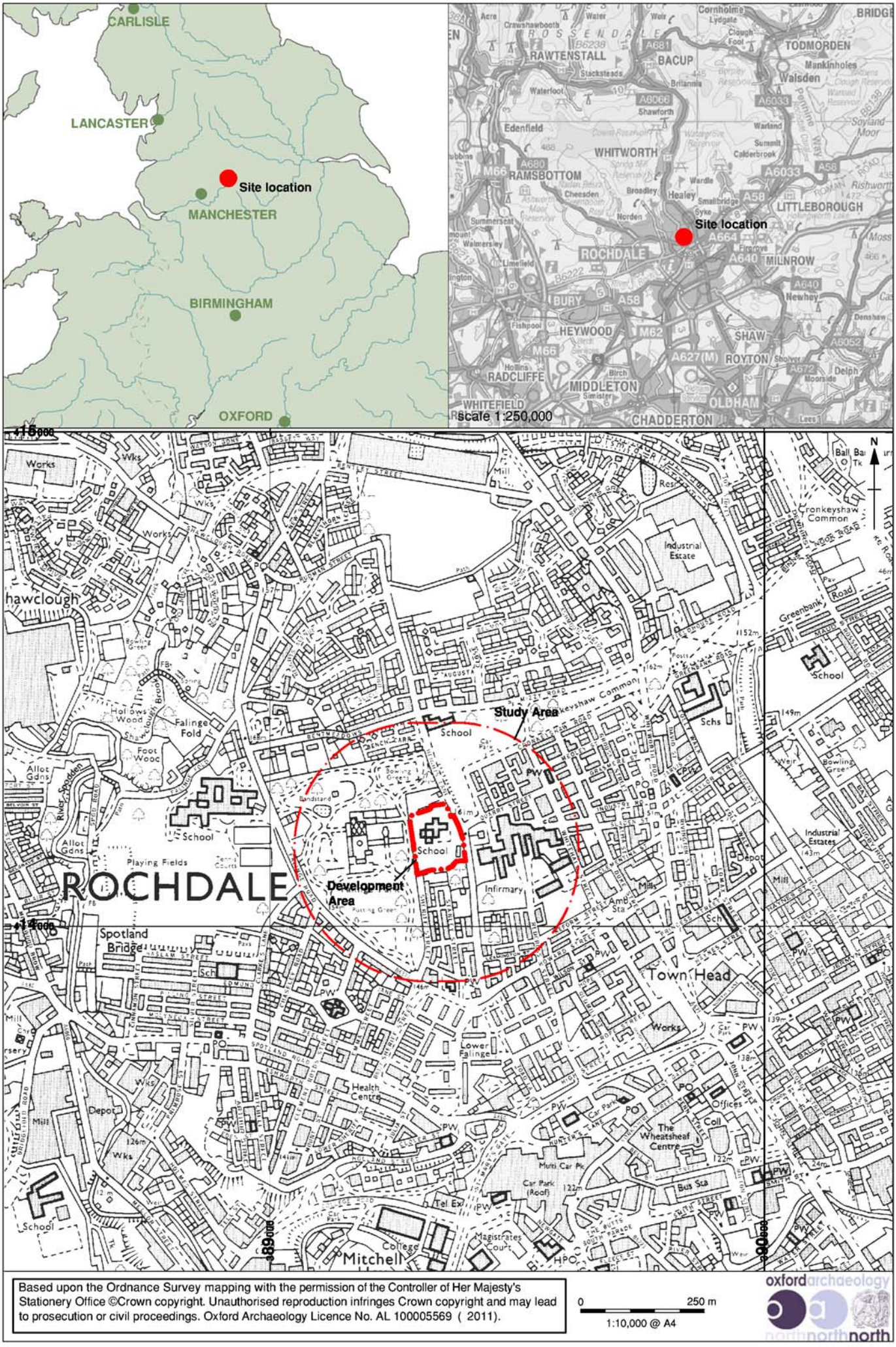


Figure 1: Site location

EM*L10435*MAT*Dec 2011

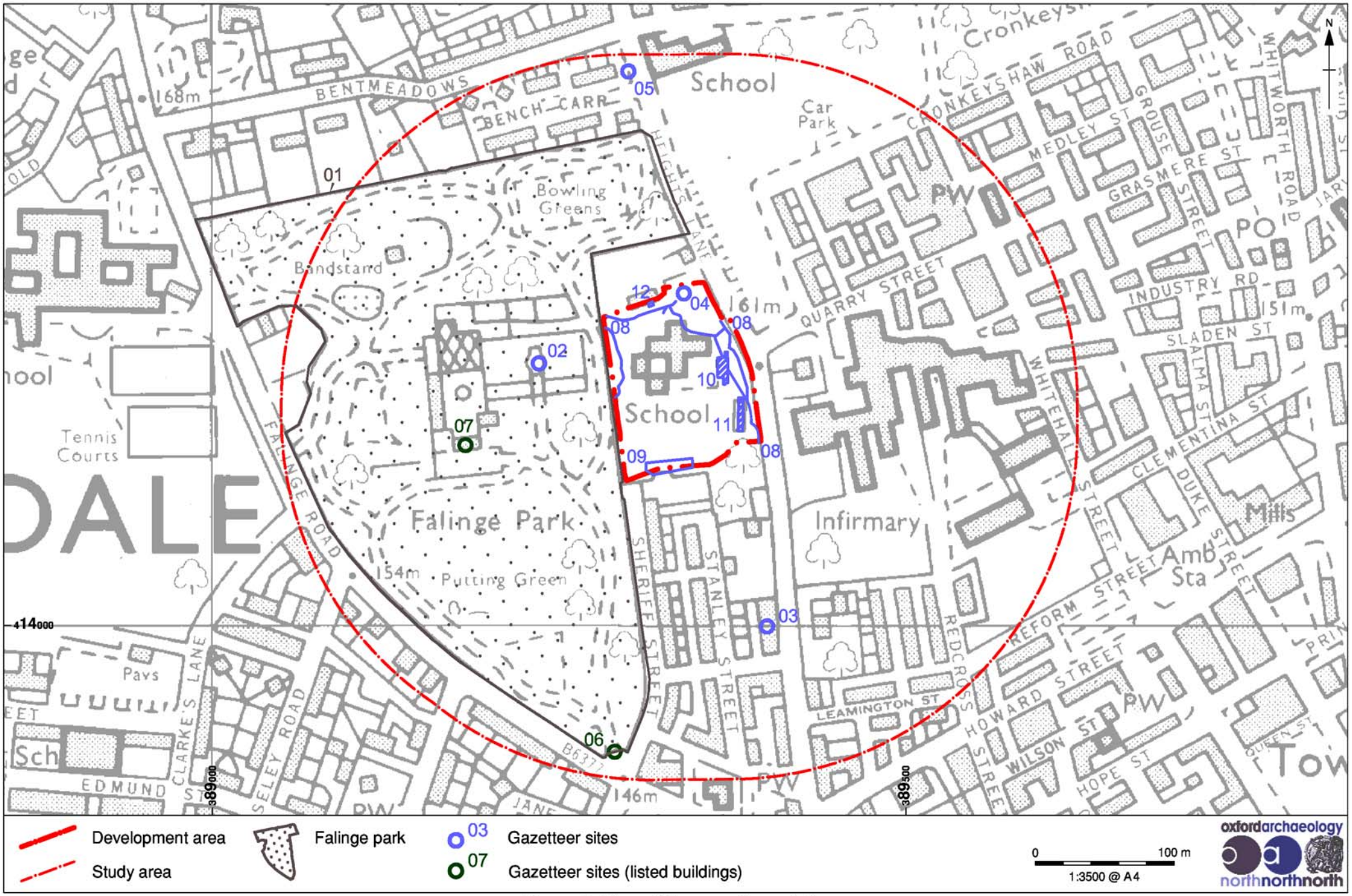


Figure 2: Plan of the gazetteer of sites

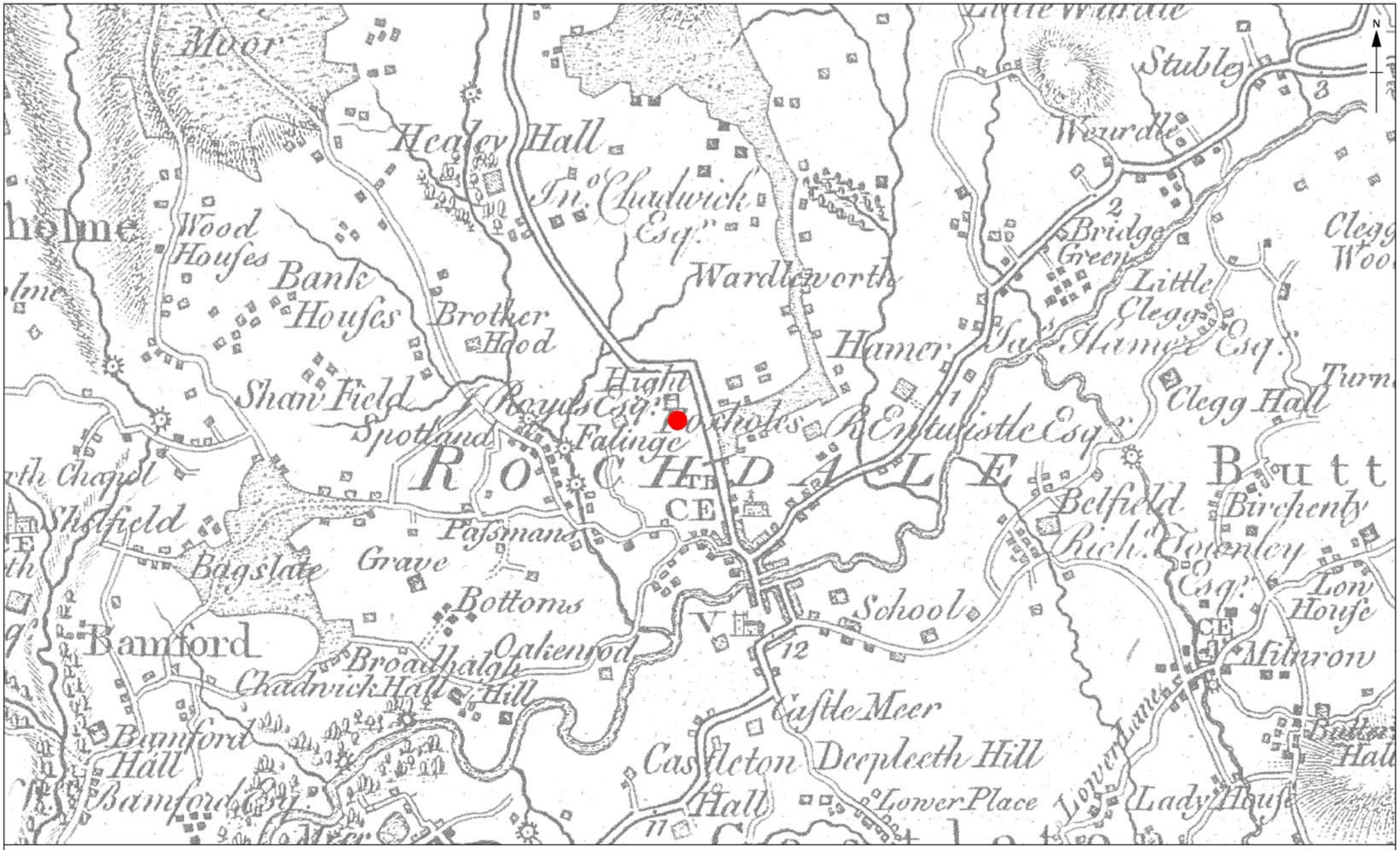


Figure 3: Extract from Yates' map of Lancashire, 1786

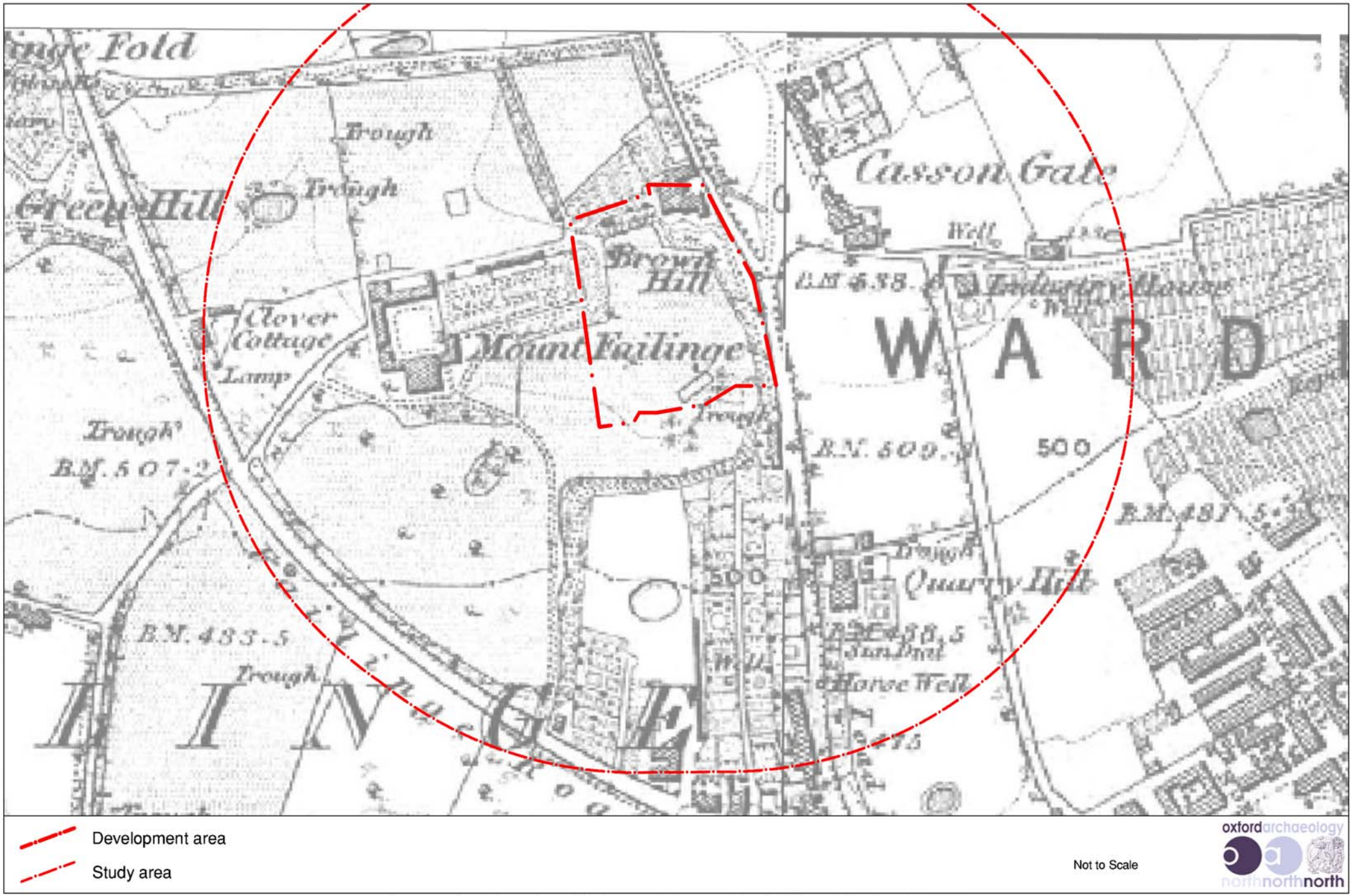
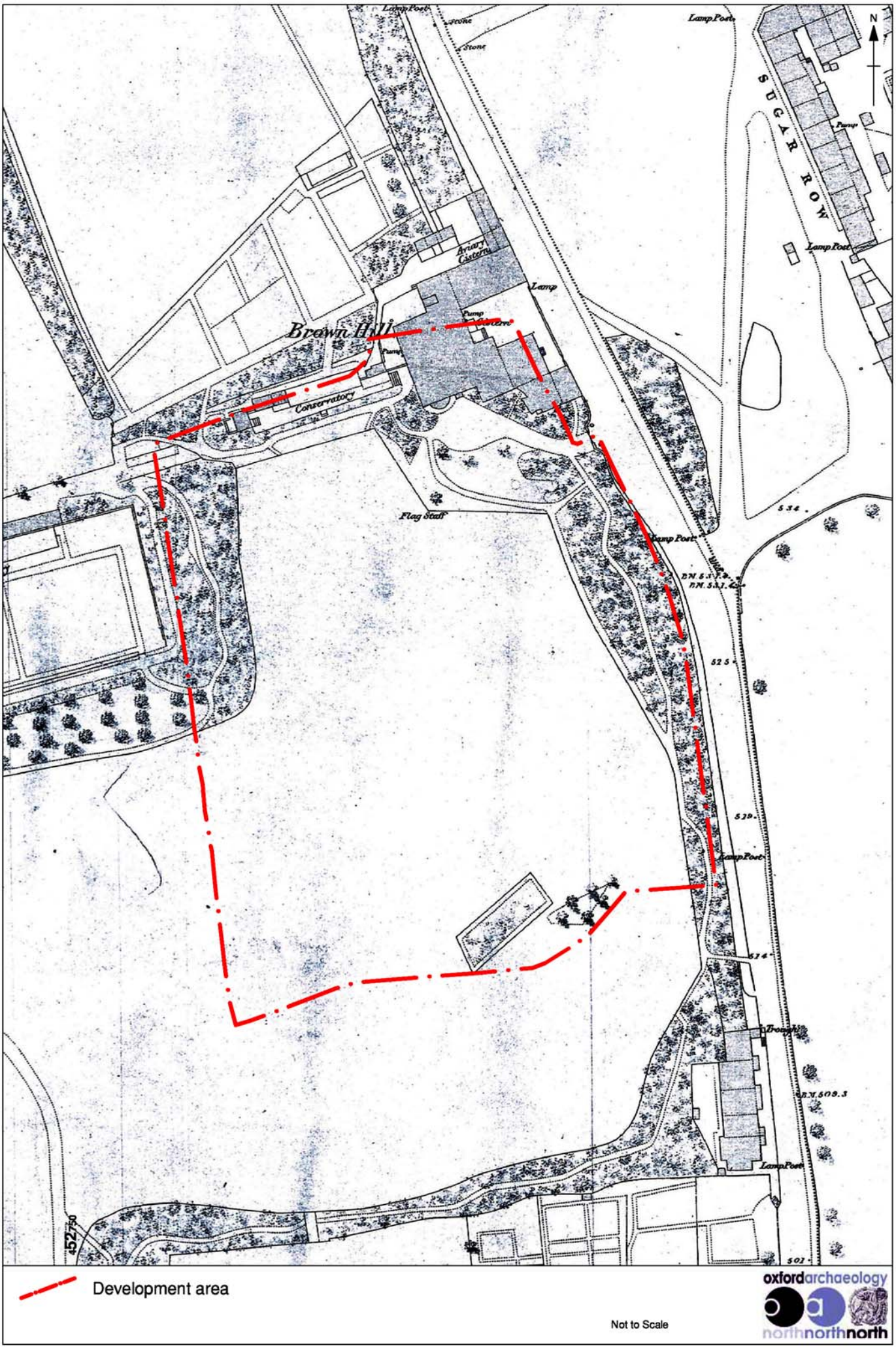


Figure 4: Extract from Ordnance Survey First Edition 6" to 1 mile, 1851



EM*L10435*MAT*Dec 2011

Figure 5: Extract from Ordnance Survey 5" to 1 mile, 1851

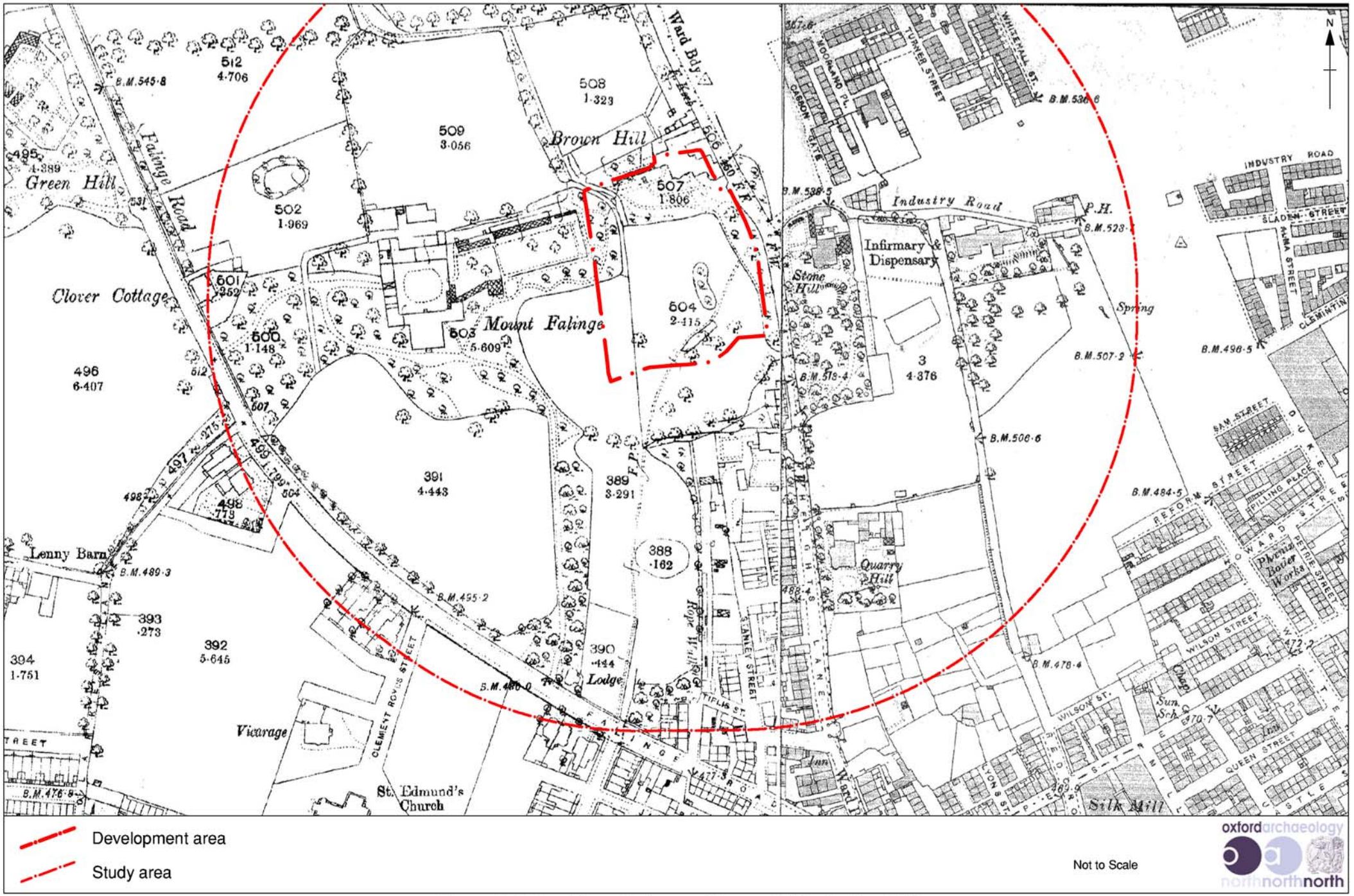


Figure 6: Extract from Ordnance Survey 25" to 1 mile, 1893

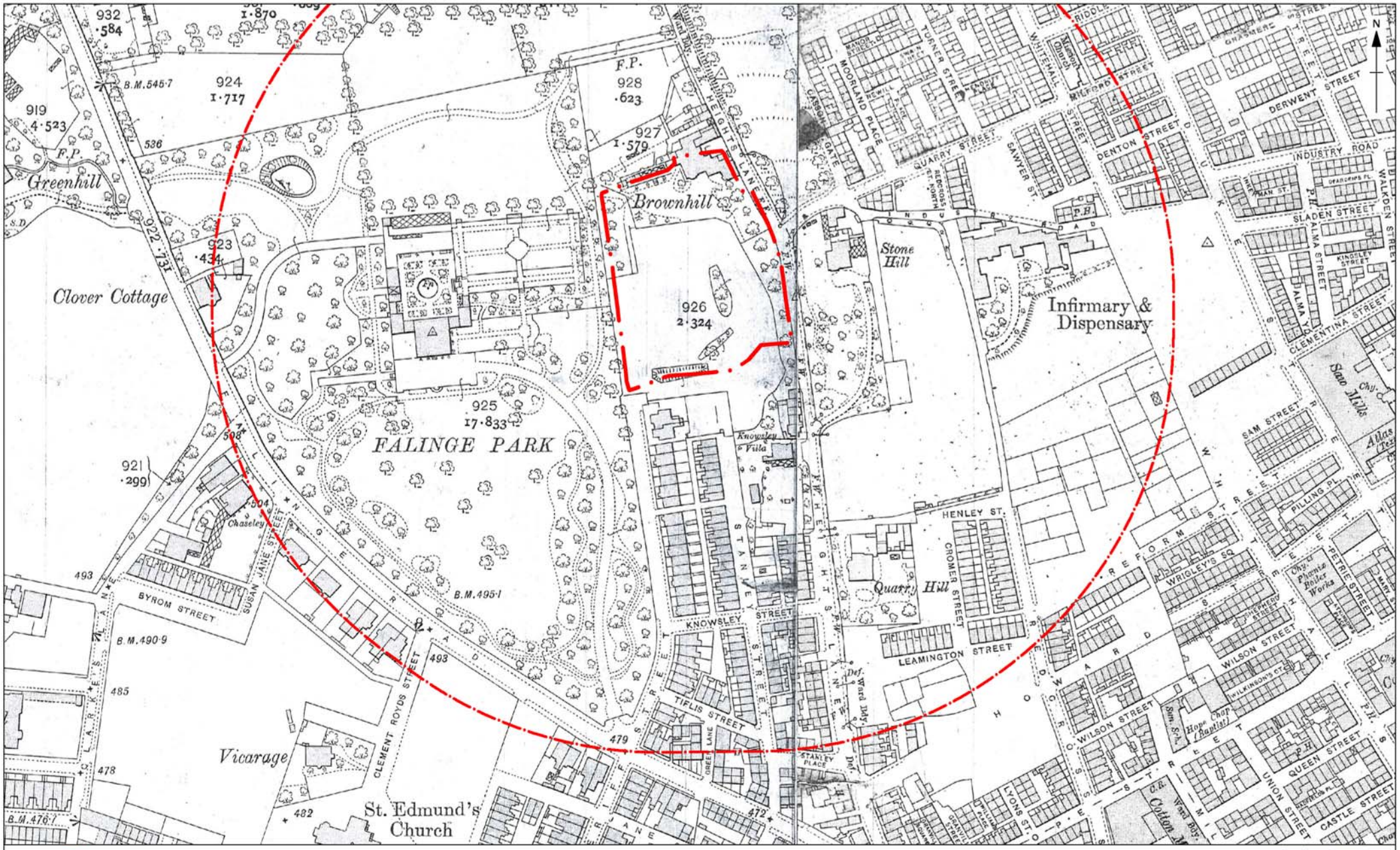


Figure 7: Extract from Ordnance Survey 25" to 1 mile, 1910

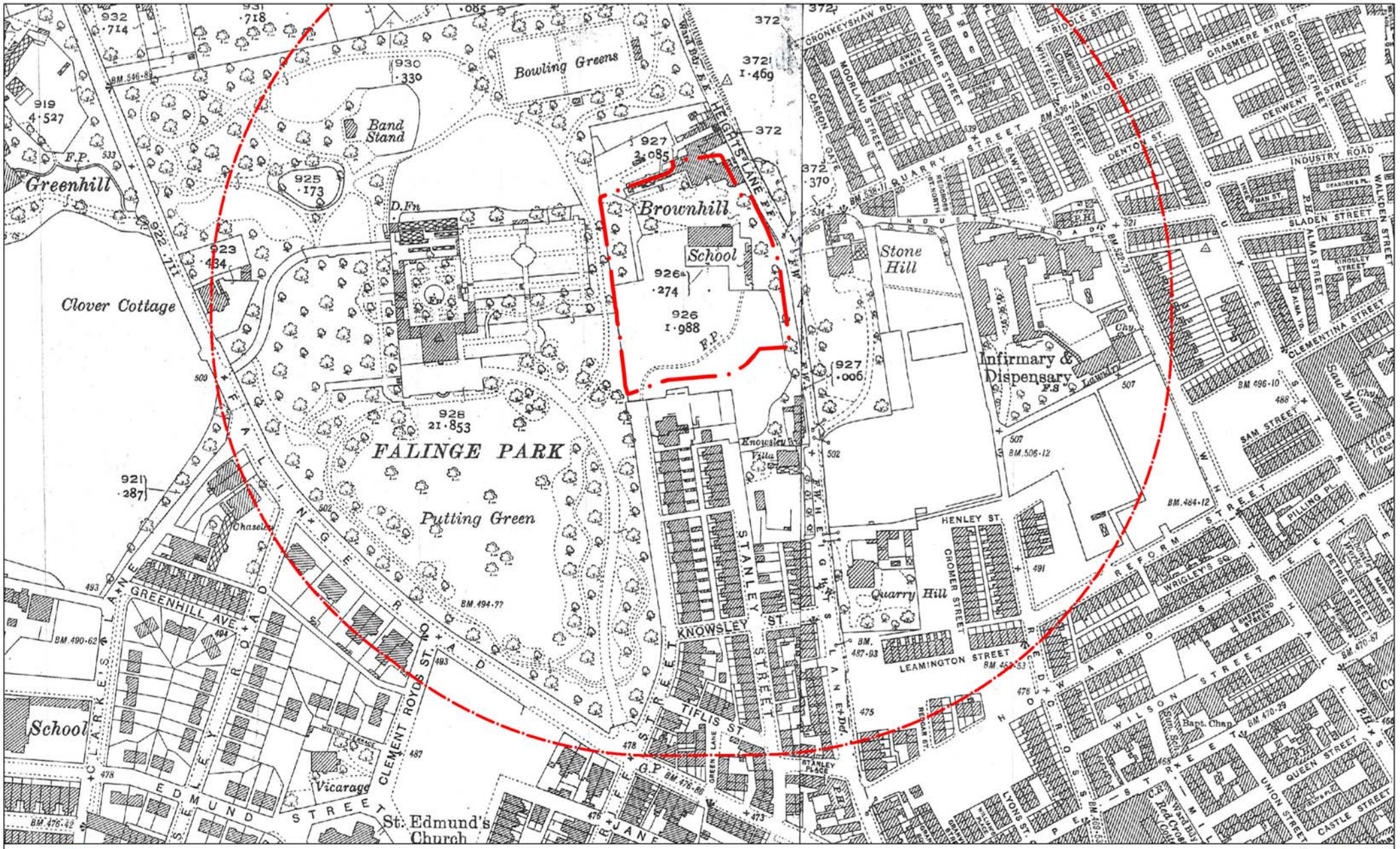


Figure 8: Extract from Ordnance Survey 25" to 1 mile, 1930

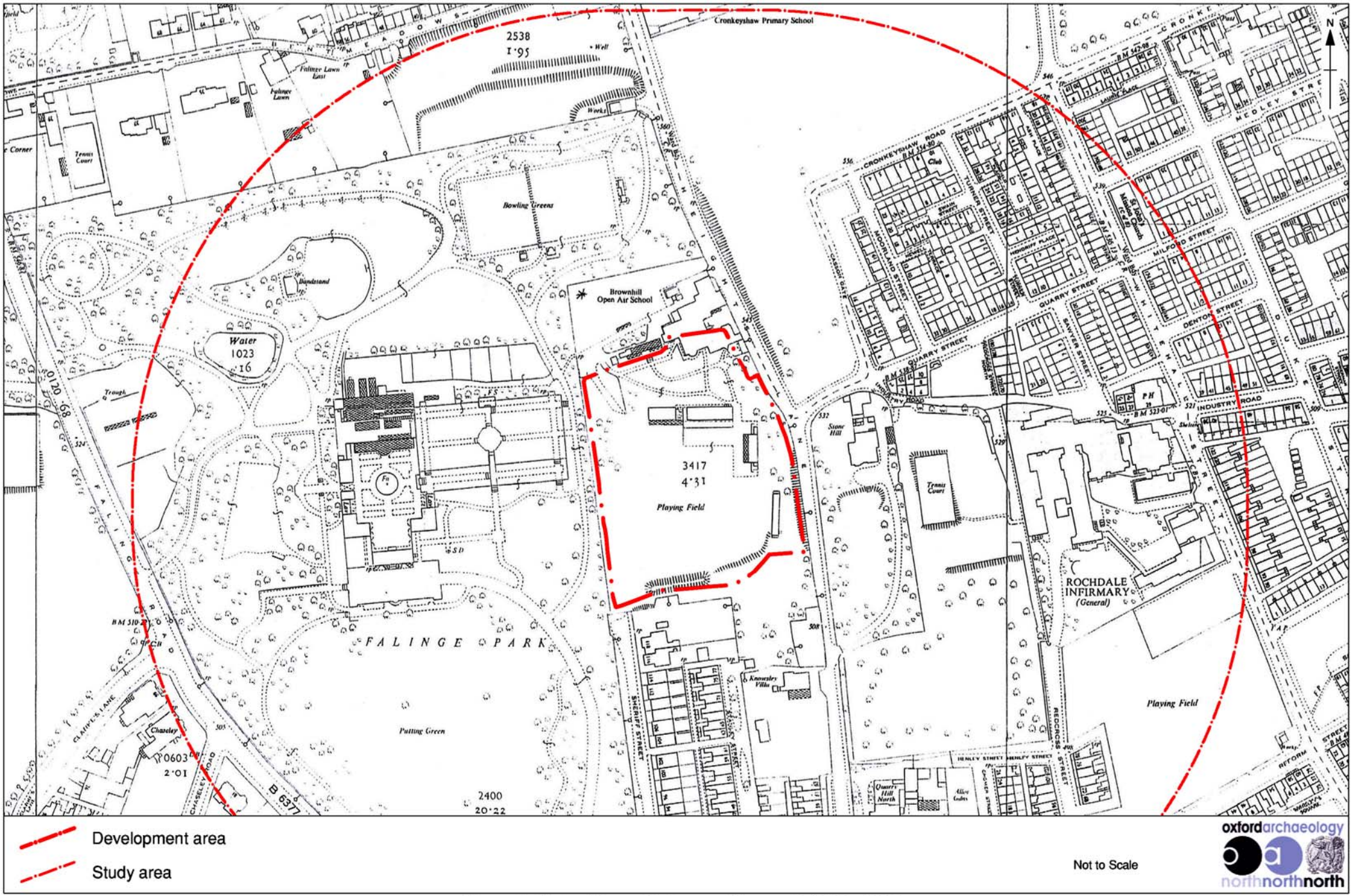


Figure 9: Extract from Ordnance Survey 1:1250, 1960

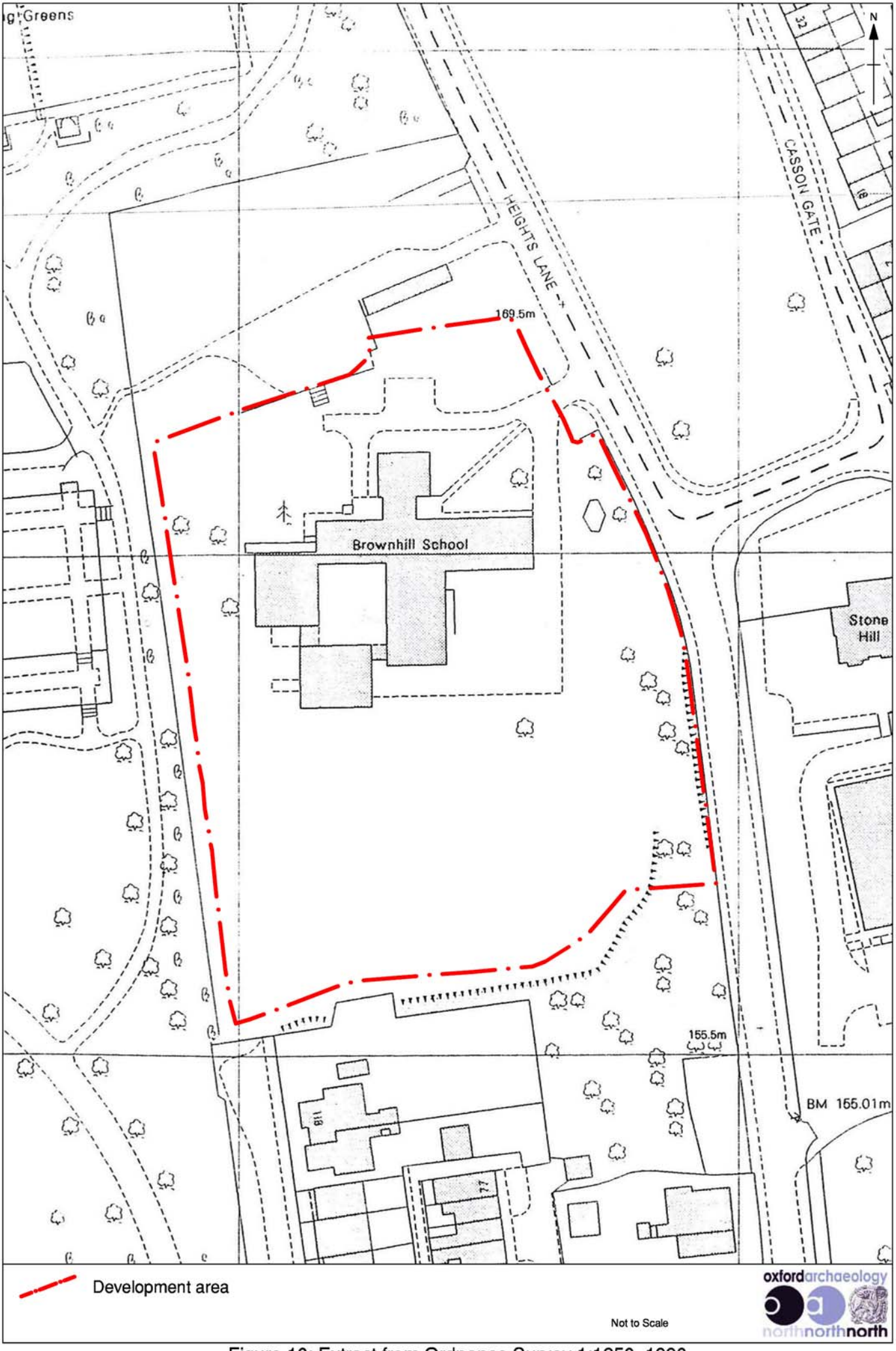


Figure 10: Extract from Ordnance Survey 1:1250, 1990

Figure 11: Locations of site investigation work

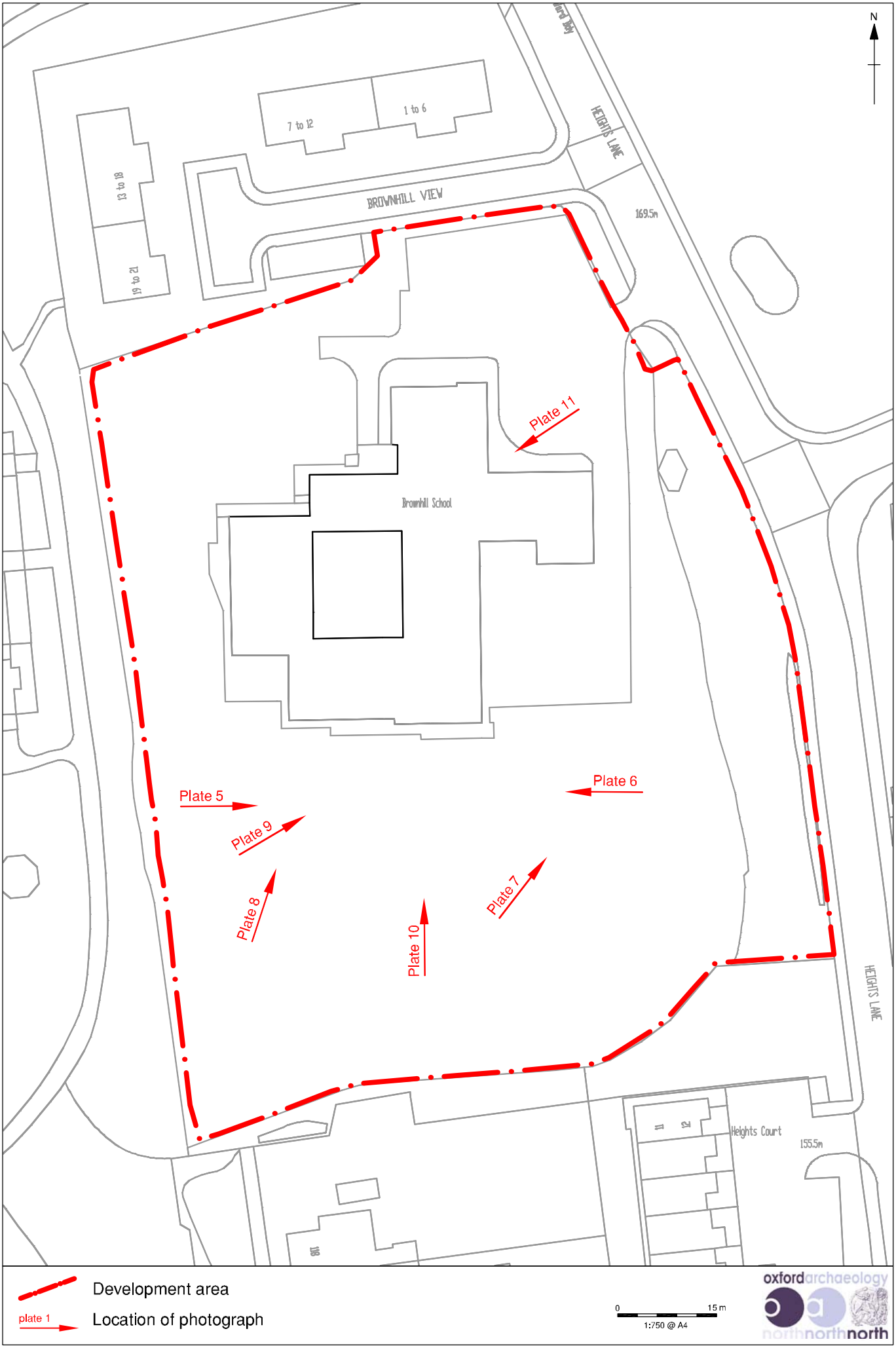


Figure 12: Location of site visit photographs

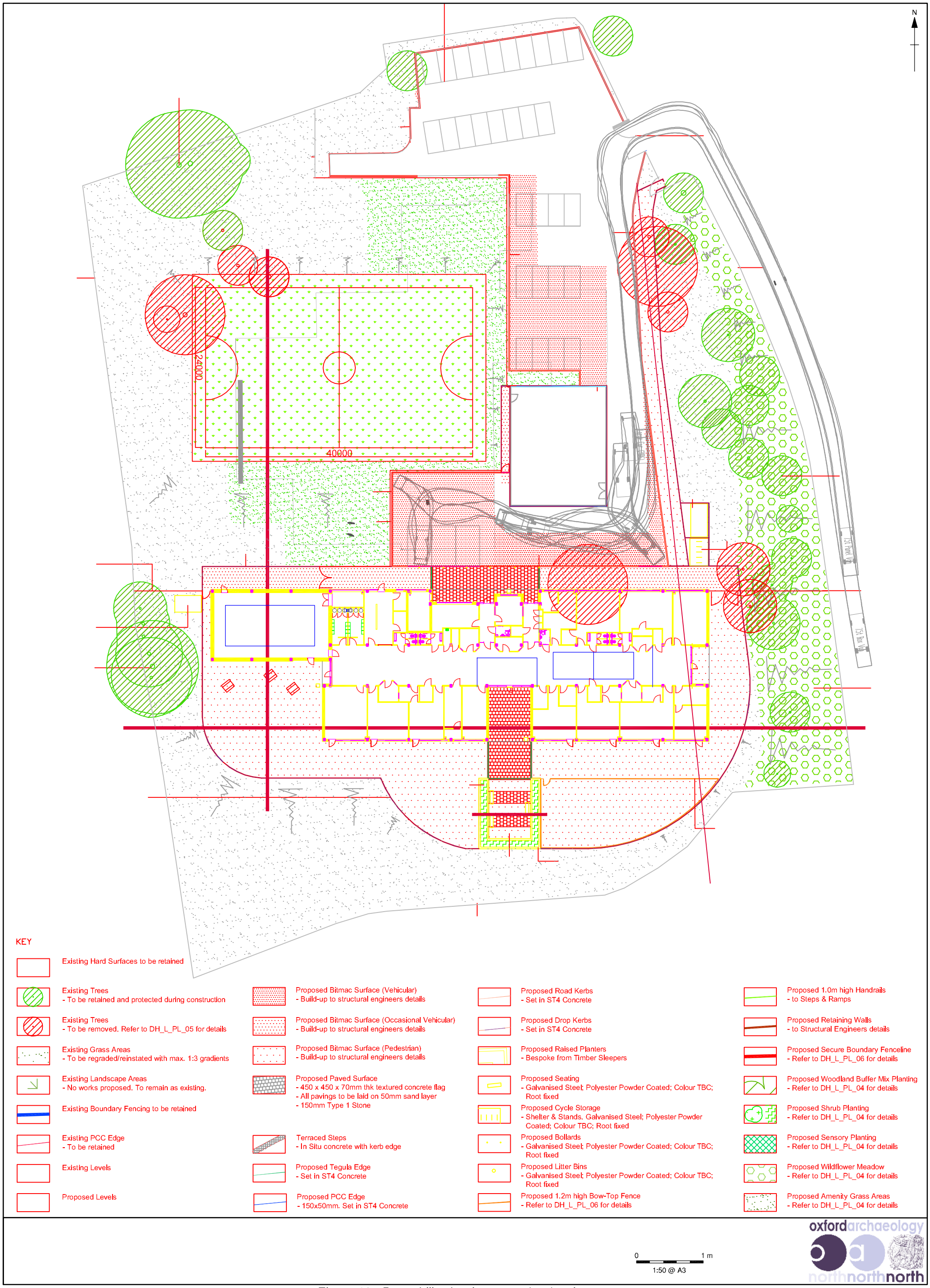


Figure 13 : Brownhill school proposed redevelopment

11. PLATES

Plate 1: Brownhill (n.d.) from Royds, 1910

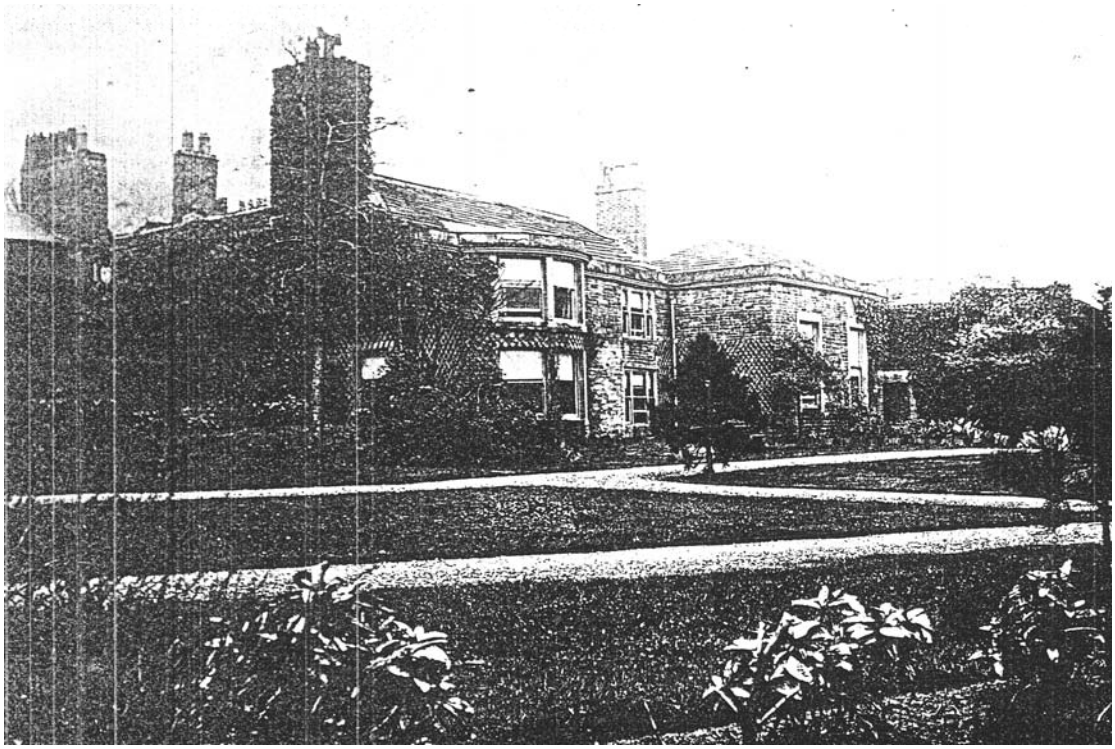
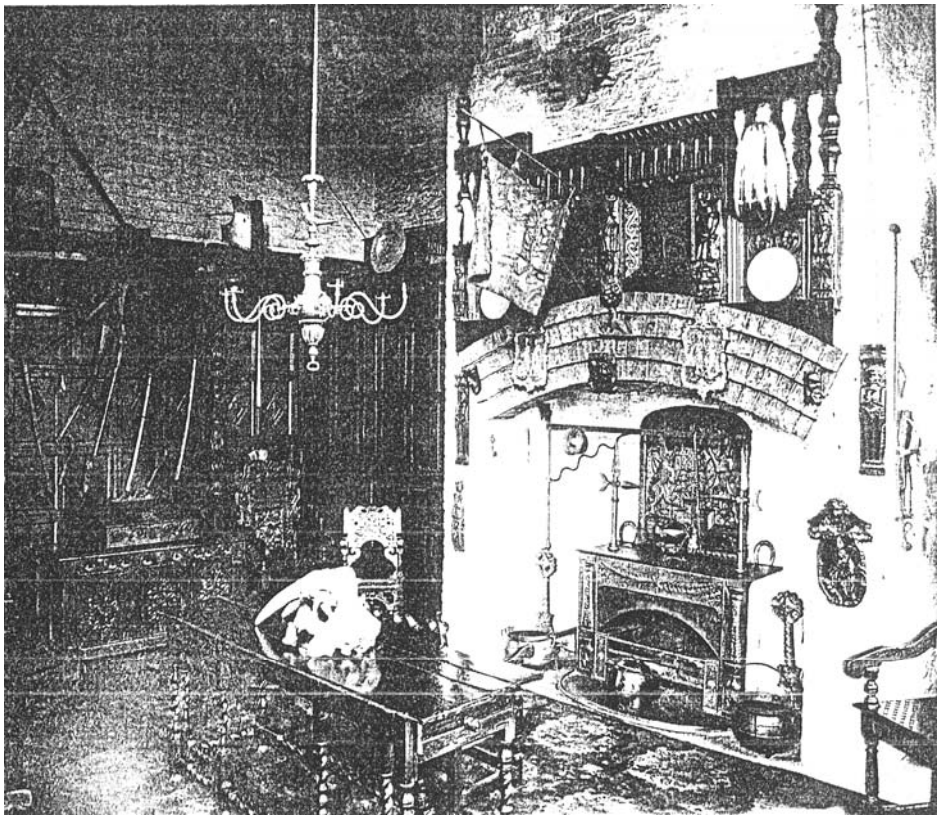


Plate 2: Brownhill (n.d.) (Brownhill file, Touchstones, Rochdale)

Plate 3: Brownhill (n.d.) (Brownhill file, Touchstones, Rochdale)



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APPENDIX 1: PROJECT BRIEF

Brief for a Programme of Archaeological Work

Site Name: BROWNHILL SCHOOL, HEIGHTS LANE, ROCHDALE, OL12 0PZ

Planning Application Reference: 10/D53829

Grid Reference: SD89331417

Issued by: Peter Leeming, GMAU

Issued to: Emily Mercer, OAN

Date: 30/11/2011

1.0 Introduction

1.1 Rochdale Metropolitan Borough Council has granted planning consent for the demolition of the existing school and the construction of a replacement school at Brownhill School, Heights Lane Rochdale. Condition 8 of the consent requires that before development proceeds a programme of archaeological work should be undertaken.

Fig.1: Location and extent of application site (outlined in red, north to top of map extract)

1.2 A conditioned programme of archaeological works is usually phased. The initial phase will be the production of an archaeological desk-based assessment. This will be followed by a phase of field evaluation informed by the results of the desk-based study. The evaluation provides vital information on the presence/ absence of below ground remains, their condition, extent and depth. Taken together the results of the documentary research and evaluation allow an informed judgement to be offered regarding the significance of the remains and the impact of the proposed development upon that significance (PPS5). Depending upon the results of the desk-based study and the evaluation recommendations may then be drawn-up for mitigating the development impact. Mitigation responses might typically include selective open-area excavation and/ or a watching brief.

2.0 Background

2.1 The Greater Manchester Historic Environment Record (HER) has a record for the site of a hall which is partly within the development site. This notes briefly that there is

documentary evidence that there was a hall on the site in 1626, when it is owned by Robert Holt, according to the manor survey, and probably as far back as 1620 as the will of Randall Hamer is written at 'Brownhill'. A dated lintel of 1633 is preserved within the school grounds. The house becomes one of the dwellings of the locally significant Royds family in 1794. Brownhill was purchased by Rochdale Corporation in 1922 and the building was adapted for its new purpose.
The building was demolished subsequently, in 1962, and the northern portion of the remains are now under Brownhill View. However, the southern portion of the site is within the redline area for the current application.
The current school have shown interest in this and they have gathered some information about this on their website:

(http://brownhill.rochdale.sch.uk/Brownhill%20History.htm acc 21/12/2010).

This contains a description of the former hall building, in considerable detail, and its demolition and the discovery of well-preserved deposits, finds and a tunnel allegedly leading to the centre of Rochdale.

3.0 Method: DBA

3.1 The DBA will draw together and consider all available cartographic, photographic, historical documentary and index records that relate to the site.

3.2 Rochdale Local Studies library should certainly be consulted for potential sources of information (i.e. directories, rate valuation books).

3.3 Where available, geotechnical data for the site should be consulted.

3.4 The analysis of the cartographic evidence should include a mapped chronological regression of the development of the site reproduced at sufficiently large a scale for detailed features to be recognisable.

3.5 The assessment should include the results of a detailed walkover survey. Particular attention should be given to recognising and mapping the location and extent of evidence for changes in ground levels and indications of the survival of below-ground remains.

3.6 A representative series of photographs should be included and the reference number, position and direction of all photographs should be clearly located on a plan or plans in the report.

3.7 Where information obtained through oral accounts or discussions is to be used to interpret the development of site, transcripts of such accounts or discussions should be included in the report.

3.8 All archaeological fieldwork should be carried out to acceptable archaeological standards. The contractor will be expected to abide by the Code of Practice of the Institute of Field Archaeologists.

4.0 Method: Evaluation

4.1 There should be an archaeological evaluation. Machine assisted trenching undertaken under close archaeological supervision should be used to identify and characterise archaeological evidence surviving across the site. The evaluation should seek to establish what the degree of preservation/ destruction is and how heritage assets will be affected by the present development. Trenching should target those potential heritage assets identified in the DBA whilst also providing a view of archaeological potential across the site.

4.2 The site contains two areas of archaeological interest. For initial costing purposes and using a toothless ditching bucket no less than 1.6m wide the evaluation should provide for a minimum of 2 x 10m trenches for the north of the site where the remains of Brownhill may be discovered during works for the access road and car parking and

for 6 x 10m trenches for the south of the site where the new build school is to be built, with a contingency of 1 x 10m trench. *A written scheme of investigation covering the evaluation phase should be prepared and submitted for agreement in advance.*

4.3 Informed by the results of the evaluation trenching a decision will then be taken regarding the need for further excavation to record evidence that may be destroyed by the proposed development. At this stage it is not possible to predict if there will be a requirement for an open area excavation or a watching brief. Any subsequent mitigation resulting from the evaluation phase will need to be costed and agreed separately.

4.4 It should be assumed that the evaluation will need to be reported separately from any subsequent mitigation. However, should the client decide that any open area excavation should continue on from the evaluation without delay (no more than two weeks) and using the same contractor then, subject to agreement with Rochdale MBC, the evaluation and open area excavation results could be presented as part of one final report.

4.5 The appointed archaeologist should inform the client as soon as is possible of any previously unbudgeted post-excavation costs that are likely to arise, and agree and secure the necessary funding for such work.

5.0 Health and Safety

5.1 Those visiting and working on the site will naturally operate with due regard to health and safety regulations.

5.2 The appointed archaeologist should undertake a site risk assessment.

6.0 Monitoring

6.1 The work should be undertaken by suitably qualified and experienced staff. Details of staff and their relevant experience should be supplied in the WSI to the Assistant County Archaeologist and agreed prior to the commencement of the project.

6.2 The Assistant County Archaeologist will require *at least one week's advanced notice of the commencement of field recording*, and may wish to visit the site and monitor the work.

7.0 Report Preparation

7.1 Bound copies of the DBA, evaluation and any subsequent mitigation report (see 4.4) should be provided for the interested parties including the client, the local planning authority, GMAU, and Rochdale Local Studies Library.

7.2 A digital copy of the reports including illustrations and photographs (PDF Format) should be submitted to GMAU on CD (with the project title, date and author noted on the CD) for inclusion in the HER.

7.3 The evaluation report should include as a minimum,

- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology
- Detailed account of the work and its results.
- Conclusion, including a confidence statement
- Supporting drawn site illustrations at appropriate scales (site plan, evaluation trench locations, plans of deposits and features, site sections [to include deposit relationships to ground surface], feature plans and sections) *Note: all CAD sections and plans must include a drawn scale*
- Selected site photographs (laser printer quality)

- Drawn finds illustrations – of representative and/ or key finds to support the interpretation of date/ site function – at appropriate scales
- Supporting data – including a basic quantification of artefacts, ecofacts and structural data tabulated and full specialist reports in appendices.
- Index to archive and details of archive location
- References
- Copy of this brief
- An electronic copy of the report (PDF) should be submitted to the HER in addition to the printed text.

8.4 Where the work is undertaken in fulfilment of a condition of planning consent, *discharge of the relevant condition will only normally be recommended by the Assistant County Archaeologist once all reports on the conditioned programme of archaeological work have been submitted and accepted.*

8.0 Submission and Deposition of Project Archive

8.1 From the outset of the project arrangements should be made for the archive, consisting of record sheets, original drawings, drawn plans, photographs, notes, copies of the all reports along with an index to the archive to be deposited with the appropriate archive repository.

9.0 Publicity

9.1 The results of the work should be made public. This may, dependant upon the results of the project, take the form of a full definitive report or a short summary published in an appropriate archaeological journal.

APPENDIX 2: SITE INVESTIGATION RESULTS

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Hole ID.
BH01
Sheet 1 of 1

Contract No.	F16010	Method	Cable Percussion	Coordinates	-
Project	Brownhill PRU				-
		Drilling Rig		Ground Level	-
Client	Mott MacDonald	Driller	PB	Orientation	Vertical
		Logged by	CN	Date Started	17/10/2007
Consultant	Rochdale MBC			Date Completed	17/10/2007

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	SPT N & (U blows)	SPT type & depth	Install-ation
Dark brown slightly clayey gravelly SAND. Gravel is angular to subrounded fine to coarse of sandstone and mudstone. Occasional subangular cobbles of sandstone and organic fragments noted (rootlets). (Disturbed Topsoil)		0.50		B2 0.00 - 0.50 ES1 0.50 B4 0.50 - 1.00			
Soft to firm mottled grey and orange brown slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone and coal. Occasional angular to subrounded cobbles and boulders of sandstone. ---from 1.00m to 2.00m no cobbles ---from 2.10m to 2.20m becomes sandy gravelly clay				ES3 1.00 B8 1.00 - 2.00 D5 1.20 - 1.65 D6 1.20 - 1.30 ES7 1.50 ES9 2.00 D10 2.10 - 2.20 ES11 2.50	S10	S 1.20 1.65	
Weak orange grey micaceous fine to medium grained SANDSTONE. Recovered as very clayey sandy angular to subrounded gravel. Orange brown discolouration (iron staining) noted along discontinuity surfaces).		2.90 3.00		D12 2.90 - 3.00	S15	S 2.90 3.05	
Cable Percussion boring complete at 3.00 m.							

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water strikes. See legend sheet for key to symbols.

Form	ARIAL CP LOG
Version	3.08
Revised	26/03/2008

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Hole ID.
BH02
Sheet 1 of 1

Contract No.	F15010	Method	Cable Percussion	Coordinates	-
Project	Brownhill PRU				-
		Drilling Rig		Ground Level	-
Client	Mott MacDonald	Driller	PB	Orientation	Vertical
		Logged by	CN	Date Started	17/10/2007
Consultant	Rochdale MBC			Date Completed	17/10/2007

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	SPT N & (U blows)	SPT type & depth	Install-ation
Dark brown clayey gravelly SAND. Gravel is angular to rounded fine to coarse of sandstone, mudstone and coal. Occasional organic fragments (rootlets) and nodules of soft orange grey sandy clay noted. (Disturbed Topsoil)		0.50		B2 0.00 - 0.50 ES1 0.50 B4 0.50 - 1.00			
Firm brown orange sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone, mudstone and coal. Frequent subrounded to very rounded cobbles and boulders of sandstone and occasional rootlets noted.				ES3 1.00 D5 1.00 - 1.20 B9 1.00 - 2.00 D6 1.20 - 1.65 ES7 1.50 ES8 2.00	C16	C 1.20 1.65	
Weathered interbedded moderately weak slightly sandy MUDSTONE and fine to medium SANDSTONE. Recovered as dark brown orange angular to rounded fine to coarse gravel and occasional subangular cobbles. Occasional coal fragments noted.		2.50 2.60		ES10 2.50 D11 2.50 - 2.60	S25/150mm	S 2.50 2.65	
Cable Percussion boring complete at 2.60 m.							

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water strikes. See legend sheet for key to symbols.

Form	ARIAL CP LOG
Version	3.03
Revised	29/03/2006

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Hole ID.
BH03
Sheet 1 of 1

Contract No.	F15010	Method	Cable Percussion	Coordinates	-
Project	Brownhill PRU				-
		Drilling Rig		Ground Level	-
Client	Mott MacDonald	Driller	PB	Orientation	Vertical
		Logged by	CN	Date Started	18/10/2007
Consultant	Rochdale MBC			Date Completed	18/10/2007

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	SPT N & (U blows)	SPT type & depth	Install-ation
TOPSOIL.							
Soft to firm mottled orange grey sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of sandstone, mudstone and coal. Occasional angular to rounded cobbles of sand and rootlets noted.		0.50		ES1 0.50			
---from 1.50m to 1.70m firm very sandy				ES2 1.50 D3 1.50 - 1.95	S16	S 1.50 - 1.95	
Medium dense orange brown slightly clayey SAND and GRAVEL. Gravel is subangular to rounded fine to coarse of sandstone and mudstone. Occasional cobbles of sandstone and rootlets noted.		1.90		ES4 2.00 D5 2.10 - 2.20 ES6 2.50			
Firm mottled grey brown sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of micaceous sandstone and mudstone.		3.10		D7 3.00 - 3.45 ES8 4.00	S13	S 3.00 - 3.45	
---from 4.50m to 4.60m becoming orange brown slightly gravelly		4.60		D9 4.50 - 4.70	S30/150mm	S 4.50 - 4.65	
Weak orange brown micaceous fine to coarse thinly laminated SANDSTONE. Recovered as loose slightly clayey sand and gravel. Gravel is subangular to rounded fine to coarse. Dark brown discolouration (iron staining) evident along discontinuity surfaces.		4.70					
Cable Percussion boring complete at 4.70 m.							

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water strikes. See legend sheet for key to symbols.

Form	ARIAL CP LOG
Version	3.08
Revised	29/03/2006

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Hole ID. **BH04** Sheet 1 of 1

Contract No.	F15010	Method	Cable Percussion	Coordinates	-
Project	Brownhill PRU				-
		Drilling Rig		Ground Level	-
Client	Mott MacDonald	Driller	PB	Orientation	Vertical
		Logged by	CN	Date Started	16/10/2007
Consultant	Rochdale MBC			Date Completed	16/10/2007

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	SPT N & (U blows)	SPT type & depth	Install-ation
Dark brown soft sandy CLAY with abundant rootlets. Occasional nodules of orange clayey medium to coarse sand. (Disturbed Topsoil)				B4 0.00 - 1.00			
		0.50		ES1 0.50			
Firm mottled orange brown slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of mudstone, sandstone and coal. Occasional rounded cobbles of sandstone and organics (rootlets) noted.				ES2 1.00 B7 1.00 - 2.00 D3 1.20 - 1.50	S15/150mm	S 1.20 - 1.50	
		1.20					
Medium dense light brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse of sandstone and mudstone.				ES5 1.50 ES6 2.00 B10 2.00 - 3.00 ES8 2.50 ES9 3.00 D11 3.00 - 3.45	C17	C 3.00 - 3.45	
				ES12 4.00			
Firm dark grey brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of mudstone (shale). Angular cobbles of micaceous medium to coarse sandstone noted.		5.00		ES13 5.00 D14 5.10 - 5.20			
		5.50		D15 5.50 - 5.70	S18/150mm	S 5.50 - 5.65	
Weathered weak orange white SANDSTONE (quartzite). Recovered as silty sand and subrounded to angular fine to coarse gravel. Abundant subangular to subrounded cobbles of sandstone noted.		5.70					
Cable Percussion boring complete at 5.70 m.							

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water strikes. See legend sheet for key to symbols.

Form	ARIAL CP LOG
Version	3.08
Revised	29/03/2006

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Hole ID. TP01 Sheet 1 of 1

Contract No.	F15010	Method		Coordinates	-
Project	Brownhill PRU				-
		Equipment		Ground Level	-
Client	Mott MacDonald			Date Started	-
		Logged by		Date Completed	-
Consultant	Rochdale MBC				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of sandstone. Coal and local brick (disturbed) (TOPSOIL).		0.30		B1	0.00 - 0.30	
		0.45		ES2	0.25	
				B3	0.30 - 0.40	
				ES4	0.40	
MADE GROUND: Grey and orange brown mottled slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, coal and local concrete. Subangular and angular cobbles of sandstone noted.				B5	0.80 - 1.20	
				ES6	1.20	
		1.35		B7	1.35 - 1.50	
Firm locally soft, orange brown and grey brown mottled slightly sandy (locally sandy) slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone, quartzite, coal and igneous lithologies.		1.50				
Brown and orange brown mottled slightly clayey SAND and GRAVEL. Gravel is subangular to subrounded fine to coarse of sandstone, quartzite, coal and igneous lithologies.						
Trial pit complete at 1.50 m.						

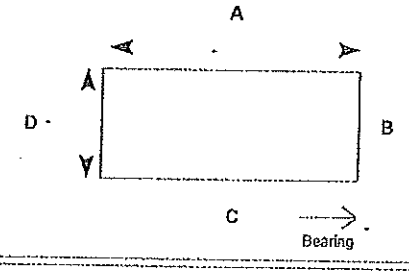
Stability

Shoring

Groundwater

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/03/2006

NORWEST HOLST

Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Hole ID.
TP02
Sheet 1 of 1

Contract No.	F15010	Method	Coordinates -
Project	Brownhill PRU		-
		Equipment	Ground Level -
Client	Mott MacDonald		Date Started -
		Logged by	Date Completed -
Consultant	Rochdale MBC		

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
Brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and coal (Topsoil).				B1	0.00 - 0.35	
				ES2	0.25	
		0.35				
Firm brown and orange brown mottled slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and coal.				B3	0.60 - 0.90	
				ES4	0.60	
		0.90				
Orange brown and dark brown mottled slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse of sandstone, coal, quartzite and igneous lithologies.				B5	1.20 - 1.50	
				ES6	1.30	
		1.50				
Trial pit complete at 1.50 m.						

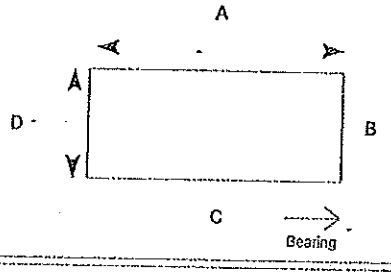
Stability

Shoring

Groundwater

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

GEO-VENTURES (UK) LIMITED
Geotechnical and Environmental Services

Site	Number
Brownhill School, Rochdale	WS1

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler				12-377
	Location	**Dates** 11/11/2011	**Engineer** Capita Symonds Structures	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						TOPSOIL			
0.20	D				(0.50)				
0.50	D				0.50	Soft / firm yellow / brown very sandy gravelly CLAY			
					(0.50)				
1.00-1.45	SPT N=18		3,4/4,4,5,5		1.00	Medium dense brown gravelly medium SAND			
1.00-1.45	D				(0.80)				
1.50	D								
1.80	D				1.80				
					(0.20)	Firm / stiff brown very sandy CLAY		▽1	
2.00-2.45	D		Seepage(1) at 2.00m.		2.00				
2.00-2.45	SPT N=7		1,2/3,2,1,1			Loose / medium dense brown gravelly medium SAND with bands of firm grey clay			
2.50	D								
3.00-3.45	SPT N=18		2,3/4,4,5,5						
3.00-3.45	D				(2.45)				
3.50	D								
4.00-4.45	SPT N=10		2,2/1,4,3,2						
4.00-4.45	D								
					4.45				
						Complete at 4.45m			

Remarks
Service inspection pit excavated by hand to 1.00m

Scale (approx)	Logged By
1:50	J. Crook

Figure No. 12-377.WS1

GEO-VENTURES (UK) LIMITED
Geotechnical and Environmental Services

Site	Number
Brownhill School, Rochdale	WS3

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler				12-377
	Location	**Dates** 11/11/2011	**Engineer** Capita Symonds Structures	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.45)	TOPSOIL			
0.20	D				0.45				
0.50	D				(0.45)	Firm brown SILT			
					0.90				
1.00-1.45	SPT N=18		2,2/3,4,5,6			Loose / medium dense brown fine / medium SAND			
1.00-1.45	D								
1.50	D								
2.00-2.45	SPT N=7		2,3/2,2,1,2						
2.00-2.45	D				(2.90)				
2.50	D								
3.00-3.45	D		Seepage(1) at 3.00m.					▽1	
3.00-3.45	SPT N=6		2,1/2,1,2,1						
3.50	D								
3.80	D				3.80				
4.00-4.45	SPT N=33		3,5/7,7,7,12		(0.50)	Firm / stiff grey CLAY			
4.00-4.45	D				4.30				
					(0.15)	Weak grey / yellow fine grained SANDSTONE			
					4.45				
						Complete at 4.45m			

Remarks
Service inspection pit excavated by hand to 1.00m

Scale (approx)	Logged By
1:50	J. Crook

Figure No. 12-377.WS1

GEO-VENTURES (UK) LIMITED
Geotechnical and Environmental Services

Site	Number
Brownhill School, Rochdale	WS4

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler				12-377
	Location	**Dates** 11/11/2011	**Engineer** Capita Symonds Structures	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	TOPSOIL		
0.20	D				0.40			
0.50	D					Firm brown very sandy CLAY with bands of brown fine sand		
1.00-1.45	SPT N=17		1,3/3,4,5,5					
1.00-1.45	D				(1.60)			
1.50	D							
					2.00			
2.00-2.45	SPT N=13		1,2/2,3,4,4			Medium dense brown fine / medium SAND becoming clayey with depth		
2.00-2.45	D							
2.50	D							
					(1.90)			
3.00-3.45	SPT N=12		2,2/3,2,3,4					
3.00-3.45	D							
3.50	D							
					3.90			
4.00-4.45	SPT N=24		2,13/6,6,6,6			Moderately weak yellow fine / medium grained SANDSTONE		
4.00-4.45	D				(0.55)			
					4.45			
						Complete at 4.45m		

Remarks
Service inspection pit excavated by hand to 1.00m

Scale (approx)	Logged By
1:50	J. Crook

Figure No. 12-377.WS1

GEO-VENTURES (UK) LIMITED
Geotechnical and Environmental Services

Site	Number
Brownhill School, Rochdale	WS5

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler				12-377
	Location	**Dates** 11/11/2011	**Engineer** Capita Symonds Structures	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35)	TOPSOIL		
0.20	D				0.35			
0.50	D					Firm / stiff brown slightly sandy CLAY		
1.00-1.45	SPT N=19		2,3/5,5,5,4					
1.00-1.45	D				(1.65)			
1.50	D							
					2.00			
2.00-2.45	SPT N=12		2,2/3,3,3,3			Medium dense brown medium SAND		
2.00-2.45	D							
2.50	D							
					(1.90)			
3.00-3.45	SPT N=17		1,2/4,4,4,5					
3.00-3.45	D							
3.50	D							
					3.90			
4.00-4.45	SPT N=38		3,5/4,3,10,21			Moderately weak yellow fine / medium grained SANDSTONE		
4.00-4.45	D				(0.55)			
					4.45			
						Complete at 4.45m		

Remarks
Service inspection pit excavated by hand to 1.00m

Scale (approx)	Logged By
1:50	J. Crook

Figure No. 12-377.WS1

GEO-VENTURES (UK) LIMITED
Geotechnical and Environmental Services

Site	Number
Brownhill School, Rochdale	WS6

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler				12-377
	Location	**Dates** 11/11/2011	**Engineer** Capita Symonds Structures	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.40)	TOPSOIL			
0.20	D				0.40				
0.50	D					Firm to firm / stiff brown sandy CLAY			
1.00-1.45	SPT N=15		2,4/4,4,3,4		(1.20)				
1.00-1.45	D								
1.50	D				1.60				
						Medium dense brown gravelly fine / medium SAND with bands of firm grey clay			
2.00-2.45	SPT N=14		3,2/3,3,4,4						
2.00-2.45	D								
2.50	D								
3.00-3.45	SPT N=24		3,3/4,6,7,7		(2.85)				
3.00-3.45	D								
3.50	D								
4.00-4.45	SPT N=12		3,1/2,2,4,4						
4.00-4.45	D								
					4.45				
						Complete at 4.45m			

Remarks
Service inspection pit excavated by hand to 1.00m

Scale (approx)	Logged By
1:50	J. Crook

Figure No. 12-377.WS1