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Coalbournhill Glassworks,
Amblecote,
Dudley MBC
Archaeological DBA
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**COALBOURNHILL GLASSWORKS, AMBLECOTE
Dudley MBC**

Archaeological Desk-Based Assessment and Evaluation

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For

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SUMMARY

An archaeological desk-based assessment and evaluation were undertaken for the Ruskin Mill Educational Trust at the Glassworks College, Amblecote, Stourbridge, centred on NGR SO 8968 8547. The assessment comprised a search of the readily accessible documentary and historic cartographic sources and a site walkover. The evaluation was carried out to determine the character, extent, date, state of preservation and the potential significance of any buried remains, specifically the former glasscone and ancillary structures towards the east of the site. The work was carried out in support of an application for funding to restructure the College site.

The desk-based assessment identified three zones of archaeological survival within the development site. Zone 1, which occupies the northwest corner of the site is the location of the former Coalbournbrook glassworks, which was established in the late 17th century, and which continued to produce glass until 1785. Zone 2, which forms the northeast corner of the site contains the historic core of the Coalbournhill glassworks, another late 17th-century enterprise that continued into the later 19th century. The desk-based assessment indicated high potential for the survival of below-ground archaeological remains pertaining to the glassworks in both these zones. In contrast, Zone 3, which makes up the southern portion of the site, and which was also occupied by the Coalbournhill glassworks, was not developed as early as the other two zones, becoming the focus of glass production only in the 20th century. Consequently, its main interest lies in the grade II listed Harlestons House, the residence of the glassworks owner.

The excavation of evaluation trenches in Zone 2 was undertaken to confirm the location of one of the Coalbournhill works glasscones that had been suggested by the documentary sources. The main evaluation trench, which was 23m in length by 1m wide, extended right across the cone so that both sides were revealed, thereby allowing the diameter to be calculated at in excess of 17m. Two further trenches extending north from the main trench were 7.5m and 5m long respectively. Generally, the remains were found to be in a very good state of preservation, which included the outer wall foundations, the floor surface within the cone and the firing tunnels beneath it.

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1 INTRODUCTION

1.1 Background to the Project

- 1.1.1 In September 2008 Birmingham Archaeology carried out an archaeological desk-based assessment and specifically targeted evaluation of the former Coalbournhill glassworks at Amblecote, Dudley MBC (hereafter referred to as the study area). The former Coalbournhill glassworks site currently houses the Glasshouse College, an educational centre run by the Ruskin Mill Educational Trust. The Trust is preparing an application for funding to restructure the College site, the plans for which include the construction of new frontage buildings on the footprint of formerly existing structures associated with the historic glassworks. This work was carried out in support of the application.
- 1.1.2 This report outlines the results of the investigation, which was prepared in accordance with the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Desk-Based Assessment* (IFA 2001), and *Standard and Guidance for Archaeological Field Evaluation* (IFA 2001). The WORK conformed to a Written Scheme of Investigation (Birmingham Archaeology 2008, Appendix A) which was approved by the Local Planning Authority prior to implementation, in accordance with guidelines laid down in Planning Policy Guidance Note 16 (DoE 1990).
- 1.1.3 This report has been prepared based upon information current and available as of 22/09/2008. Details of archaeological terms used in this report are given in the glossary appended as Appendix B.

2 SITE LOCATION

2.1 Site Location

- 2.1.1 The former glassworks (Figs 1, 2, and 3) is situated in Amblecote, Stourbridge, West Midlands centred on grid reference SO 8968 8547, and bounded by High Street Amblecote (northeast), Wollaston Road (northwest), Coalbourn Lane (southeast) and the Stourbridge Canal (southwest).
- 2.1.2 For the purposes of the desk-based assessment, a buffer zone of 200m around the development site boundary has been included to place the site within its immediate archaeological and historical context. The development site and buffer zone together are referred to hereafter as the 'study area'. Where relevant, sites located beyond the study area have been included, where they have been shown to be of direct significance to understanding the study area within its local context.
- 2.1.3 In addition, for ease of explanation, the development site has been divided into three distinct sections or zones, each zone is described in detail in section 7.2 below (Fig. 4).

2.2 Geology

2.2.1 The underlying geology of the study area comprises sandstone bedrock, while the nearby coal-measures and beds of fireclay are significant features of the region. This sandstone bedrock is overlain by superficial layers of marl. The study area is located close to the canal and the Coalbourn Brook, and it occupies some of the more low-lying land in this area.

2.3 Statutory Designations

2.3.1 The development site is bounded to the west by the Stourbridge Branch Canal, which forms part of the Stourbridge Branch Canal Conservation Area (Amblecote).

2.3.2 The development site does not contain any Scheduled Ancient Monuments (SAMs); however it does contain 'Harlestons' House, a Grade II listed building.

2.3.3 In addition, the wider study area includes two further statutory listed buildings/structures. Both are post-medieval in date and relate to the late 18th-century Dennis Hall. See Table 1 below.

3 AIMS AND OBJECTIVES

3.1 General Aims and Objectives

3.1.1 The general aim of the project was to collate existing archaeological and historic information relating to the proposed development site and its immediate environs (the study area), to enable informed decisions to be made regarding any further archaeological input which may be required by means of mitigation as the proposed development proceeds through the planning process.

3.1.2 The objective of the desk-based assessment was to gain an understanding of the archaeological and historical development of the development site and wider study area, and thereby assess the potential for the survival of below ground archaeological remains. A more specific aim was to locate and record the position of the former glass cone and its ancillary structures.

3.1.3 The principal aim of the evaluation was to determine the character, extent, date, state of preservation and the potential significance of any buried remains, specifically the former glass cone and ancillary structures towards the east which occupied the space adjacent to Amblecote High Street.

4 METHODOLOGY

4.1 Documentary Research

4.1.1 A search was made of all relevant and readily available published and unpublished source material, including historic maps and photographs of the site, held by Dudley Archives, Worcestershire Record Office, and the libraries of the University of Birmingham. Dudley Historic Buildings, Sites and Monuments Record (DMBC HBSMR), the principal source of archaeological data for the borough, was also consulted.

4.2 Walkover Survey/ Site Assessment

- 4.2.1 Subsequent to the completion of initial documentary research as outlined above, a walkover assessment of the proposed development area was undertaken in order to assess the topography, current conditions, and assist in assessing the potential for below ground archaeology.

5 GENERAL ARCHAEOLOGICAL AND HISTORICAL CONTEXT

This section of the assessment summarises the known archaeological and historical development of the study area within the context of the development of glassmaking in Amblecote and the wider area; the development of the study area and development site itself is described in more detail in Section 6 below.

5.1 The Wider Historical Context

- 5.1.1 The significance of the West Midlands and Staffordshire in respect of their industrial heritage is well known: the development and importance of the glass-working industry is a demonstrably important component of this heritage (Crossley 1991 and 1996).
- 5.1.2 Glass working in the Midlands has been documented as early as the 13th century, but it was not until the post-medieval period that the region witnessed a major expansion of the industry, through the impetus caused by the arrival of glass-working families from Lorraine in the mid-16th century (Brook 1977, 27). Fifty years later, at the turn of the 17th century, some of these families had settled in the Stourbridge district where two factors – the excellent qualities of the clays needed for the crucibles, and the numerous collieries to provide the necessary fuel-combined to offer ideal locations for the building of the glassworks

5.2 Glassmaking in Amblecote

- 5.2.1 By 1623, two glassworks are recorded at Amblecote, at Holloway End and Withymoor (VCH 1984, 58). By 1696, there were said to be 17 glassworks operating in the Stourbridge district, engaged in the manufacture of window glass, bottles and flint, green and ordinary glass (Hadden 1977, 14). The industry was characterised by familial links, with the names Tyzack, Henzey, Rogers, Bradley and later Ensell recurring throughout the area. A drop in demand for the traditional broad glass was responsible in part for a decline in the industry during the first half of the 18th century. However, the industry survived and adapted with a wave of scientific experimentalism, during which the famous Stourbridge lead crystal was developed.
- 5.2.2 At Coalbournbrook itself, the technology to make sheet glass and a new annealing technique using a tunnel-type of lehr or furnace were conceived (Brook 1977, 27; VCH 1979, 228). By 1760 there were said to be 10 glasshouses in the Stourbridge area, a figure which represents at least a quarter of the total number of glass working sites in the country (Guttery 1956, 51). The glass manufacturers were quick to invest in the construction of the Stourton to Stourbridge Canal, and its opening in 1779 created obvious benefits for the industry in terms of the transportation of finished goods to the Midlands and the North, and the movement of raw materials to the local glasshouses (VCH 1979, 228).

- 5.2.3 One of the characteristic features of glasshouses - the brick 'cone' - had been developed late in the 17th century. Equipped with a substantial underground flue system, these cones were designed to assist the flow of air and thereby create hotter temperatures. Glass cones may be defined as "giant workplaces enclosing a furnace around which teams of glass-makers worked" (Brook 1977, 27). Over the next two centuries, the urban landscape of Wordsley and Amblecote was dominated by these large structures. Only one now survives in its entirety within the region.
- 5.2.4 Rigidly-enforced excises took their toll on the British glass-working industry during the period 1785-1835 (Vose 1980, 124), and by 1830, Birmingham and Dudley had overtaken Stourbridge as glass working centres (Brook 1977, 27). However, the repeal of taxes in 1845 and the Great Exhibition of 1851 gave the trade a boost, with several Stourbridge firms represented at the Exhibition. During the latter part of the 19th century, and in the 20th century, the glass industry adapted and evolved to suit the contemporary fashions, with an increased emphasis on the revived technique of sculpting glass by hand, and the manufacture of finely-cut crystal.

6 THE HISTORICAL DEVELOPMENT OF THE STUDY AREA

This section of the assessment describes the known archaeological and historical development of the study area including the proposed development site. It is based upon information current and available as of September 22nd 2008. Other areas of archaeological or historical importance, not presently recorded, may be identified during any subsequent phases of field investigation.

6.1 Known Archaeological Sites

- 6.1.1 A total of twenty entries are registered on the Dudley MBC HBSMR within the study area; of these, three are located within the development site itself. These are summarised in tabulated form below and locations are illustrated in Fig. 2.

TABLE 1: Sites registered with the Dudley Metropolitan Borough SMR within the Development Site and wider Study Area (see Figure 2).

SMR Ref. No.	Type*	Site name/description	NGR	Period/Date
DMBC 7589	AS	Coalbournbrook Fishponds	SO 88576 84379	Medieval
DMBC 5865	AS	Stourbridge Branch Canal	SO 89627 85408	Post Medieval
DMBC 10175	HB	Canal Cottage	SO 88262 84291	Post Medieval
DMBC 4834	AS	Site of Wollaston Road Glasshouse	SO 8965 8558	Post-medieval
DMBC 4117	LLB	Tram Depot of Kinver Light Railway	SO 89740 85555	Post-medieval
DMBC 10174	HB	34-36 High Street	SO 88386 84269	Post-medieval
DMBC 4838	AS	Site of Coabournbrook Glassworks	SO 8959 8549	Post-medieval
DMBC 4806	AS	Coalbournhill Glassworks	SO 8968 8546	Post-medieval
DMBC 4712	AS	Site of Wollaston Mill	SO 89527 85396	Post-medieval
DMBC 891	LB	Harlestons House	SO 89718 855476	Post-medieval
DMBC 12279	HB	Sankey House	SO 8980 8535	Post-medieval
DMBC 7133	HB	102-111 High Street	SO 89812 85317	Post-medieval
DMBC 7160	HB	Hospital Lodge and Gate	SO 89872 85238	Post-medieval
DMBC 4835	AS	Site of the Platts Glassworks	SO 8948 8574	Post-medieval
DMBC 4808	AS	Site of Parkfield Glassworks	SO 8967 8575	Post-medieval
DMBC 4807	AS	Site of Dennis Glassworks	SO 8985 8578	Post-medieval
DMBC 885	LB	Dennis Hall	SO 89866 85730	Post-medieval
DMBC 892	LB	Dennis Lodge	SO 89612 85810	Post-medieval
DMBC 7664	HB	The Hill/Corbett Hospital	SO 89836 85387	Post-medieval
DMBC 12280	HB	Summerhouse in the garden of 113 Coalbourne Lane	SO 8978 8543	Post-medieval

*** Site Classification:**

SAM: Scheduled Ancient Monument
HPG: Historic Park or Garden
AS: Archaeological Site
FS: Archaeological Findspot

PAW: Previous Archaeological Work
LB: Listed Building
LLB: Locally Listed Building
HB: Historic Building

6.2 Historical and Archaeological Profile

- 6.2.1 The focus for medieval settlement in the area consisted of the main Wolverhampton to Stourbridge road (the modern A491) with settlement of the 'Platts' to the northwest of the study area occurring by the late 12th or early 13th century, and at Holloway End, to the southeast, by 1540 (VCH 1984, 49). By the 16th century, the exploitation of the coal measures and clay beds was well established. Indeed, in the 17th century the fireclay found at Amblecote was considered to be the finest in the country (VCH 1984, 49).
- 6.2.2 The name 'Coalbournbrook' appears to have come into use by the late 17th century (VCH 1984, 49). It would appear that two separate glassworking concerns lie within the development site. The first is called Coalbournbrook (DMC HBSMR 4838); the second lies further to the east and is referred to as Coalbournhill glassworks (DMC HBSMR 4806). It has not always been possible to disentangle the respective histories of these glassworks from the sources.
- 6.2.3 The founding of the Coalbournbrook glassworks to the south of Wollaston Road may be traced to the late 17th-century and the well-known glass entrepreneur Thomas Henzey. In 1692 he leased Harlestons field at Coalbournbrook and built a glasshouse where his second son, John, ran the new venture, branching out into the manufacture of flint glass and bottles, in addition to the traditional broad glass production. Thomas Henzey went on to build a further two glassworks, the nearby 'Dial' and 'Platts' (Guttery 1956, 52).
- 6.2.4 The Coalbournbrook works persisted through the 18th century with mixed fortune. The owner in the 1760s, Elijah Barrar, was declared bankrupt in 1767, and, the following year, the works were let to John Pidcock, George Ensell and Richard Bradley. Ensell, who became sole owner in 1774, went on to achieve notoriety for his innovation in the technology of glass. In 1778 he won a prize of £50 from the Society for the Encouragement of Arts Manufacture & Commerce for his development of sheet glass manufacture, while two years later, in 1780, he perfected the new tunnel-type of lehr, thus increasing the level of control over the production process (VCH 1984, 59; Guttery 1956, 97; Ellis 2002, 163-5). In 1785, however, the Worcester Journal reported that "*this house of Mr George Ensell at Coalbournbrook fell almost entirely in ruins to the ground*". The report ends on a more optimistic note: "*the damage we understand will not be so great as was at first apprehended*". This incident marked the end of glass production at the Coalbournbrook works. George Ensell transferred his activities to Holly Hall and later Wordsley Flint glassworks (Ellis 2002, 166). Richardson, writing in the 1880s, mentions that the ruined remains of the lehr were visible during his lifetime (Boland *pers comm*). A firebrick works was operating on the site by the mid-19th century.
- 6.2.5 The second glassworks situated within the study area is the Coalbournhill glassworks, which is located immediately to the southwest of the Wollaston Road and High Street junction. This has a similarly early

foundation date of 1691, with a certain Thomas Bradley responsible for building the works (DMC HBSMR 4806). A house associated with the works was occupied by a John Bradley up to 1714. Flint glass, and, later on, broad glass, bottles and phials, were manufactured at these works during the 18th century. Two cones were also erected, which, by the turn of the 19th century, were both engaged in the production of bottles. The works changed hands on a number of occasions during the 18th and 19th centuries, including, in 1839, a takeover by Joseph Stevens, whose advert of 1844 promotes "*Cut Glass of Every Description*", and clearly depicts the two cone structures (Plate 1). One of the cones was converted into a works for making flint, pressed and ruby glass, and it would appear that for a short period it was run as an entirely separate concern. This change in manufacture may have been the reason for the alteration and remodelling of one of the cones which appears to have taken place by the mid-19th century. Its funnel-like appearance is clearly shown in the photograph of 1898 (Plate 2). In 1892, the works fell out of use until their purchase in 1914 by Thomas Webb and Corbett Ltd. Both of the cones were demolished in the 1960s and they now lie under tarmac (DMC HBSMR 4806). The remaining, modernised glassworks became part of the Royal Doulton Group in 1969 (Brook 1977, 193; VCH 1984, 59).

- 6.2.6 A grade II listed large 19th-century house lies immediately within the study area, immediately to the south of the Coalbournhill glassworks (DMC HBSMR 891). Referred to as Harlestons House, but listed as No. 116 High Street, this house comprises two storeys, four windows and is neatly panelled, pilastered and rusticated. This structure is clearly depicted in the 1844 print (Plate 1).

7 MAP REGRESSION

7.1 Early Maps

- 7.1.1 The available early maps provide an excellent understanding of the development of the study area and development site from the late 18th-century onwards.
- 7.1.2 The first detailed cartographic representation of the Amblecote area was a map of 1769 by Robert Williamson (Fig. 5). This map clearly shows two separate glassworks located within the development site. One was located in the northwest corner of the current site adjacent to the canal (Coalbournbrook Glassworks), and was depicted by a beehive-shape glasscone and an ancillary building. The other glassworks, Coalbournhill Glassworks, was shown in the northeast corner of the development site adjacent to the present High Street, with a similar glasscone surrounded by a number of ancillary structures.
- 7.1.3 A canal map of 1774 (not illustrated) depicts the Coalbourn Brook (denoted here as "Coalburn"), the Wollaston Road, High Street and the intended cut of the canal. Both of the glasshouses located in the study area are depicted by a single mark, and reference to the "Messrs Ensell and Hills Glass Houses", Ensell being the owner of Coalbournbrook, and Hill the owner of Coalbournhill.
- 7.1.4 The next detailed map of the area is John Snape's plan 1785 of the intended extension of the Dudley Canal into the Birmingham Canal (Fig. 6). In this map the canal, principal roads and many of the industrial

concerns within the area are depicted. Neither of the glasshouses at Coalbournbrook is mentioned by name, although a circular mark may be taken to indicate the presence of a cone adjacent to the canal where the Coalbournbrook glassworks was located, and two rectangular blocks associated with this structure presumably represent other glassworks buildings. These structures are set within a square enclosure adjacent to another rectangular plot immediately to the southwest of the Wollaston Road and High Street junction (the location of the Coalbournhill works) where a single rectangular structure is depicted. Two further buildings, one rectangular and one circular, are illustrated to the north, on the other side of the Wollaston Road and High Street junction. None of the other maps consulted depicts a third glasshouse in this particular location, and it is possible that this cone actually relates to the Coalbournhill works. Given the stylised nature of this map, the precise nature and locations of these structures are difficult to discern with accuracy.

7.1.5 A Plan of the Amblecote area compiled in 1799/1800 (Fig. 7) shows a circular structure (presumably a glasscone) in the northwest corner of the development site, *i.e.* Coalbournbrook Glassworks. Adjacent to this is the canal and what are assumedly associated glassworks buildings. The remainder of the development site appears to be undeveloped at this time. One interesting feature of note is the presence of what appears to be another glasscone in the space immediately outside the development site between the two glass manufactories.

7.1.6 An early 19th-century plan of Amblecote (Fig. 8) depicts the river, canal, roads, field boundaries and structures, and the names of some of the fields and their owners are labelled. Within the study area three separate plots are portrayed, of which the first, adjacent to the canal, comprises a rectangular-shaped plot described as belonging to "Mr Insall", a corruption of 'Ensell', the owner of the Coalbournbrook glassworks. Three structures are depicted close to the canal bridge, the northwest corner of the study area. One is rectangular, another L-shaped, and the third is evidently a cone. This map is, perhaps, portraying the remains of the collapsed works (see section 6.2. above). Alternatively, the structures may relate to the new firebrick works which were built on this location. In the northeast corner of the development site the Coalbournhill works are depicted as a rectangular building attached to a circular one, presumably a cone.

7.1.7 The final pre-Ordnance Survey map is the 1839 Tithe Map of the Parish of Amblecote (Fig. 9). This map shows the level of expansion within the development site since the previous map. The Coalbournhill Glassworks had outgrown its neighbour with a number of buildings present that can be seen on the later maps and may possibly form part of the complex today. These included the main glassworks building which is known to have had two glasscones, and a number of associated structures.

7.2 Ordnance Survey Maps

7.2.1 Given the detail of representation on the Ordnance Survey maps, it is helpful to consider the study area in terms of three zones (See Fig. 4). The 1st Edition Ordnance Survey map 1885 (Fig. 10) provides an excellent insight into the development of Amblecote since the previous detailed map produced in 1839.

- 7.2.2 Zone 1 may be taken as comprising the land in the northwest corner of the study area, in which the Coalbournbrook glassworks was located. This map shows a rectangular structure, with a cluster of smaller buildings immediately to the south and east. These buildings were surrounded by open ground, with the main entrance being from the northeast corner of the site. On the south side of the site, hachures depict the falling away of the land towards a canal basin extending from the canal into the premises.
- 7.2.3 Zone 2 lies immediately to the southwest of the Wollaston Road and High Street junction, and is characterised by the presence of the Coalbournhill glassworks structure, a large block, which, from its very irregular shape, can be assumed to represent a number of sub-buildings. The two cones of the glassworks are not depicted individually and it is assumed that they lie within this large block. Hachures indicating what would appear to be a clay pit are situated immediately to the north of the structure, while a public house is located at the northeast corner next to the road junction. This structure presumably represents a continuity of the building depicted in the same location 1785 and early 19th-century maps.
- 7.2.4 Zone 3 comprises the area to the south of both zones 1 and 2. It encompasses Harlestons House, which lies within a rectangular plot immediately to the south of the main Coalbournhill glassworks. Further rectangular plots and structures were situated to the south, and, further to the west, several large structures are illustrated and are presumably related to the Coalbournhill glassworks complex. Adjacent to the canal, hachures again denote what may be a clay pit, which is surrounded by several plots of open ground.
- 7.2.5 The Revised 1st Edition Ordnance Survey map 1903 (Fig. 11) shows very little change from the 1st Edition map within the study area. It would appear that, with the exception of the infilling of the canal basin in Zone 1, little alteration was undertaken within the development site in the period between the 1885 and 1903 editions. The 1903 map illustrates the survival of virtually all the buildings shown in 1885 with the exception of several very small structures to the southeast of the buildings in Zone 1. The plan of the main Coalbournhill glasshouse is more clearly depicted and it is possible to pin-point two stretches of curving wall related to the two cones.
- 7.2.6 The 2nd Edition Ordnance Survey map of 1920 (Fig. 12) shows that a further small building had been demolished in Zone 1, leaving just the basic rectangular building complex. Open ground remained around this block, except to the east where four long rectilinear plots had been laid out and semi-detached houses built within them. Zone 3 remained largely unchanged, the two cones, now clearly identifiable within the main block. Zone 3 was similarly unaltered.
- 7.2.7 The 1st Edition NG Series Ordnance Survey map 1938 (Fig. 13) shows no alteration to Zone 1, but in Zone 2, the main Coalbournhill glassworks building had been extended to the north to encompass the open ground between the building and the Wollaston Road. In Zone 3, the land to the south had also undergone change, with substantial extensions having been made to the pre-existing rectangular structure.
- 7.2.8 The 2nd Edition NG Series Ordnance Survey map 1965 (Fig. 14) shows that the structure in Zone 1 is labelled here as "Coalbournhill House";

open ground remained around it. There had been no alteration to the plan of the large glassworks structure in Zone 2 and the building immediately to the south of it appear to have remained unchanged. More building work seems to have been undertaken in Zone 3, with the construction of further extensions to existing structures. This complex of separate buildings is labelled "Coalbournhill Glass Works", indicating that the focus for any remaining glassworking was situated here, rather than at the large building to the north. The extensions of these structures may have encroached slightly on the area where the hachures in earlier editions of the maps indicated the existence of a clay pit.

- 7.2.9 The small scale of the 1:10,000 NG Series Ordnance Survey map 1995 (Fig. 15) inhibits the identification of detail. The only significant change to have taken place since the 1965 survey appears to have been the demolition of the structure labelled "Coalbournhill House" in Zone 1. This area was now depicted as open ground.

7.3 Historic Plans

- 7.3.1 A number of 19th and early 20th-century Sale Catalogue Plans are also in existence for the Coalbournhill Glassworks.
- 7.3.2 The first of these, which dates from 1886/7 (Fig. 16) shows the continuing pace of development on the site in the 20 years since the Tithe Map. A number of buildings had been demolished and rebuilt or extended, the main glassworks building continued to expand, and a number of new buildings had been constructed. Another interesting feature to note is the fact that the canal basin appears to have been extended towards the Coalbournhill works.
- 7.3.3 The colour Sale Catalogue Plan from 1900 (Fig. 17) provides an even better insight into the function of each of buildings and gives an accurate idea of the location of the glasscones on the Coalbournhill site. Other buildings on site include offices and warehouses, stables, and the residential quarters of the owners at 'Harlestones House' which had ancillary buildings including a vinery and a conservatory.

8 PREVIOUS ARCHAEOLOGICAL WORK

A summary of previous archaeological work within the development site and wider study area is given below together with a brief statement of their results.

8.1 Within the Development Site

- 8.1.1 The Dudley MBC Historic Buildings Sites and Monuments Record (DMBC HBSMR) does not record any known archaeological fieldwork events within the development site. However, discussions with John Hemingway of Dudley MBC have revealed that a previous programme of archaeological intervention in the development area revealed what appeared to be part of a wharf structure adjacent to the canal (John Hemingway *pers comm*).

8.2 Within the Study Area

- 8.2.1 The DMBC HBSMR does not record any known archaeological fieldwork events within the wider study area (see Figure 2).

9 SITE ASSESSMENT (WALKOVER STUDY)

- 9.1.1 The development site extends to a total area of c.1.6ha; it comprises an irregularly-shaped parcel of land bordered to the north by Woolaston Road, to the south by residential development along Hollybush Lane and Coalbourne Lane, and to the east by Amblecote High Street. The Stourbridge Canal defines the western side of the site.
- 9.1.2 The present character of the development site is a mixture of modern and historic buildings interspersed by a number hardstanding pathways, courtyards, and car-parks.
- 9.1.3 The site inspection revealed that the entire development site is situated on a substantially higher ground level than the surrounding road level. This is particularly the case in the area immediately adjacent to the canal where a steep brick wall, much of which contains older sections of brick, forms the boundary between the canal and the development site.
- 9.1.4 **Zone 1** is characterised by a surface-level car-park and yard adjacent to the canal boundary. Also found within this zone is the main entrance to the college site (from Woolaston Road).
- 9.1.5 **Zone 2** contains the main Coalbournhill Glassworks structure. This appears to have undergone substantial modernisation; the roof, horizontal steel supports and lower half of the brick coursing date to the 20th century. Some traces of an earlier structure can be seen on the north and northwest-facing elevations. The upper half of the structure was constructed with 19th century brick. The scar of a former roof was present on one wall facing the High Street and a winching outlet, although bricked in, was visible on one north-facing gable. Areas of open yard were visible at the centre of the development site. A courtyard to the east forms part of the boundary to the High Street.
- 9.1.6 In **Zone 3** a number of industrial units characterise the area to the south of the main structure. One very large building stands adjacent to the canal and further smaller blocks lay to the east. Many of these have been converted as craft studios, and a number can be identified with structures shown on the Ordnance Survey 1st Edition Map 1885. An area of yard space was observed between these units and the end of Coalbourn Lane. A courtyard near the glassworks building has a central water-feature and forms a central meeting place for the students.
- 9.1.7 Also in **Zone 3** fronting the High Street and lying immediately adjacent to the main Coalbournhill structure, is the Grade II listed 'Harlestons' House.

10 DISCUSSION AND RECOMMENDATIONS

10.1 Archaeological Potential of the Study Area

- 10.1.1 **Zone 1** encompasses the site of the former Coalbournbrook glassworks and the 19th-century firebrick works. It is significant that a large part of this zone appears not to have been built on during the 20th century, indicating that there is a high potential for the below-ground survival of archaeological remains, including those of the infilled 18th-century wharf. The raised ground level of this site also suggests that there is a likelihood

of archaeological survival within Zone 1, particularly within the open car park and yard areas.

10.1.2 **Zone 2** contains the Coalbournhill glassworks structure. There is a high potential for the survival of below-ground archaeological deposits at the cone sites (Figure 18). It is known from previous archaeological fieldwork that the use of underground flue systems results in substantial below-ground remains which frequently survive at glassworking sites (Vose 1980). This was the case at the 17th-century glasshouse of Haughton Green in Denton, near Manchester, where excavations demonstrated the presence of archaeological deposits to a depth of 3 metres (Vose 1980, 144) and more recently at Soho Glassworks in Birmingham (Mitchell 2008). More pertinently, excavations at the Canalside Cone, less than half a kilometre away from Coalbournhill, revealed a very good survival of the glass cone and associated furnace (Boland and Ellis 1997). Consequently, there is a very high potential for the survival of archaeological remains within the site of the present Coalbournhill building complex. Although the precise location of the original late 17th-century glassworks building has been difficult to determine from the sources, it is possible that parts of the precursors to the present building are contained within the surviving 20th-century structure.

10.1.3 The potential of **Zone 3** lies largely within its standing buildings. The grade II listed Harlestones House is situated within this zone, and, as the residence of the glassworks' owner, is integral to the historical importance and character of the Study Area as a whole. Some of the surviving glassworks buildings may contain parts of earlier 19th-century structures. The surrounding subsidiary structures of glasshouses frequently hold vital information about the workings and products of industry (Vose 1980, 159), and so have high archaeological potential.

Extensive building work from the 1930s onwards suggests a low potential for the survival of below-ground remains within the modern day building footprint. However, undisturbed remains may survive in areas of open yards.

10.2 Relevant Planning Policy and Guidance

10.2.1 *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG16; DoE, 1990) Section B, para.30 states that:

"No development shall take place within the area indicated (this would be the area of archaeological interest) until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority."

10.2.2 *Planning Policy Guidance Note 15: Planning and the Historic Environment* (PPG15;; DoE 1994) requires local authorities to have special regard to the setting of listed buildings when considering applications for planning permission. Within this context, the scale, height, massing, alignment and materials of any proposed new development should seek to so far as is possible to reflect the proportions of the listed buildings within and around the study area, while the setting of the buildings within the streetscape should also be a material consideration.

10.3 Implications for future development of the study area

NB The comments and recommendations made in this report are subject to review and revision by the relevant planning archaeologist.

- 10.3.1 As described above (Section 5.0) the English Heritage Monuments Protection Programme identified the study area as being of national importance, and as such, the study area may be subject to statutory designation. Appendix D contains information from the Design Manual for Roads and Bridges, Volume 11, Environmental Assessment (1993) which sets down the implications for any future development. Any development proposal will have to take the historic land use (described in sections 4.0, 4.1, and 4.2 above) into account and will have to recognise that the surviving buildings and below-ground remains have significant archaeological potential and value.
- 10.3.2 The implications for each of the three zones within the study area are set out below. These follow the procedures set out in Planning Policy Guidance Notes 15 and 16; Department of Environment 1994 and 1990 respectively) and in Policies 35, 37, and 38 of Dudley Metropolitan Borough Council's Unitary Development Plan which was adopted in 1993. Extracts from these policies are included in this report as Appendix C.
- 10.3.3 The Unitary Development Plan states that '*the retention of archaeological remains intact will always be sought as a first option and this can often be achieved by the sensitive design of new development*' and that '*planning permission may be refused where development proposals would result in unacceptable damage to important archaeological remains*'. The procedure for dealing with archaeological sites is set out in this plan. Assessment, based on an archaeological desktop study, is seen as the first step towards understanding the likely impact of development proposals on archaeological remains within a specific site. The second step is to provide information about the physical condition, quality and location of the archaeological remains. This would be carried out before a planning application was considered and would if necessary, involve the excavation of a number of archaeological trial trenches. The results of this second stage of information would be used by the Council to '*assess the actual impact of the development proposals*' on the archaeological remains and to '*identify requirements for archaeological preservation and/or appropriate strategies to mitigate unavoidable damage*'.
- 10.3.4 **Zone 1** has a high potential for the survival of below-ground deposits relating to the building and operation of the Coalbournbrook Glass-works, effectively providing a 'snapshot' of 17th and 18th-century glassworking (Boland *pers comm*). In line with PPG 16 and Dudley Unitary Development Plan, preservation *in situ* is the preferred option and could be achieved by sensitive design proposals. However, as described above, the council may require a further stage of information-gathering before the planning application is considered. This could take the form of evaluation by trial-trenching which would involve sampling 2% of the total area of Zone 1, to establish the presence or absence of archaeological deposits, their date, character and quality of survival. Inspection and recording of the standing buildings to establish whether any earlier structures survive within the Coalbournbrook complex may also form part of this information-gathering exercise. Depending upon results of this second stage of work, the Council may require preservation *in situ* of the archaeological remains as a condition of

planning consent or they may require a third stage of archaeological work, involving more extensive excavation, allowing the preservation of the archaeological remains 'by record'.

- 10.3.5 **Zone 2** Given the status of the Coalbournhill works within the Monuments Protection Programme report and the high potential for below-ground survival within the cone sites, preservation *in situ* is again considered to be the preferred option. The procedure of information-gathering in advance of the planning application being considered would be the same as for Zone 1.
- 10.3.6 It should be noted that the surviving glass-works structures lie within the curtilage of the adjacent 'Harlestones' House and are essentially ancillary to it. The house's status as a Grade II listed building could therefore be argued as being of relevance for the entire glass-working complex. The implications of a Grade II listing are explained in Zone 3 below.
- 10.3.7 **Zone 3** The importance of the 'Harlestones' House both as a significant component of the entire glass-working complex, and as a valuable resource in its own right, is reflected by its Grade II listed status. The designation 'Grade II Listed' identifies the building as being of special architectural or historic interest. This statutory designation allows the local planning authority to control alteration through the planning application process, by attaching suitable conditions, for building analysis or recording to planning consents (ALGAO 1997).
- 10.3.8 The areas to the west of the house may contain surviving 19th century glass-work structures and below-ground remains. An archaeological building inspection would establish which buildings were of value. Equally, as with Zones 1 and 2, trial trenching would establish the presence or absence of archaeological below-ground deposits, and would provide the relevant information needed by the Council to consider the planning application.

11 THE ARCHAEOLOGICAL EVALUATION

11.1 Methodology

- 11.1.1 The Trenches were situated in order to attempt to confirm the preservation and location of the 19th-century glassworks, specifically the glasscone as defined on the historical map evidence outlined within the desk-based assessment. The trenches were planned and surveyed in using traditional recording methods.
- 11.1.2 All modern overburden was removed using a JCB-type mechanical excavator with a toothless ditching bucket below the mixed yard surface, under direct archaeological supervision, down to the top of the uppermost archaeological horizon. Subsequent cleaning and excavation was done by hand. The depth of archaeological deposits across the site was assessed.
- 11.1.3 All stratigraphic sequences were recorded, even where no archaeology was present. Features were planned at a scale of 1:50, and sections were drawn of all cut features and significant vertical stratigraphy at a scale of 1:50. A comprehensive written record was maintained using a continuous numbered context system on *pro forma* context and feature cards. Written records and scale plans were supplemented by

photographs using monochrome, colour slide photography for archive supplemented by high quality digital photography.

- 11.1.4 Recovered finds were cleaned and marked. Treatment of all finds conformed to guidance contained within 'A strategy for the care and investigation of finds' published by English Heritage (English Heritage 1995).
- 11.1.5 The full site archive will include all artefactual remains recovered from the site. The site archive will be prepared according to guidelines set down in Appendix 3 of the '*Management of Archaeology Projects*' (English Heritage, 1991), the '*Guidelines for the Preparation of Excavation Archives for Long-term Storage*' (Walker 1990) and '*Standards in the Museum Care of Archaeological collections*' (Museum and Art Galleries Commission, 1992). Finds and the paper archive will be deposited with Dudley Archives subject to permission from the landowner. They will be deposited in the standard boxes used by the Dudley Museum and accompanied by archive lists.

11.2 Introduction

- 11.2.1 In the following sections both feature and deposit numbers are highlighted in bold. The excavation area is described stratigraphically beginning with the earliest deposits. The trench plan and representative section are illustrated at the back of this report, these illustrate the significant archaeological deposits and structures described in the text and locate these features within the extant building plan.
- 11.2.2 The same general pattern of deposition was encountered across the evaluation site, although this differed depending on the depth of the surviving structures. The evaluation trenches were situated within an open, unpaved and currently disused courtyard area to the north of the main range of buildings (Fig. 19). The natural ground remained unidentified, being beneath the glasscone foundations. The stratigraphy consisted of structural deposits (glasscone foundations and later constructions), overlain by a layer of demolition rubble (**03**), mixed hardcore/ tarmac (**02**) and sealed by a mixed turf/ topsoil and gravel (**01**). The features were identified at 0.2m below the surface (approximately 72.5m AOD).

11.3 Results

- 11.3.1 In the following sections both feature and deposit numbers are highlighted in bold. The excavation area is described stratigraphically beginning with the earliest deposits. The trench plan and representative section are presented at the back of this report, these illustrate the significant archaeological deposits and structures described in the text and locate these features within the extant building plan (Fig. 20).
- 11.3.2 The evaluation trenches were situated within the currently disused courtyard area to the north of the main range of buildings. The main trench was orientated east to west and was 23m in length by 1m in width. Two further evaluation trenches were excavated, these were attached to the northern side of the main trench and were orientated north to south, they were 7.5m and 5.5m in length. The location of these trenches was designed to examine the survival of the former glasscone and associated buildings to the north, the positions of which were

identified from the historic mapping and documentary sources. In the following description, the trenches will be described as one, as their purpose was to identify the same feature at different locations. The trenches achieved their desired aims of locating the historic glasscone and placing it within the plan of the surrounding buildings.

- 11.3.3 The primary structural evidence encountered within the trenches was the truncated external elevation of the glass cone (**04**), the wall of which was six courses thick and curved (Plates 5 and 7). The wall was composed of machine made, unfrogged, 9 ins x 4¼ ins x 3 ins orangey-red bricks set within a cement based mortar, it had been truncated approximately down to original floor level. The foundations were likely to have been sunk a further two metres in places in order to house the firing tunnels, suggestions of which were found within the centre of the trench beneath a collapsed vaulted roof. Photos taken during the redevelopment of the site during the 1980s suggest good preservation of these firing tunnels. On the northwestern corner of the eastern building range there was a scar on the wall suggesting that the glasscone had been constructed up against it. Projecting the line of the curve, the diameter of the glasscone would have been in excess of 17m, fully covering the present yard surface.
- 11.3.4 At the western end of the trench abutting the external elevation of the glasscone was a contemporary engineering brick, yard surface (**09**) (Plate 6). The surface was constructed in three different orientations and there were red brick variations set within it. These variations may represent truncated wall foundations or decorative features.
- 11.3.5 Constructed against the internal eastern elevation of the glasscone was a small 1.3m x 1.3m, square structure (**05**). (Plate 7) This was constructed of machine made, unfrogged 9 ins x 4¼ ins x 2¾ ins yellow fire bricks and was interpreted as the base of a small hearth. The inside of the structure was blackened with soot and it was filled with a mixed deposit of hearth type material with inclusions of ash, clinker and rubble. This structure may represent one of the many hearths used in the glass finishing processes, which would have been situated around the central furnace, inside the glass cone.
- 11.3.6 A crushed brick and concrete floor surface (**06**) was laid within the central space of the glasscone. This surface ran up to the internal edge of the glasscone which suggests that it was laid during the later life of the building perhaps replacing an earlier floor surface. The surface did not fill the entire internal space, this can however, be attributed to its later truncation. It could also have been laid soon after demolition, to cover the abandoned and filled in firing tunnels.
- 11.3.7 A later 19th or early 20th century wall (**07**) orientated east to west, was exposed in the northern part of the trench situated within the area of the glasscone. This wall, constructed of machine made, unfrogged, 9 ins x 4¾ ins x 3 ins mid orange bricks was a later insertion as it appeared to have been constructed within the layers of rubble associated with the demolition of the glasscone.
- 11.3.8 A group of truncated, vertically and horizontally laid steel I-beams (**08**) were also identified within the northern part of the trenches. Four parallel rows of beams existed, orientated east to west and there were two

vertical beams. These structures were possibly associated with wall **07**; they also appeared to have truncated the concrete floor surface **06**.

11.4 The Finds

11.4.1 A small assemblage of glass residues and vessel fragments relating to the glassmaking were identified, all of which came from overburden deposits related to the abandonment of the glassworks. The small amounts of glass waste are typical of a glassmaking site where seconds and waste were collected for re-use or taken off site to specific dumping areas. Two fragments of 19th-century pottery were encountered in the backfill deposits.

2 x sherds, white and blue glazed stoneware plate- 19th century.

22 x fragments of assorted glass vessels. An assortment of colours are present, including clear lead or flint glass, pale blue and white opaque glass and red flash coloured glass. The assemblage includes a wine glass base and large basal decorated piece, with ribbing decoration. These are probably 19th century.

14 x glass fragments. A variety of forms and colours are present, including apparent run-off and dripped glass, glass lumps. Opaque and clear glass examples are represented in varying degrees of clear, blue and green. These are likely to be 19th century.

1 x fragment vitrified building material with attached deep blue glass lump, possibly broken from the furnace. This is likely to be 19th century.

11.5 Discussion

11.5.1 The artefactual and structural evidence encountered on site supports the historical evidence of the existence, use and systematic destruction of the glass cone building.

11.5.2 The truncated foundations of the circular glasscone, along with the fragmentary remains of a later construction were exposed. The Coalbournhill glassworks is mentioned in the documentary sources as having been established in 1691, and a cone is first evident on Williamson's 1769 map. The identified remains are likely to represent two phases of construction from this period, there is also evidence of a period of building undertaken after the demolition of the glasscone in the 1950s.

11.5.3 Evidence of the associated buildings which lay to the north of glasscone were not identified and these are likely to lie just outside of the study area between the modern road and the present fence line.

11.6 Implications (Recommendations and Significance)

11.6.1 This archaeological evaluation has confirmed the evidence preserved in the historical and cartographic sources. The external walls of the glasscone structure were present within the anticipated area and the preservation of these features was good, there was also limited evidence of the residues of the glass manufacturing process.

- 11.6.2 Although the evaluation aims were restricted to locating the glasscone and associated building, further information can be interpreted from the available evidence. It is very likely that the glasscone foundations are preserved in their entirety just below the present ground surface. Only a small amount of modern truncation was present and the map regression suggests that this area was only moderately developed after the demolition of the glasscone in the later 20th century. The glasscone itself appeared to have been demolished down to floor level, the tunnels beneath having been left in situ and partially backfilled. The truncated vaulted roof of one of these tunnels was exposed within the centre of the evaluation trench. The glasscone remains are therefore likely to extend a further two metres in places, in order to house these subterranean tunnels.
- 11.6.3 Taking all of these contributory factors into account, it is highly likely that there are further significant and well preserved remains of the glasscone lying beneath the yard surface. These remains would be significantly and adversely affected by any ground-works undertaken within this area.
- 11.6.4 Any further archaeological work required on the glassworks site would require the following key questions to be addressed;
1. The extent of the survival of the glass cone, tunnel complex and associated furnace as revealed within the evaluation trench.
 2. The extent and relationship of structures associated with the glass cone, some of which are extant.
 3. Processes associated with the glass cone.
 4. Processes specific to the glassworks as revealed by scientific analysis of residues collected during excavation.

12 ACKNOWLEDGEMENTS

- 12.1 The project was commissioned by Bryant Priest Newman on behalf of the Ruskin Mill Educational Trust; thanks are extended to the staff of both organisations for their assistance throughout the course of the project, to Peter Boland, John Hemingway, and Rob Lloyd-Sweet who monitored the project for Dudley Metropolitan Borough Council, and to the staff of the Dudley Archives, Worcestershire County Hall Record Office, University of Birmingham Libraries.
- 12.2 The historical research and site assessment were undertaken by Julie Candy and Shane Kelleher. Will Mitchell carried out the evaluation. The illustrations were the work of Shane Kelleher and Nigel Dodds, and the report was edited by Malcolm Hislop who also managed the project for Birmingham Archaeology.

13 LIST OF SOURCES

- (a) *Cartographic Sources* (in chronological order)
- 1769 Robert Williamson's Map of Amblecote.
 - 1774 Part of a Canal Map (Copy, not illustrated).
 - 1785 John Snape's Plan of the Intended Extension of the Dudley Canal into the Birmingham Canal.
 - 1800s Early 19th-century Plan of Amblecote.
 - 1839 Tithe Map

- 1885 Ordnance Survey County Series 1:2500 map, 1st Edition.
- 1903 Ordnance Survey County Series 1:2500 map, 1st Revision.
- 1920 Ordnance Survey County Series 1:2500 map, 2nd Revision.
- 1938 Ordnance Survey National Grid Series 1:2500 map, 1st Edition.
- 1965 Ordnance Survey National Grid Series 1:2500 map, 2nd Edition.
- 1995 Ordnance Survey National Grid Series 1:10000 map.

(b) *Published Sources*

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APPENDIX B: Glossary of Terms

Archaeological Periods and Date Ranges

Period	Date Range
Prehistoric	
Paleolithic	500,000 BC – 10,000 BC
Mesolithic	10,000 BC – 4,000 BC
Neolithic	4,000 BC – 2,400 BC
Bronze Age	2,400 BC – 700 BC
Iron Age	700 BC – AD 43
Historic	
Roman	AD 43 – AD410
Anglo-Saxon/Early Medieval	AD410 – AD 1066
Medieval	AD 1066 – AD1539
Post Medieval	AD 1540 – AD 1900
Modern	AD 1901 - present

Statutory Designations

Scheduled Ancient Monument (SAM)

'Scheduling' is the process through which nationally important sites and monuments are given legal protection. A schedule has been kept since 1882 of monuments whose preservation is given priority over other land uses. The current legislation, the Ancient Monuments and Archaeological Areas Act 1979, supports a formal system of Scheduled Monument Consent (SMC, see below) for any work to a designated monument.

Conservation Area (CA)

Conservation Areas are any areas of '*special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance*' and are designated by Local Authorities. There are now more than 8,000 conservation areas in England. Designation introduces a general control over the demolition of unlisted buildings and provides the basis for policies designed to preserve or enhance all the aspects of character or appearance that define an area's special interest.

Listed Building (LB)

A 'Listed Building' is a structure that has been placed on the statutory lists of buildings of '*special architectural or historic interest*' compiled by the Secretary of State for Culture, Media and Sport on advice from English Heritage. When a building is listed, it is listed in its entirety, which means that both the exterior and the interior are protected. In addition, any object or structure fixed to the building, and any object or structure within the curtilage of the building, which although not fixed to the building, forms part of the land and has done so since before 1 July 1948, are treated as part of the listed building.

Locally Listed Building (LLB)

A Locally Listed Building is a building, structure or feature which, whilst not Statutorily listed by the Secretary of State, a local authority feels makes a significant contribution to the local environment and an important part of an area's heritage due to its architectural, archaeological significance or historical associations. Inclusion on a Local List does not give a building any statutory protection

Registered Parks and Gardens (RPG)

The *Register of Parks and Gardens of special historic interest in England*, compiled and maintained by English Heritage, currently includes nearly 1450 sites, divided into three grade bands. The majority of the sites identified through the *Register* as being of a sufficiently high level of interest to merit a national designation, are designated Grade II. Around 30% of the 1450 are considered to be of exceptional historic interest and are awarded a star giving them Grade II* status while a further 10% are of international importance, and are classified as Grade I.

Archaeological Priority Area (APA)

An Archaeological Priority Area is an area specified by Local Planning Authorities to help protect archaeological remains that might be affected by development. This means that a site in such an area should be assessed for their archaeological potential when application is made for their redevelopment.

The Planning Process

Scheduled Monument Consent (SMC)

The Secretary of State must be informed about any work which might affect a monument above or below ground, and English Heritage gives advice to the Government on each application. In assessing each application the Secretary of State will try to ensure that damage done to protected sites is kept to a minimum. **Written consent must always be obtained before any work can begin.** Some development may also need planning permission.

Listed Building Consent (LBC)

Listed Building Consent (LBC) is required in order to carry out any works to a Listed Building which will affect its special value for listing purposes. This will almost certainly be necessary for any major works, but may also be necessary for minor alterations and possibly even repairs and maintenance. LBC may also be necessary for a change of use of the property. **It is a criminal offence to carry out work which needs listed building consent without obtaining it beforehand.**

The Archaeological Process

The Principal stages for handling archaeology within the planning process, in line with the Government's Planning Policy Guidance notes PPG 15 and PPG16 are:

- **Pre-determination:** desk-based assessment, archaeological evaluation
- **Post-determination:** preservation *in situ*, preservation by record (excavation)

Stages of Archaeological Work

Written Scheme of Investigation (WSI)

Any programme of archaeological work will normally be undertaken in accordance with a Written Scheme of Investigation (WSI), clearly stating the scope and extent of work, the aims and objectives, and the methodology to be employed during the course of work. The WSI will be prepared by the contracted archaeological organisation and approved in advance of work by the archaeological officer of the relevant LPA.

Archaeological Desk-Based Assessment (DBA)

An archaeological desk-based assessment (DBA) constitutes a first stage, non-invasive assessment of the archaeological potential of a site, undertaken in advance of any development. Research will normally comprise a search of all readily available documentary and archival sources pertaining to a site combined with an on-site 'walkover' survey to assess surviving archaeological remains / built heritage of the area.

Archaeological Evaluation

An archaeological evaluation is a limited programme of intrusive or non-intrusive fieldwork undertaken to establish the extent of survival of archaeological deposits within a site and to determine the character, date, state of preservation and potential significance of any buried remains. An evaluation is often required prior to the determination of a planning application for development and will normally be undertaken subsequent to a desk-based assessment. A variety of techniques may be employed including geophysical survey, fieldwalking, trial trenching and test pitting. The results of evaluation will be used to establish the necessity for and determine the requirements of any further stage of archaeological work.

Archaeological Excavation

An archaeological excavation is a programme of controlled, intrusive fieldwork, normally undertaken by means of open area excavation, with the purpose of examining and recording

archaeological deposits, features and structures identified by documentary research and/or archaeological evaluation. Archaeological excavation will normally lead on to a programme of post-excavation analysis and publication.

Archaeological Watching Brief

An archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons within an area or site where there is a possibility of archaeological deposits being disturbed or destroyed. Groundworks will normally be undertaken by a principal contractor under the supervision of an attending archaeologist.

Preservation *in-situ*

Foundation design to avoid or minimise impact on archaeology may be sought. This might include locating buildings to avoid archaeology; display of remains; sympathetic location of piled foundations and piling techniques; raising floor or ground beam levels; the routing of services; management of ground water. Landscaping and planting may also be constrained. Monitoring over a number of years after completion may be needed to assess if the preservation techniques have been successful.

Historic Building Recording (HBR)

A Historic Building Record (HBR) is a programme of work intended to establish the character, history, dating, form and archaeological development of a specified building, structure or complex and its setting. A programme of historic building recording will often be required as a condition of planning consent / listed building consent, to be taken in advance of (pre-determination) and/or during building refurbishment / alterations / demolitions (post determination). HBR can be undertaken to a range of different levels (Levels 1 – 4 as defined by English Heritage) dependent upon the significance of the building under consideration and the extent of the proposed works.

Appendix C

Extracts from Policies 35, 37 and 38 of Dudley Metropolitan Borough Council's Unitary Development Plan, 1993.

Policy 35 Scheduled Ancient Monuments and Other Sites of National Importance

There will be a presumption against any development which does not ensure that Scheduled Ancient Monuments and non-scheduled sites of national importance remain intact and that their setting is not prejudiced.

Scheduled Ancient Monuments and non-scheduled archaeological sites of national importance will, wherever possible and appropriate in the context of the policies and the proposals of this plan, be enhanced so as to exploit fully their archaeological, recreational and educational value, and where appropriate their attractiveness to visitors.

Policy 37 Archaeology and Information

In respect of Scheduled Ancient Monuments, non-scheduled sites of national or regional importance, other sites of archaeological significance which may from time to time be registered in the West Midlands Sites and Monuments Record, and areas of high archaeological potential as may be defined by the Council, applicants for new development will be required to provide, as part of any planning application, information adequate to allow the full and proper consideration of the impact of the proposed development on archaeological remains.

Policy 38 Archaeology and Preservation

In all instances, the Council will seek to ensure that archaeological remains of interest are preserved *in situ* and will encourage land owners to enter into management agreements in this regard. Where this would be unreasonable, the Council will require that the provision is made for an appropriate level of archaeological investigation and recording prior to the commencement of development.

4. DESIGNATED SITES OR MONUMENTS

4.1 The principal categories of designated archaeological sites and monuments, in descending order of importance, are:-

International Designations

World Heritage Sites

4.2 See CHAPTER 9, below.

National Designations

Ancient Monuments

4.3 Under the Ancient Monuments and Archaeological Areas Act 1979, the Secretaries of State for National Heritage, Wales, Scotland and Northern Ireland can schedule (ie designate) any building, structure or other work above or below ground which appears to be of national importance because of its historic, architectural, traditional, artistic or archaeological interest. The non-statutory criteria for the scheduling of Ancient Monuments are at ANNEX II. Inclusion of a site in the schedule of Ancient Monuments does not affect its ownership, but is binding on successive owners. The Secretaries of State have powers to acquire Ancient Monuments by gift or purchase.

4.4 Once a monument is scheduled any private sector development which may affect it requires the consent of the Secretaries of State. In this context, 'affect' means works which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up the monument (see PPG 16, Annex 3, or Scottish Office Planning Advice Note paras 38-59). A system of scheduled monument clearance operates for Crown developments carried out by Government Departments which follows very similar procedures to scheduled monument consent. In England, under DoE Circular 18/84, the Overseeing Department's Project Manager will notify the Department of National Heritage, and will also consult EH. On receiving details of the proposals, the Department of National Heritage will itself consult EH before deciding whether or not clearance, or conditional clearance, should be granted. In Scotland, under SDD Circular 21/1984,

Overseeing Departments must notify HS who will advise on the needs for formal scheduled monuments clearance and determine the outcome of applications made. In Wales, the Overseeing Department will notify Cadw of any proposed works that will affect a scheduled ancient monument. Cadw may consult other outside bodies, as it does with consent applications, before determining whether or not clearance should be granted.

4.5 As a selective example of the nation's archaeology the schedule differs from the more comprehensive list of buildings of special architectural or historic interest compiled under Section 1 of the Planning (Listed Buildings and Conservation Area) Act 1990. But broadly speaking, scheduled monuments rank in importance with Grade I or Grade II* listed buildings (see CHAPTER 9, below). Where buildings are both scheduled and listed, ancient monument legislation takes precedence, and scheduled monument consent rather than listed building consent is required for works (see section 61 of the Planning (Listed Buildings and Conservation Areas) Act 1990 for England and Section 54(1) of the Town and Country Planning (Scotland) Act 1972, for Scotland)

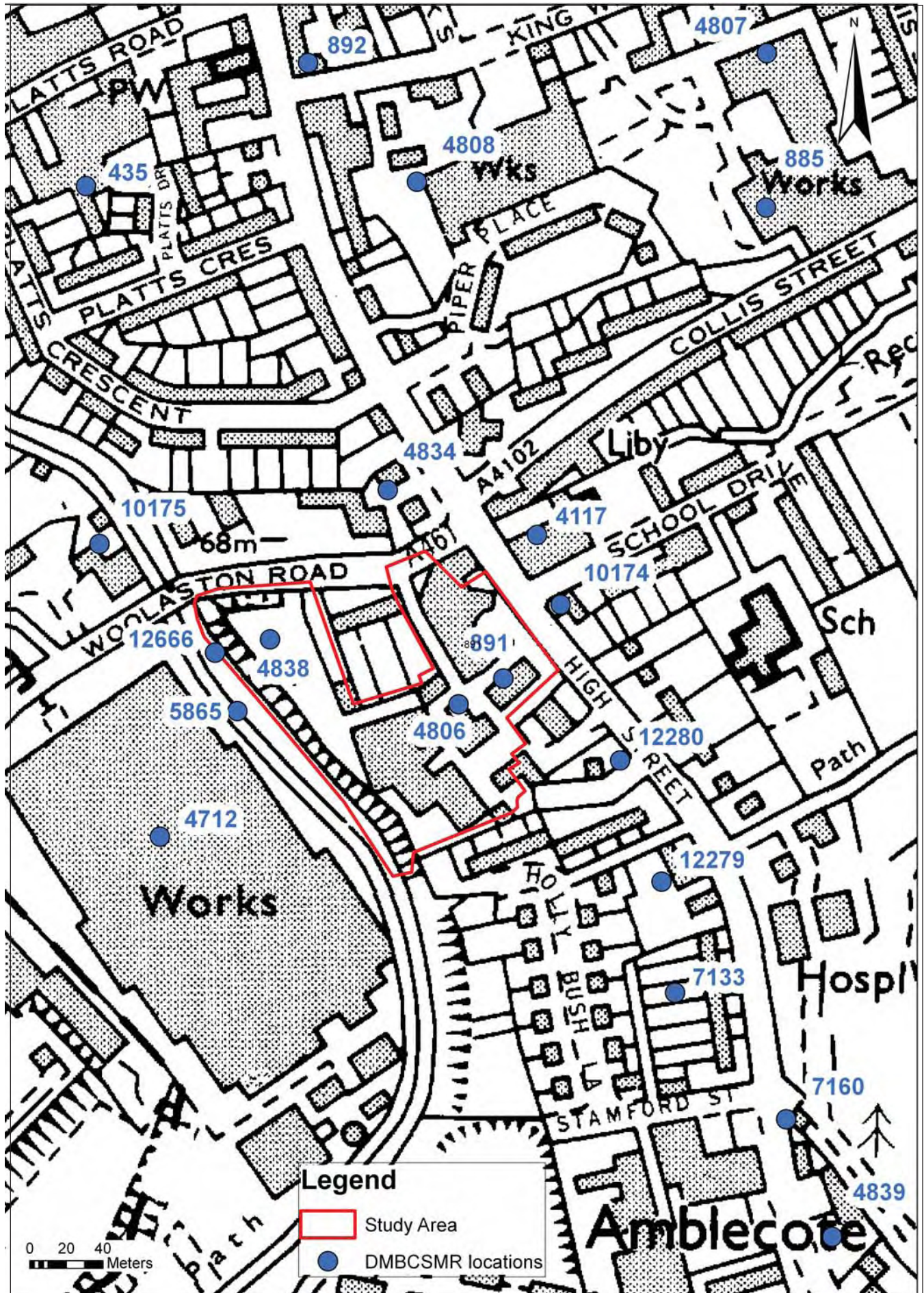
Responsible bodies: EH
 HS
 Cadw

Statutory designation: Ancient Monument.

Areas of Archaeological Importance (England Only)

4.6 The historic town centres of Canterbury, Chester, Exeter, Hereford and York have been designated as Areas of Archaeological Importance under Part II of the Ancient Monuments and Archaeological Areas Act 1979. Within these areas potential developers are required to give six weeks notice to the relevant planning authority of any proposals to disturb the ground, tip on it, or flood it. The Secretary of State for National Heritage nominates an investigating authority for the area - usually the archaeological unit of the relevant local authority - which then has the power to enter the site and, if necessary, to excavate it for up to four and a half months before development may proceed. The future of this designation is under review and no more designations are planned. Part II of the Ancient








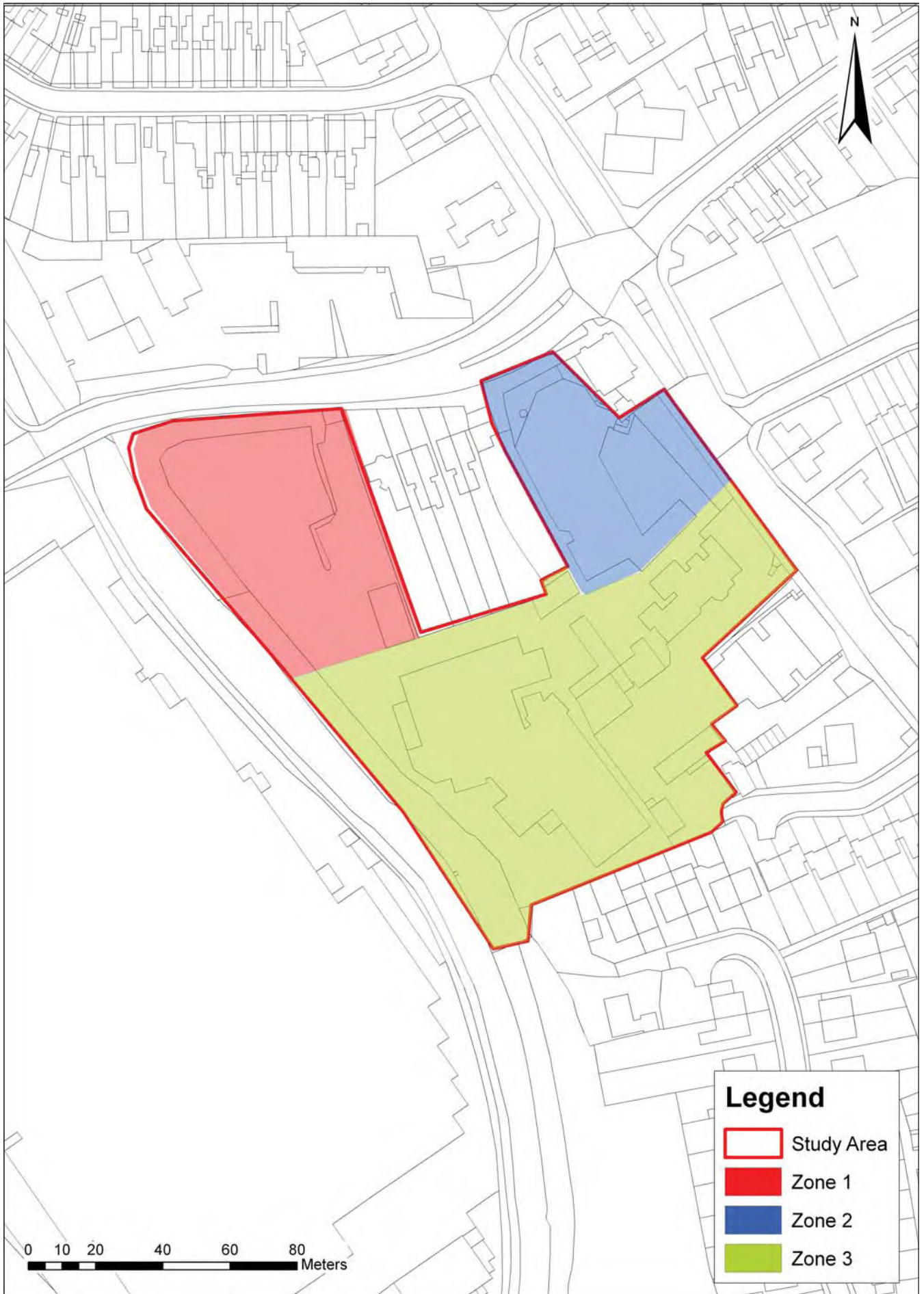
Center 52°28'01.31" N 2°09'12.32" W

Streaming ||||| 100%

0 10 20 40 60 80 Meters

Legend


 Study Area

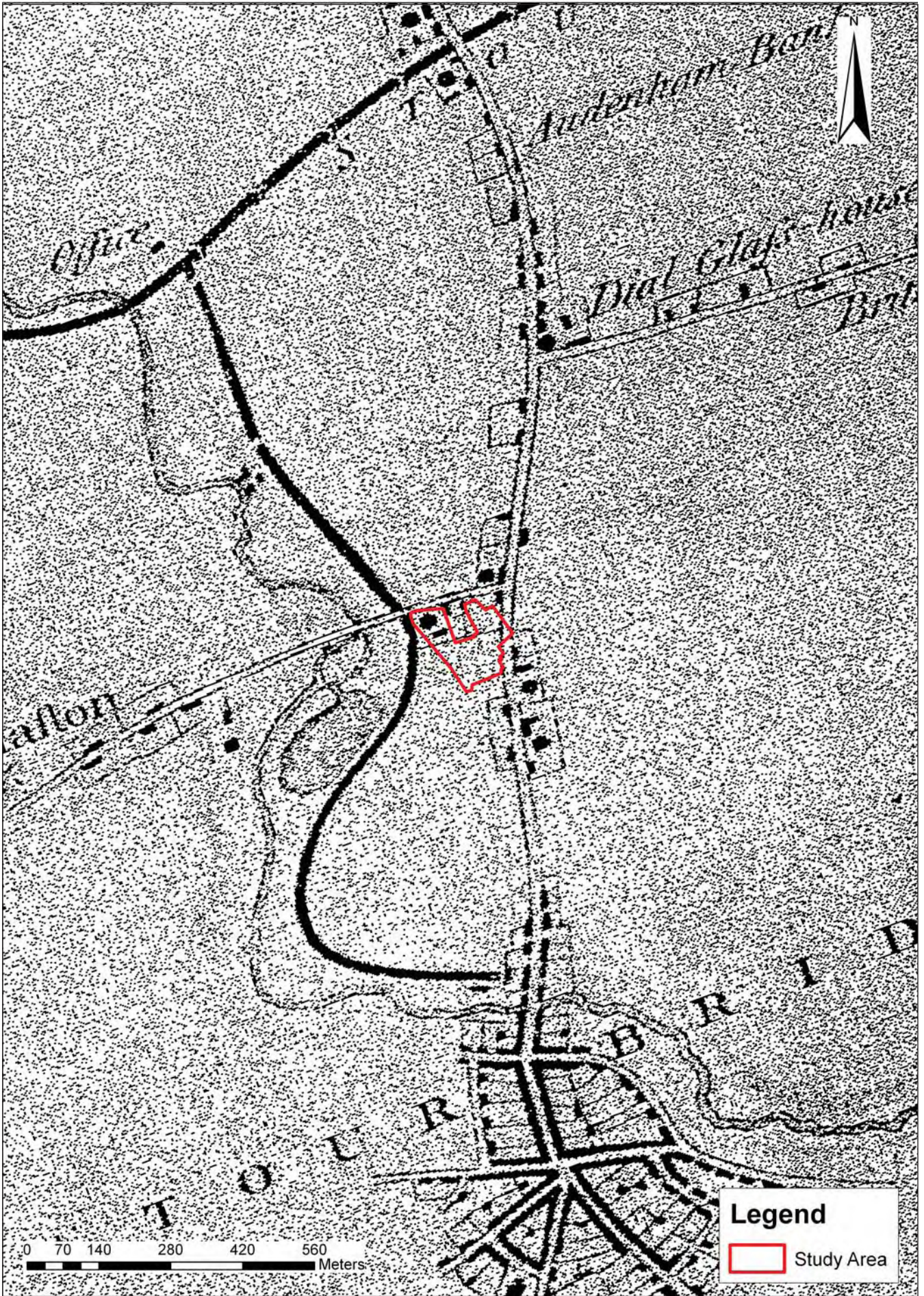


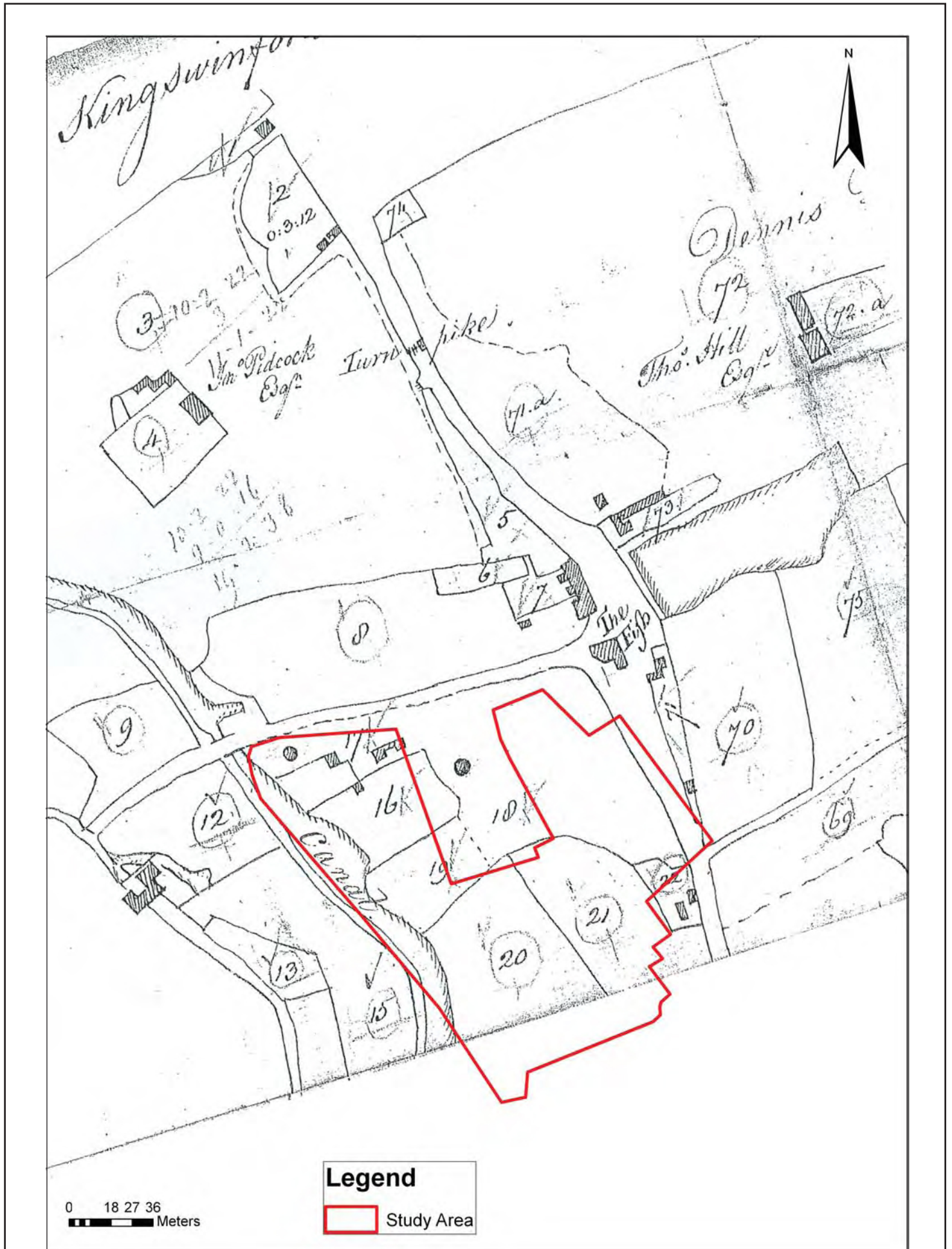


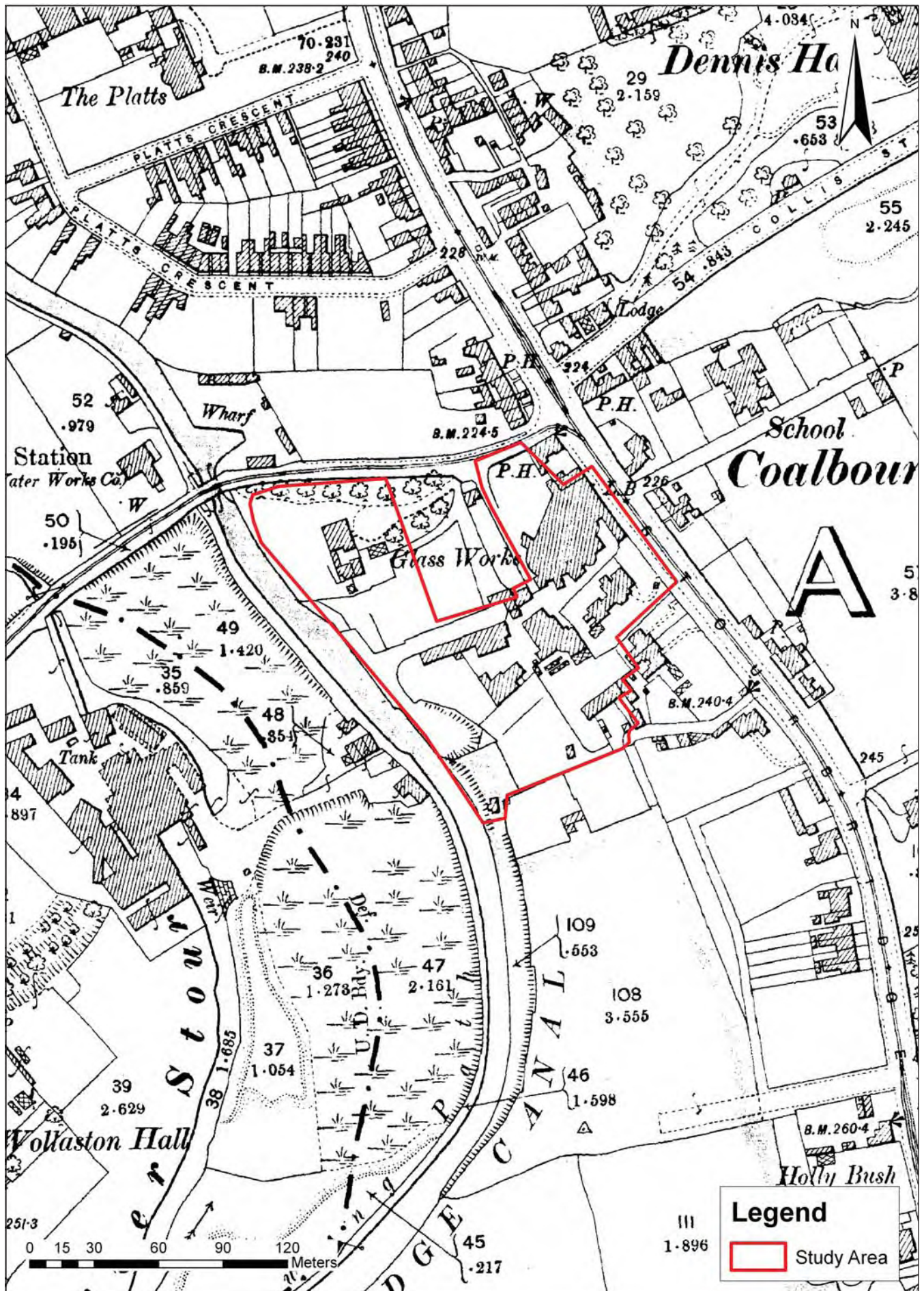
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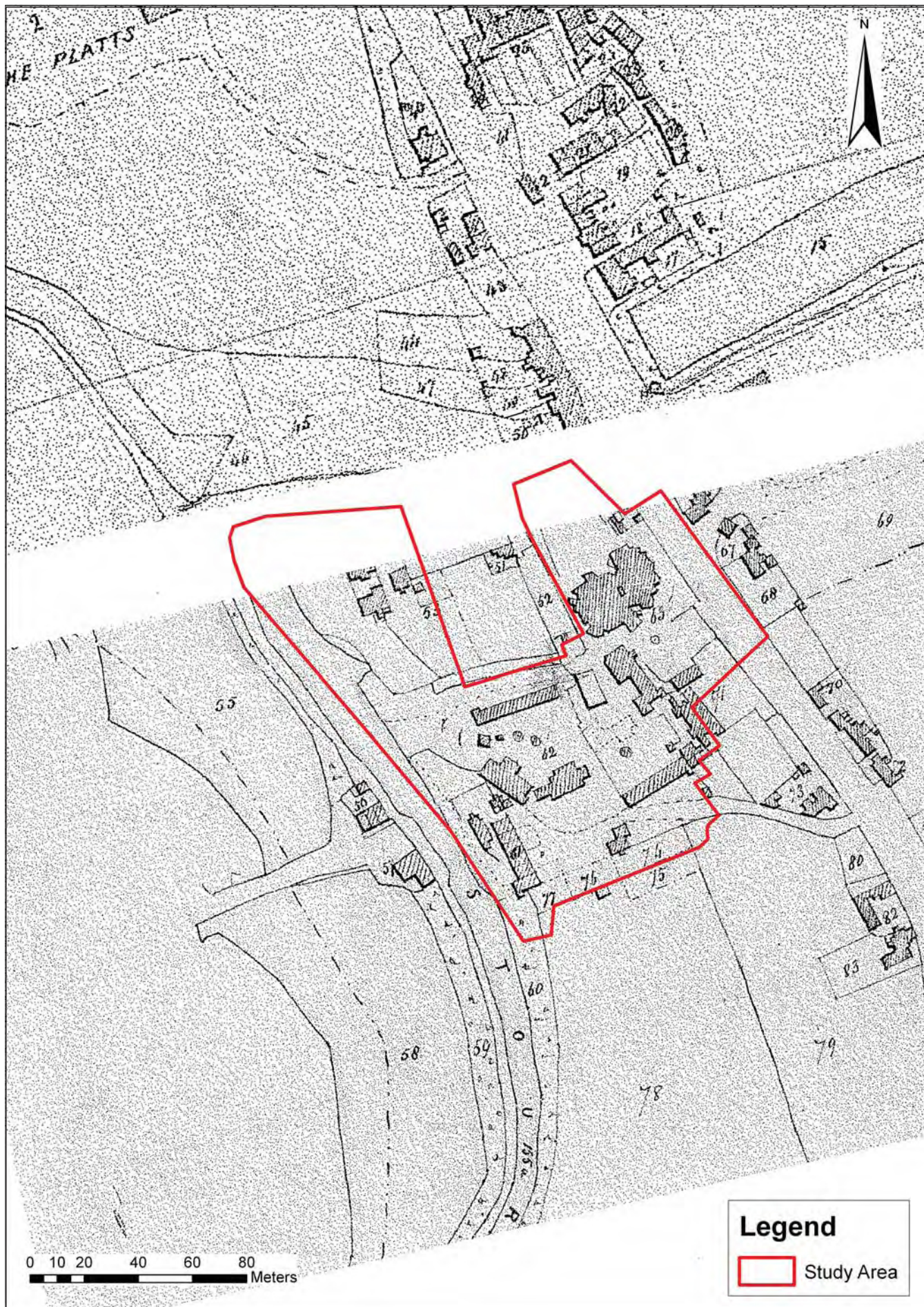
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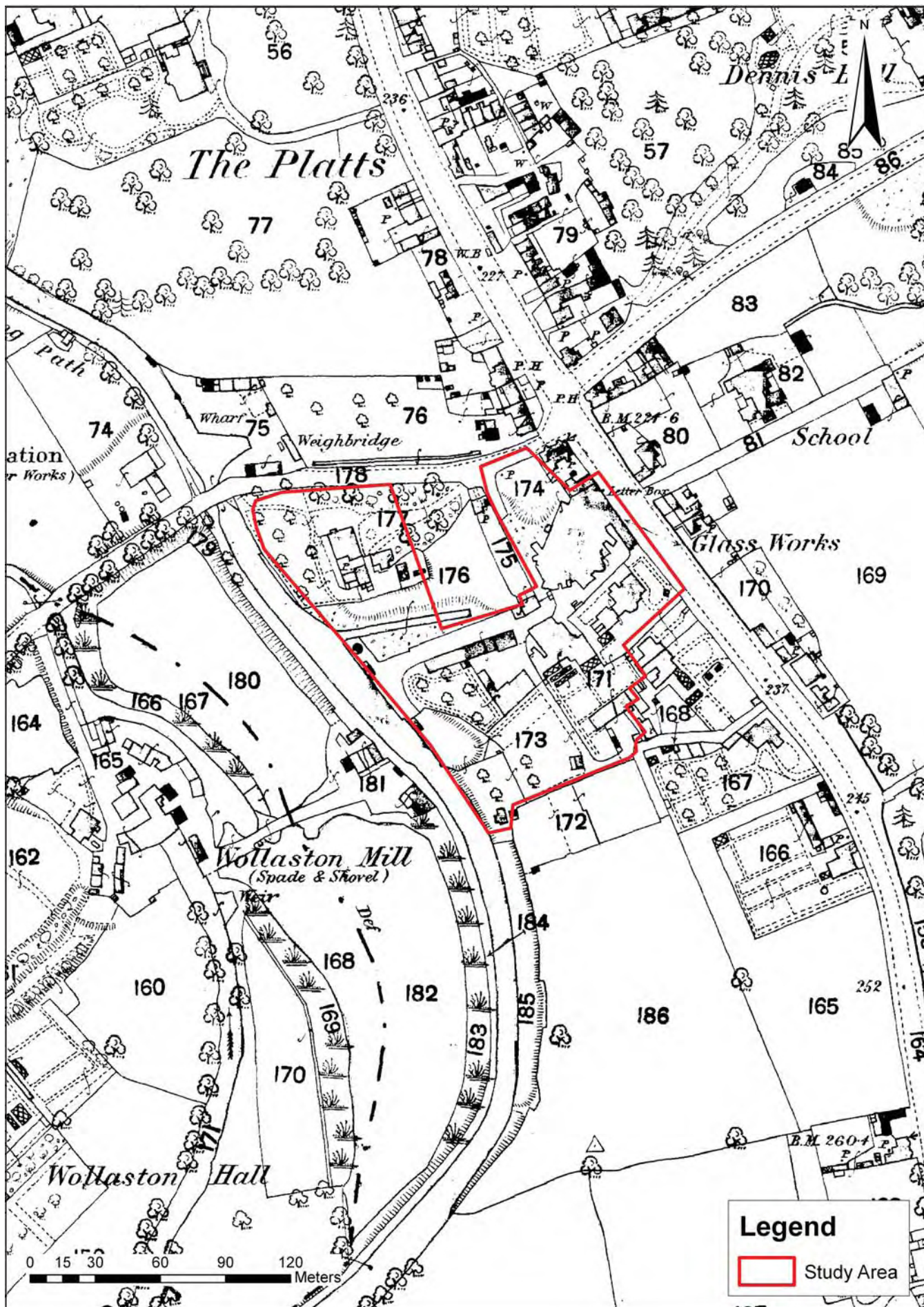


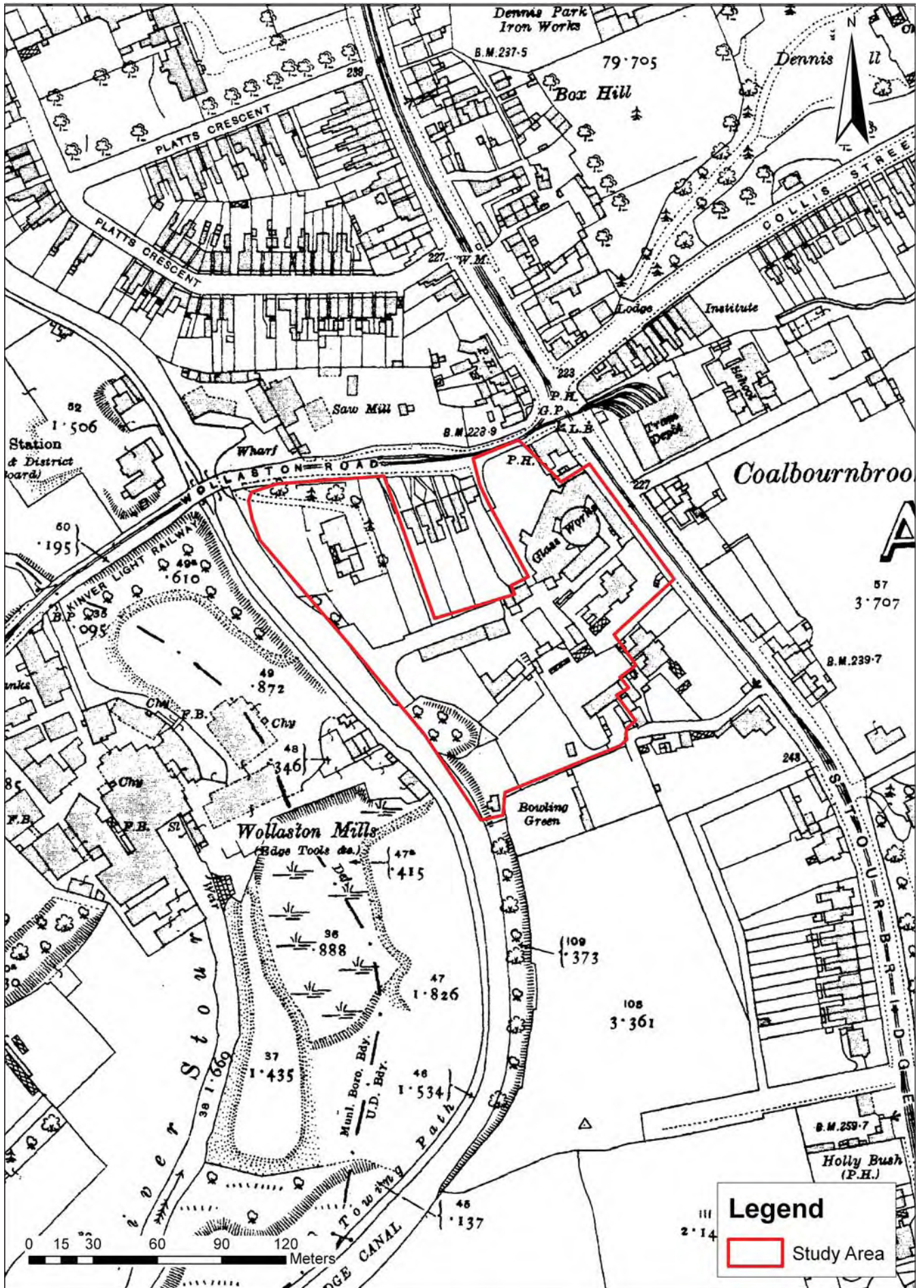


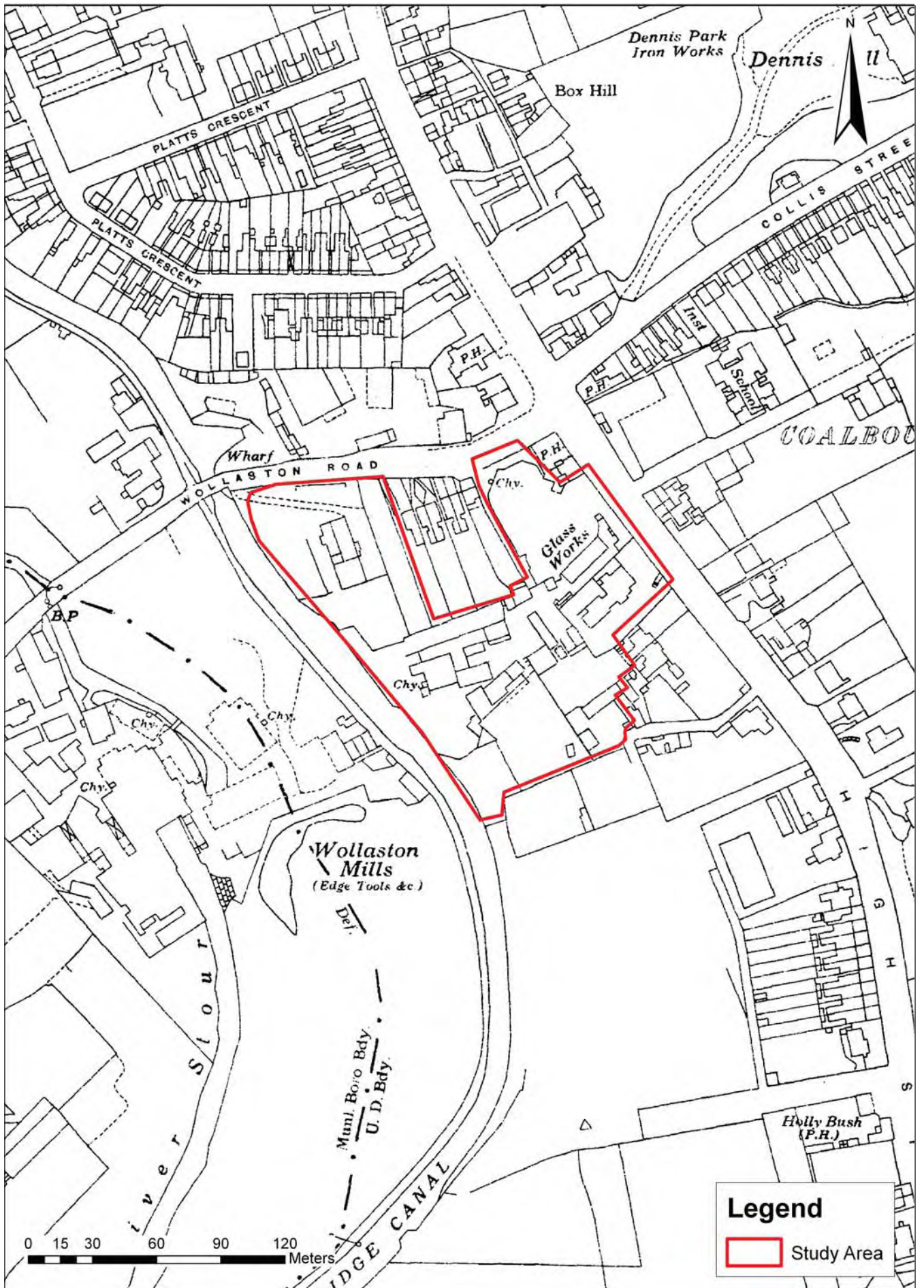




Legend
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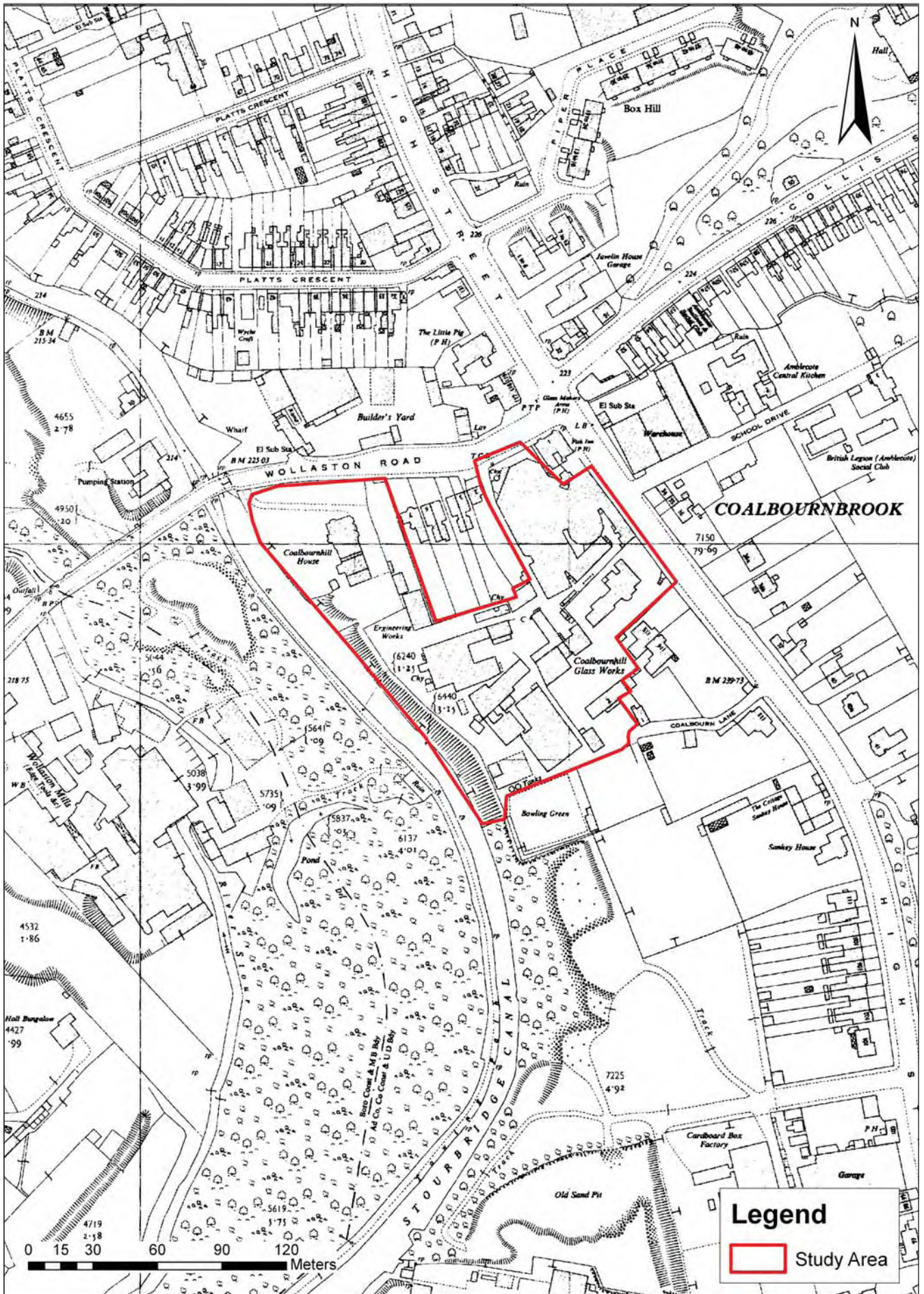
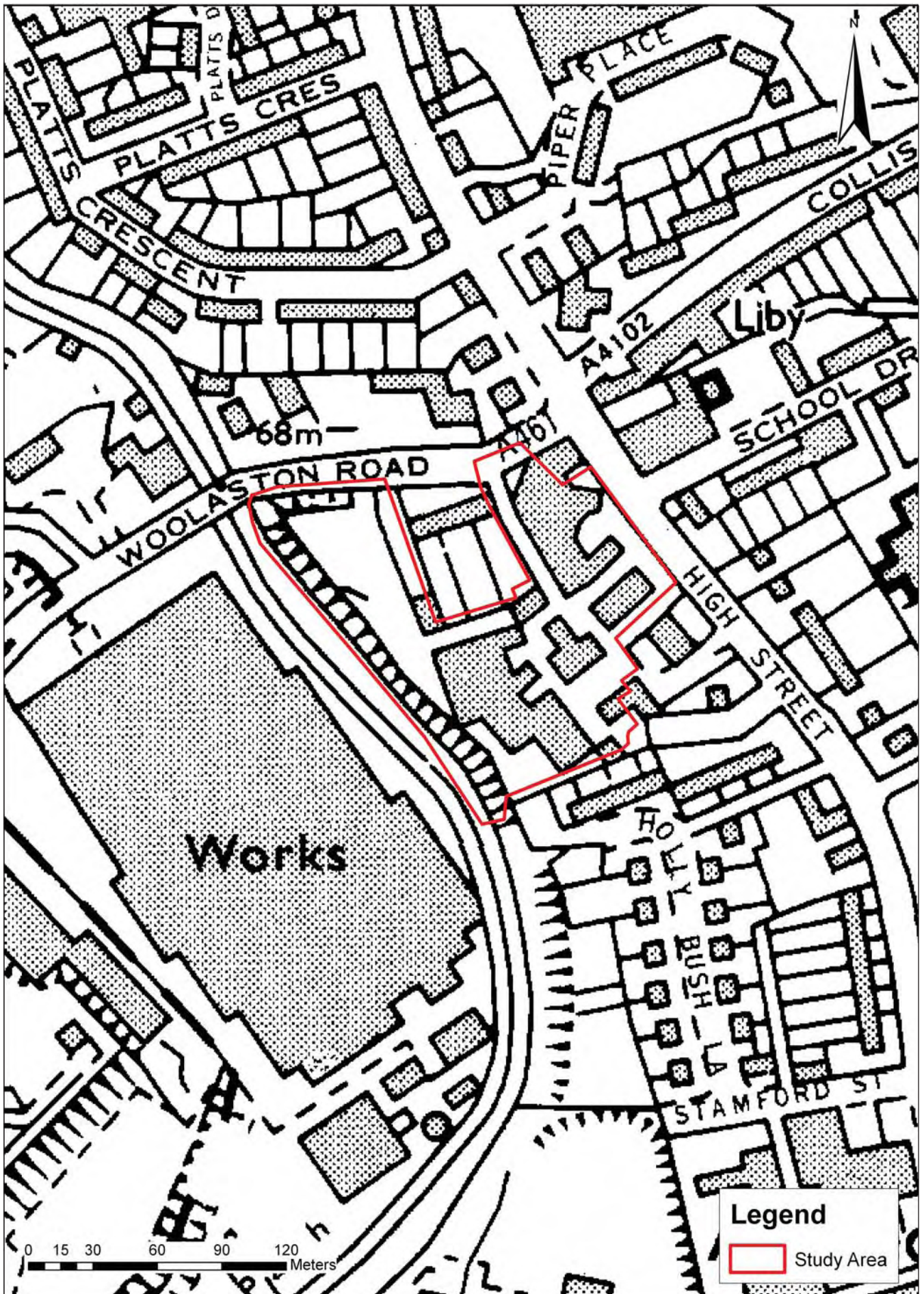


Figure 14: Ordnance Survey National Grid Series 1:2500 map, 2nd Edition, 1965



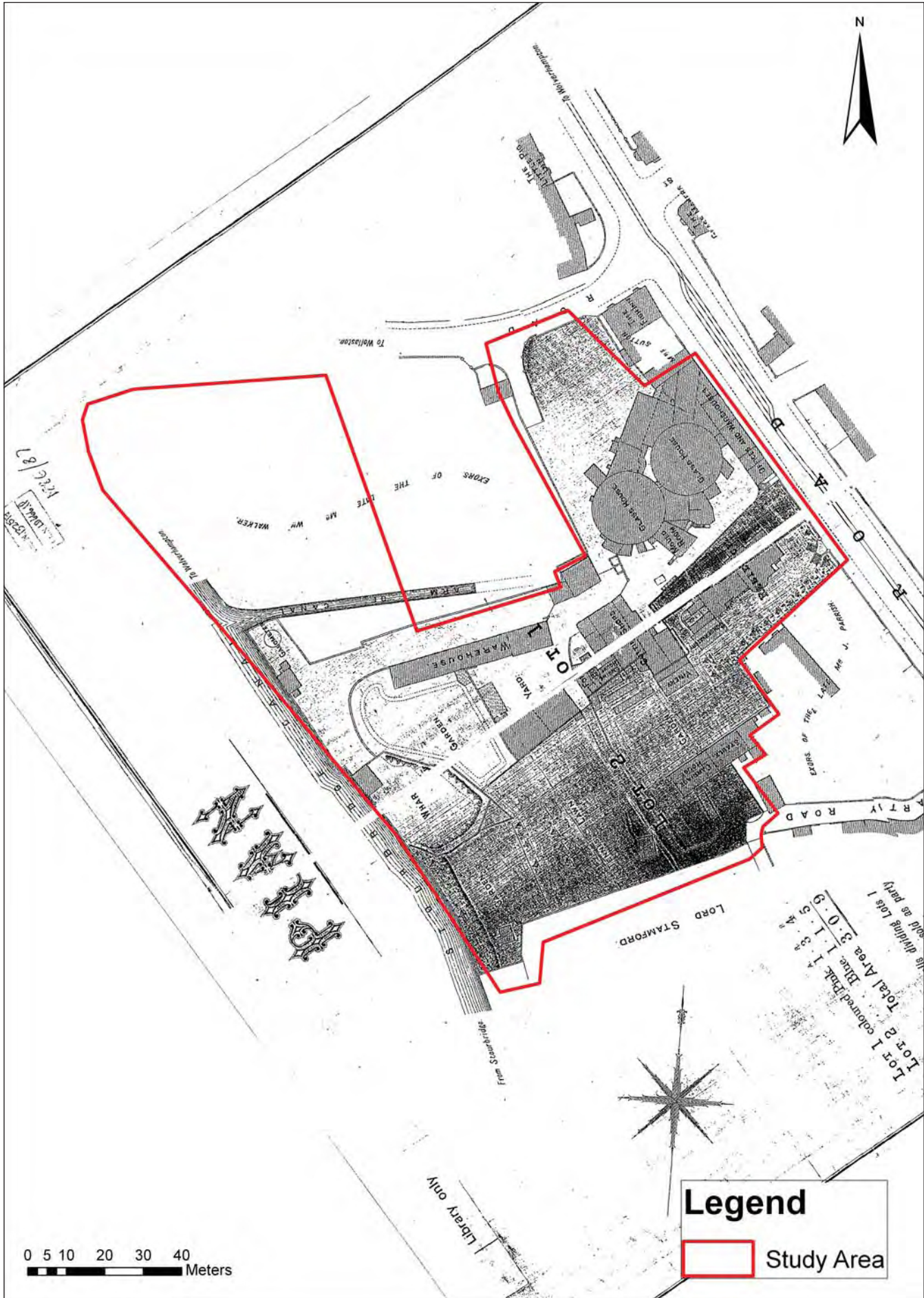
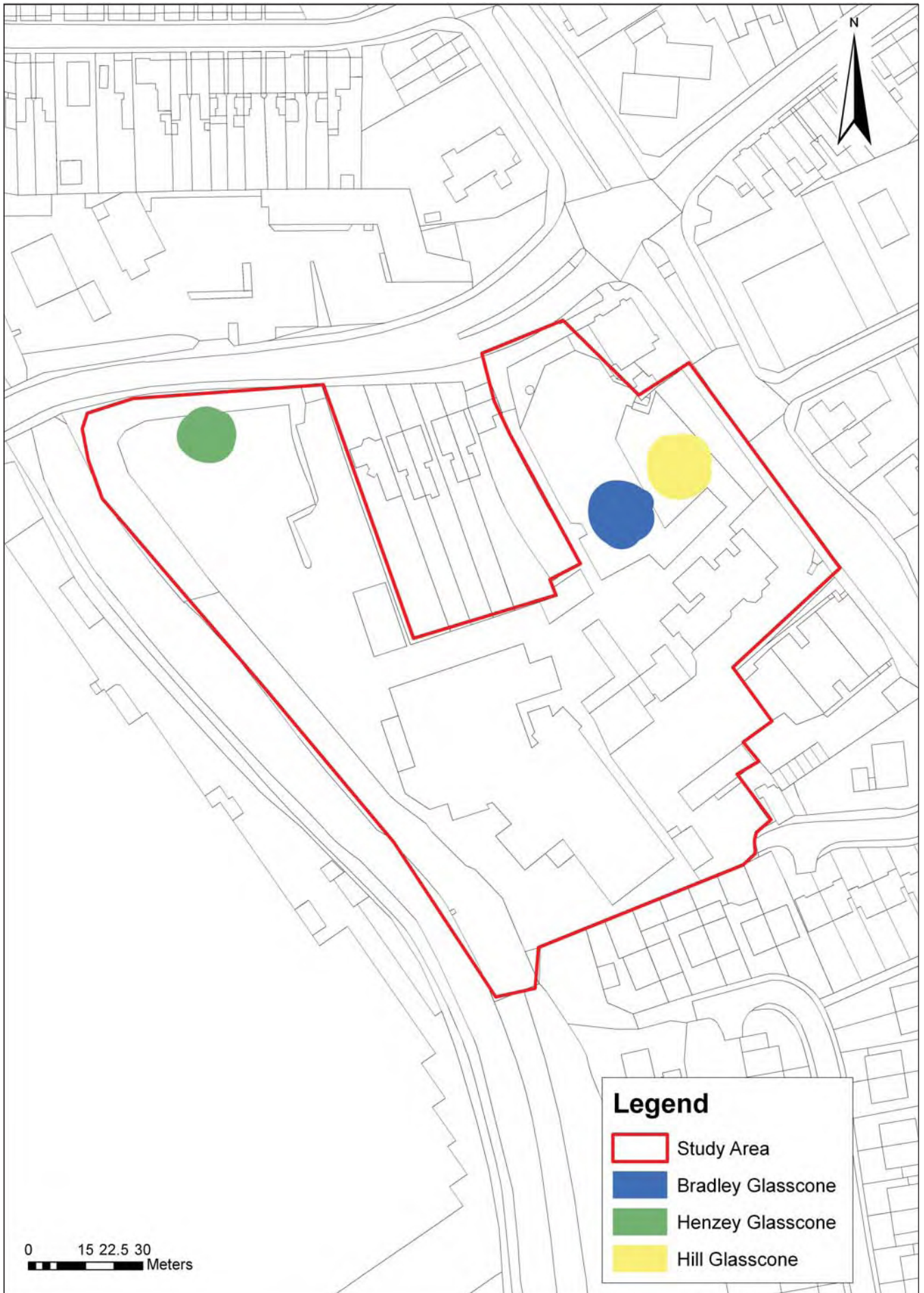
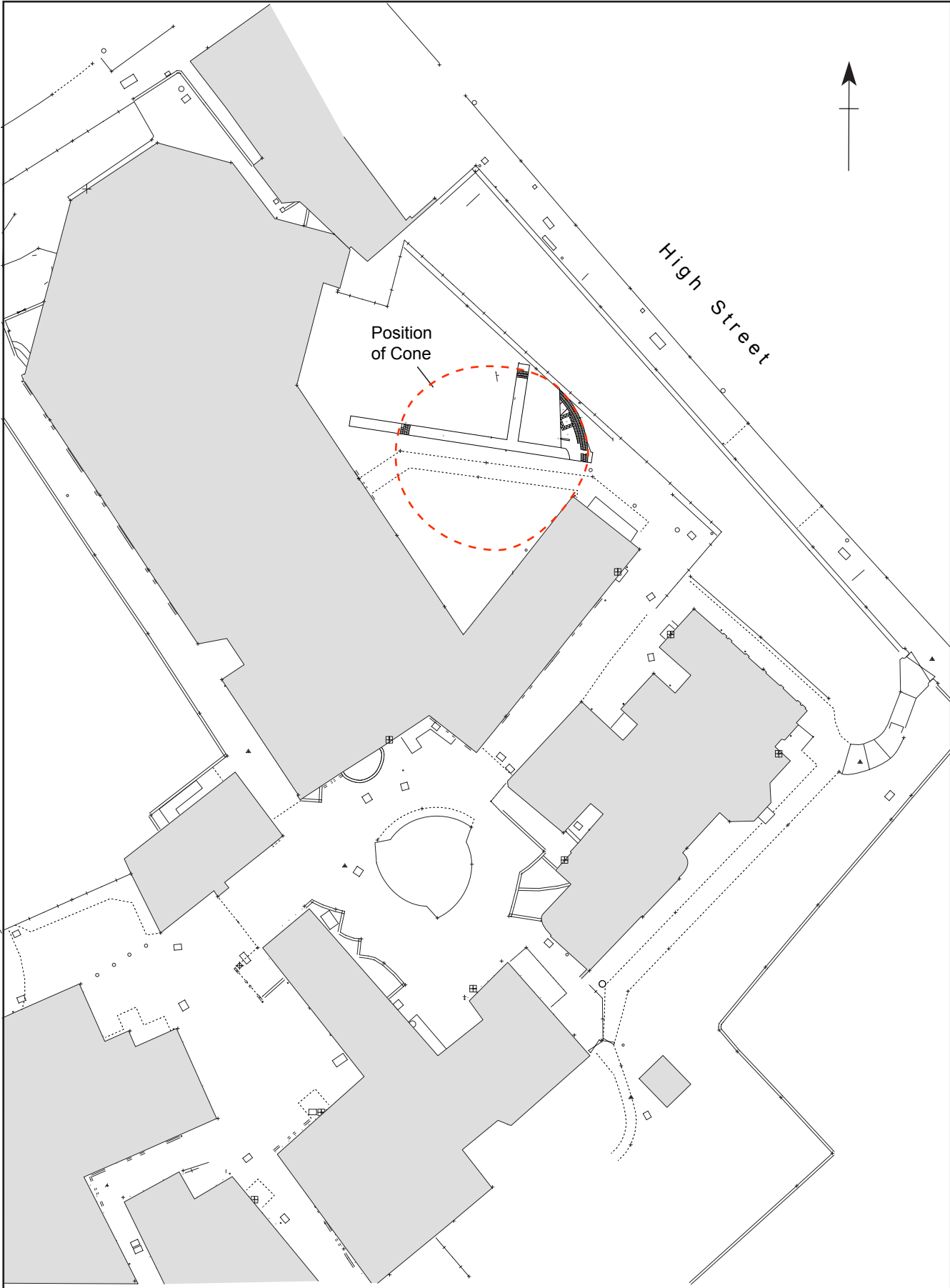
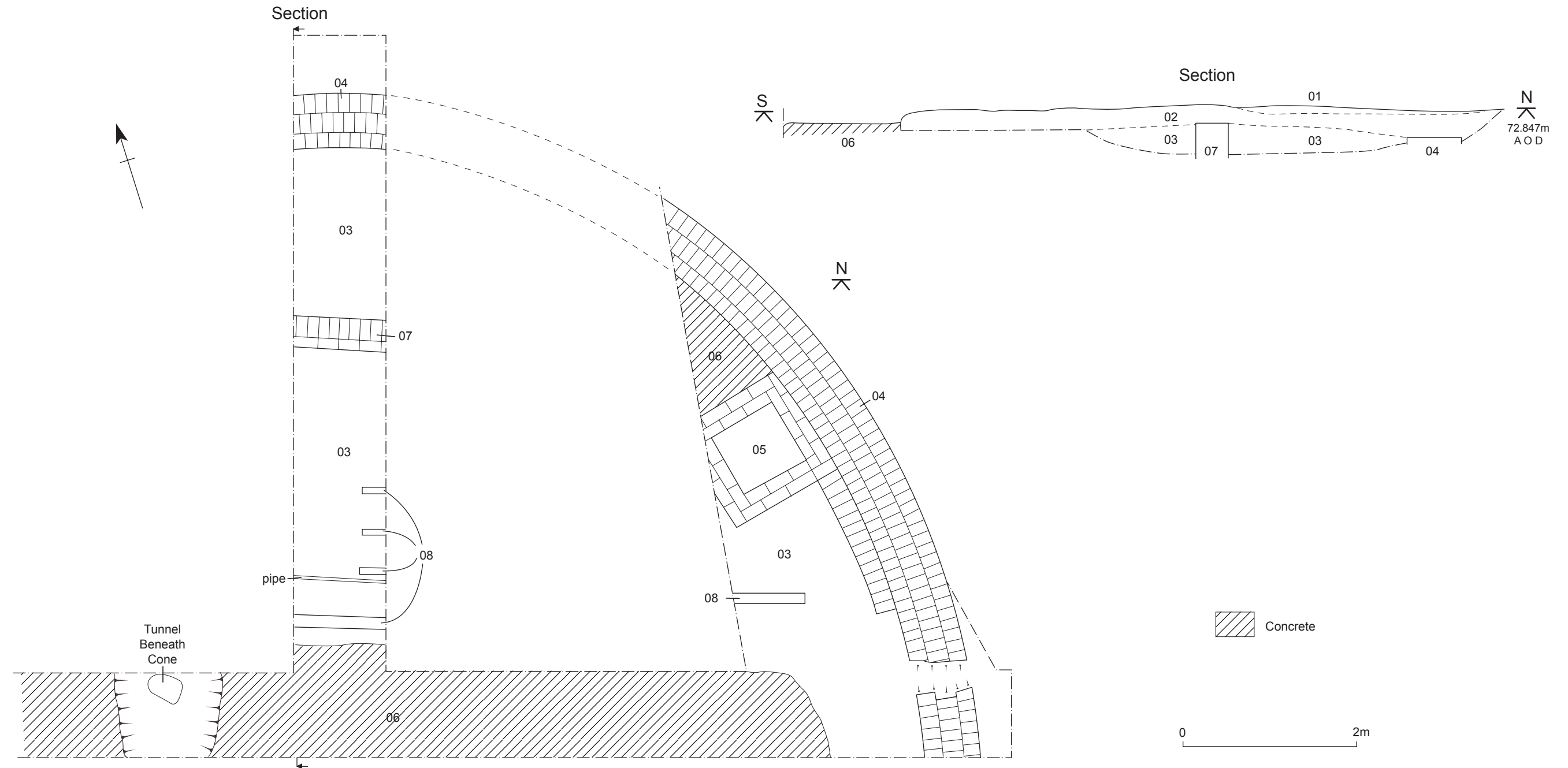
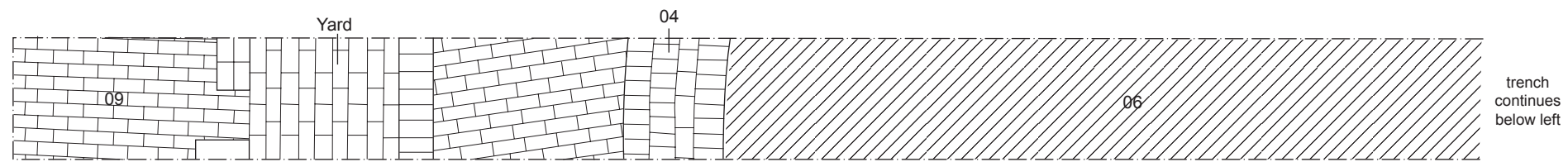


Figure 16: Plan of Coalbourn Hill Glassworks from 1886/7 Sale Catalogue









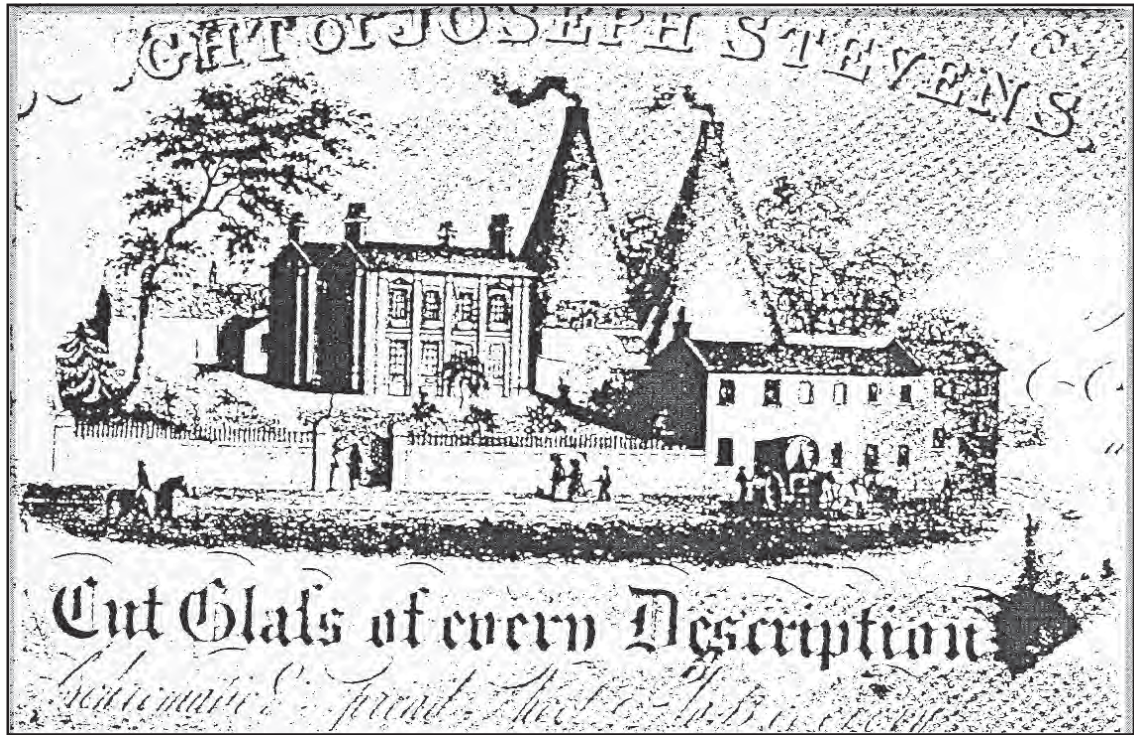


Plate 1



Plate 2

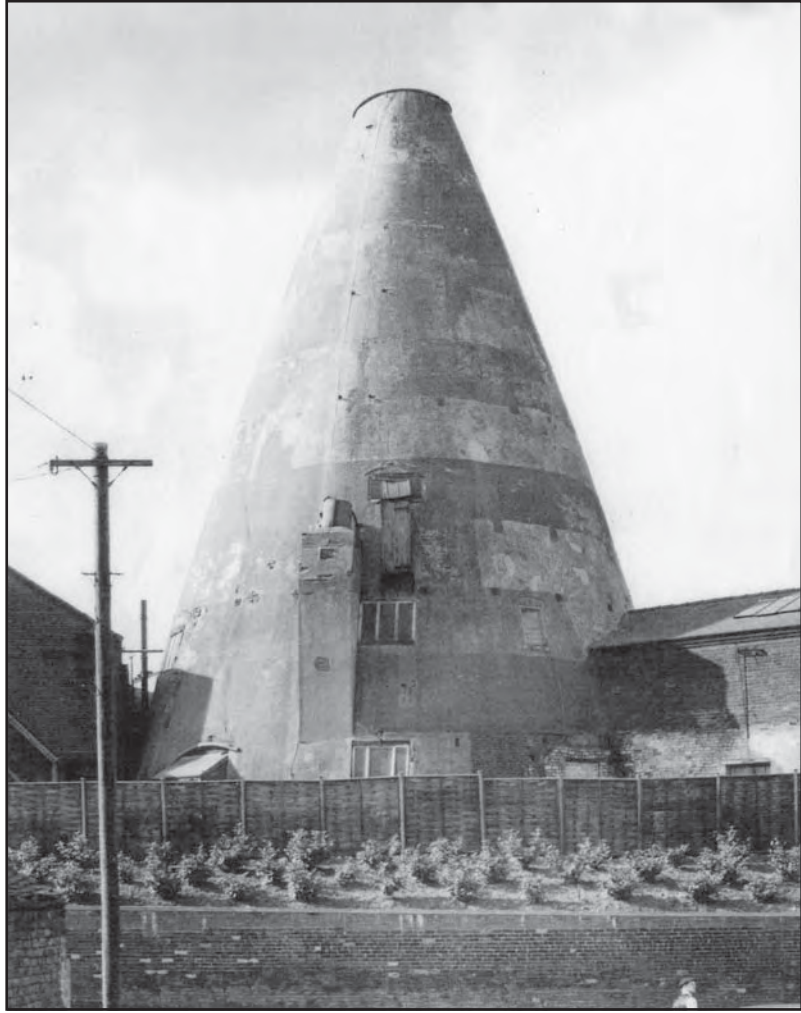


Plate 3



Plate 4



Plate 5



Plate 6



Plate 7