

Ivy Bank Mills
Ivy Bank Lane, Haworth, West Yorkshire:
Historic Buildings Record



July 2014
NGR: SE 03410 36760
Historic township: Haworth

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This report is formatted for printing on both sides of the paper

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SUMMARY

Historic building recording, primarily photographic, was carried out for K M Norris Ltd (via their agent Prospect Archaeology Ltd) at Ivy Bank Mills, Haworth (NGR: SE 03410 36760), in order to fulfil a condition of conservation area consent for the demolition of most of the surviving buildings. The mills were established in about 1860 for steam-powered worsted spinning and weaving and operated into the late twentieth century, and the principal standing building is a three storey spinning mill, near which is a combined boiler house and warehouse, and small office block. A weaving shed and second warehouse were demolished in 2008-9.

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IVY BANK MILLS, IVY BANK LANE, HAWORTH, WEST YORKSHIRE:

HISTORIC BUILDINGS RECORD

1 Introduction

- 1.1 This report presents the results of historic building recording at Ivy Bank Mills, at Haworth in West Yorkshire. The work was carried out in June 2014, and was commissioned by the owner K M Norris Ltd, via Prospect Archaeology Ltd, to fulfil a condition attached to conservation area consent for the demolition of the buildings, from City of Bradford Metropolitan District Council.
- 1.2 Ivy Bank Mills were established in about 1860 as a steam-powered worsted mill, and continued in textile use well into the twentieth century. The present buildings comprise a three storey spinning mill with integral engine room, a detached building believed to be boiler house with warehousing, and a detached office building, but these represent only part of the historic complex, which until demolition in 2008-9 also included a large weaving shed, chimney and warehouse. The present buildings are in poor condition, in particular the spinning mill, which lacks a roof and much of its internal structure as the result of a fire.
- 1.3 The recording work was carried out in accordance with a specification from the West Yorkshire Archaeology Advisory Service (WYAAS) (Appendix 1), and was conducted primarily by external photography. This report will be submitted to the client, the West Yorkshire Historic Environment Record and the West Yorkshire Archive Service, and will be published on the internet via the OASIS project.

2 Location and current use

- 2.1 Haworth is a large village about 5km south-west of Keighley, near the confluence of the River Worth with the Bridgehouse Beck, and Ivy Bank Mills stand just to the west of the latter, at NGR: SE 03410 36760, and at an altitude of 185m above sea level. The site access is off Ivy Bank Lane (figure 1).
- 2.2 The site itself is for the most part on an artificial terrace set into a slope falling away to the east. The offices and cart shed are located next to the site entrance, and face east, and are orientated perpendicularly to the main building at the site, the three storey spinning mill. The boiler house with warehousing stands to the east of here, with its east side at a much lower level, next to a trackway running north-south, although this area is much overgrown. The mill pond lies to the south of here, and the buildings previously demolished, including a warehouse, weaving shed and the chimney, stood to the west of the pond (figure 2).

3 Planning background

- 3.1 The site lies within the Haworth Conservation Area, but is not listed as having special architectural or historic interest. Conservation area consent for the “Demolition of mill building and engine house” was granted on 8 February 2013 (application no: 11/05489/CAC), with a condition attached on the recommendation of WYAAS, requiring a programme of architectural and archaeological recording. This report and the associated project archive are intended to allow this condition to be discharged.
- 3.2 The demolition of the warehouse, weaving shed, and chimney was carried out under a previous consent granted in 2008 (application no 08/04183/CAC), which made no provision for archaeological recording.

4 Previous investigative work

- 4.1 The Royal Commission on the Historic Monuments of England (RCHME) made a cursory record of the site during their survey of Yorkshire textile mills in the 1980s, though they appear not to have made more than a brief visit; their file includes little more than aerial photographs (particularly useful in showing the buildings previously demolished), and references to documentary sources¹. Otherwise, no architectural investigation appears to have been carried out.

5 Historical background

- 5.1 There has been settlement at Haworth since the medieval period if not before, and in common with many parts of the south Pennines, the village was economically dependent on agriculture until the growth of the textile industry, particularly wool combing, spinning, and the weaving of worsted cloth from the early eighteenth century, at first by hand in the home, but from the later part of the century in small water-powered spinning mills, and quantities of cotton were also spun in such mills. Powerlooms were introduced in Haworth from about the 1830s, and by the middle of the nineteenth century there were numerous steam-powered mills in the district, many of them on sites where water power had previously been exploited, so for the most part they were clustered along the valley bottoms². A recession from 1847 put a halt on the expansion of the industry, but lasted only for a few years, with 1850 and 1851 being prosperous ones in the worsted trade, but there was again a decline in output during the Crimean War (1853-6), which had a severe impact locally. Fortunes improved quickly from 1857, and there was also a fillip to trade from the opening of the railway line from Keighley to Oxenhope in 1867.

¹ English Heritage Archives, ref BF062652

² Baumber, M 2009 *A History of Haworth from Earliest Times*

- 5.2 The history and development of Ivy Bank Mills themselves can be pieced together from a selection of sources, including local history publications and historic maps, but no definitive study of the site has been made previously.
- 5.3 The exact date at which the mills were established remains unclear, but it was in 1860 or 1861, during the boom years of the worsted trade; maps surveyed in the late 1840s or 1850 show the site as still undeveloped except for a small smithy known as the “Folly” (see figures 3 & 4). Ivy Bank Mill or Mills were occupied by Timothy Feather & Co in 1861, described as worsted spinners and manufacturers and “heald yarn” manufacturers, which suggests they were producing finished cloth, but afterwards there were other occupiers, including Midgley & Andrews, and later David Steel³. The last named was in occupation when the site was offered for sale in 1866 (by whom is unclear): it then comprised two closes of land known as Folly Fields, and a “Worsted mill called Ivy Bank Mill with the warehouses, washing and scouring room and other buildings. Two reservoirs on the two closes. One pair of vertical steam engines, 30 horse power Cornish boiler, and the shafting etc..... There is an excellent never failing supply of pure spring water running through this lot.”⁴ Eventually the site was acquired by Thomas Bland & Co, a company first established at Becks Mill in Keighley in 1849, which moved to this site in Haworth in 1869. Thomas was succeeded as owner of the company by his son Hophni, who built himself the villa known as Ivy Bank House, which stands a little further up the hill, with a view over the works.
- 5.4 The arrangement of buildings at Ivy Bank Mills before depicted by the Ordnance Survey in 1894 (figure 5) is uncertain as no maps or plans are known which might show them. The three storey spinning mill and weaving shed are most likely to have been part of the original configuration, but the former has clear evidence for enlargement to its present size, and one account refers to the building as having been extended in 1885⁵. Another source reports that a warehouse was added in 1870⁶, perhaps that on the west side of the pond. The site’s first source of power is reported as having been a pair of vertical engines (see above), which were replaced in 1888 by a horizontal compound engine, housed in a new room⁷ which can be easily recognised today, although another

³ White, W 1861 *Directory & Topography of the Boroughs of Leeds and Bradford*, p 676;
Greenwood, R 1999 *A History of the Greenwoods of Haworth Vol III: Background on Haworth: Textile Mills in Haworth*, p 31 (typescript at Keighley local studies library)

⁴ <http://www.valendale.myby.co.uk/mills.html> consulted 30 June 2014

⁵ *Keighley News* 13 August 1949, p5 “Haworth Firm’s Centenary”

⁶ Baumber, M 2009, *A History of Haworth from Earliest Times* p 155

⁷ See note 4; also West Yorkshire Archive Service WYB548/1 “Thomas Smith Book”, notebook kept by the mill engineer which refers to the new engine by Pullitt & Wigzell; also information in English Heritage Archives file BF062652

source indicates that that engine was itself replaced in the 1900s, by one made by Cole Marchant & Morley⁸, and which was still in place in about 1950⁹.

- 5.5 According to the Ordnance Survey, by the early 1890s the mill complex seems to have reached its maximum size, and comprised the three storey spinning mill (with its present length), with the weaving shed to the south, warehouse, and boiler-cum-warehouse to the east, and offices and cart shed at the north-west corner of the site; there were also some “tanks” and adjacent small buildings at the north-east corner. There is a good photograph showing this arrangement taken in about 1900 from the south-east, though it cannot be reproduced for reasons of copyright¹⁰; also valuable in this regard is an illustrated letterhead of Thomas Bland & Son, undated but of the same broad period, and showing the complex apparently at its full extent, albeit with some artistic licence which means a number of details are at variance from reality¹¹. Only very minor changes to this arrangement are shown on subsequent editions of the OS map up to the 1930s (figures 6 to 8). It is worth noting that despite the proximity of the railway to the mill, there appears never to have been direct access between the two, so goods were probably taken to and brought from the station at Haworth by road, once the line had been opened in 1867.
- 5.6 The later history of the factory suggests that Thomas Bland & Son continued to manufacture there into the 1970s, when they made hosiery and weaving yarns. The aerial photographs taken by RCHME in the following decade show all the main buildings as roofed and in use, and the chimney as circular in plan, and apparently standing to its full height.
- 5.7 Subsequently the fortunes of the site seem to have declined however, culminating in the fire of 1997 which gutted the spinning mill and brought an end to industrial activity there.

6 Recording methodology

- 6.1 The recording was carried out in accordance with the specification issued by WYAAS (Appendix 1), on 9 June 2014, and comprised photographic and written work. Following the recording on site, a meeting was held on 16 June with David Hunter of WYAAS, at which that first stage of work was approved, to allow demolition to proceed.

⁸ Danson, L E 1986 *Mill Chimneys in Keighley & the Worth Valley* p50 (typescript at Keighley local studies library).

⁹ Wood, S 2011 *Haworth Oxenhope & Stanbury From Old Photographs: Vol 2: Trade & Industry* p115

¹⁰ Wood, S 2011 *Haworth Oxenhope & Stanbury From Old Photographs: Vol 2: Trade & Industry* p94

¹¹ <http://www.theviewfromthenorth.org/letter-head> consulted 1 July 2014

6.2 The photographic record was made using a medium format camera with perspective control and other lenses, and black and white film for archival stability. External photographs were taken of all parts of the standing buildings at the site, except where prevented by dense vegetation, in most cases using a 2m ranging pole marked with 0.5m graduations as a scale; no access into the buildings was feasible, due to their precarious condition. These black and white photographs have been printed at approximately 7" x 5" or 10" x 8", and are all copied in this report, where they are referred to by numbers in **bold**. A small number of photographs was also taken using a digital camera (see Appendix 2), which will be deposited in digital form only with WYAAS. Locations of all photographs taken are marked on a copy of the site plan (figure 9).

7 Architectural descriptions

Spinning mill

- 7.1 The dominant building at the site, the three storey spinning mill, faces north onto a large level yard, reached via the gateway off Ivy Bank Lane (**1-3**). It presents a largely uniform façade, 17 bays long with the wall being faced with coursed local sandstone, and a regular arrangement of large, plain window openings with sill bands, surmounted by paired, square eaves corbels to support guttering. The projecting lavatory tower (too narrow to have contained the stair), which occupies bay 12, rises above eaves level, where its top storey served the building's attic floor (**4**). It appears to have been added after the building was extended to the west, to judge from a straight joint and subtle change in stonework in the rear, south elevation which aligns with the centre of the tower (**5,6**). There is a second such anomaly in the rear elevation two bays to the west of here, where there is a break in the sill bands, though here the changes in the masonry are otherwise less clear-cut (**7-9**), so quite what this particular change represents is unclear. A few stone slates at the eaves are all that remains of the roof covering, but the RCHME's aerial photographs show ventilation cowls and a continuous roof light to the north of the ridge, and a relatively ornate chimney stack still surmounts the west gable (**10**). An electric hoist crudely inserted through the top floor window of the north elevation near the west end appears to be mid twentieth century (**11**).
- 7.2 The east end of this building housed the engine, most recently in the ground floor of the end bay, but initially, before the installation of a horizontal engine in 1888, it was located two bays further west, to judge from the presence of a redundant round arch over a window in the south side of the building, very close to the former chimney (**12,13**); the window also has large blocks within the jambs which are unique in the building. This typical indicator of a room for a vertical engine has been slighted by its later adaptation to a rectangular opening, but a large

bearing set within the wall below it (hidden by vegetation) may have been the means by which power from it was transmitted into the adjacent weaving shed.

7.3 The present engine room, which was created in 1888 for a horizontal engine, is betrayed by a much larger arched opening in the north side of the building, and then either formed part of the existing mill, or was an addition to it, though there is no straight joint or other obvious sign of the building having been extended eastwards here (14). A steel lintel bridges the matching opening in the south side of the engine room, but perhaps that was also an arch at one time. Inside, remnants of the former glories of this space include a simply moulded plaster dado and matchboarding to the ceiling, and there is also a long steel rail with hoisting eyes attached just below the ceiling, but the floor is later concrete and gives no indication of the engine's arrangement (15,16). However, a number of bearings and other openings in the east gable show something of the power transmission arrangements, though it is difficult to determine whether these relate to the original or a second horizontal engine though to have been installed in the 1900s, a picture made more complicated by the fact that there was formerly a canopy linking the east end of the building with the nearby boiler house (17). The bearings include a large wall box at ground level, over 1m² in size (18,19), above which a former upright shaft can be inferred from the presence of a trap door in the adjacent ceiling, and paired bolts for a transom bracket higher up in the wall. In addition there is a smaller bearing just below the first floor windows (20), and a hatch with remains of an opening shutter, below the second floor windows, which to judge from the oil staining below it, gave access to a shaft for maintenance (21). Paired bolts and a fallen horizontal iron transom bracket within the second floor window suggest there was another vertical shaft up the centre line of the gable inside the mill, to transmit power to the upper floors, not on the same alignment as the very large bearing at ground level, so perhaps of a different phase and relating to a different engine.

7.4 The arrangements within the rest of the three storey mill cannot now be established: its interior was of timber floors with cast iron columns (22), and there seem to have been no internal masonry walls.

Remains of weaving shed

7.5 Very little remains of the weaving shed which was located to the south of the spinning mill, but photographs taken before its demolition show four parallel roofs with the characteristic saw-tooth profile and north lights, together with some ventilation cowls, and the chimney positioned close to the north-east corner of the building, which was probably the site of the original boiler house. Demolition has left only the west side of the building which comprises a retaining wall of brick (23), together with a fragment of the east side where it adjoins the spinning mill (perhaps the location of the original boilers). This is of coursed stone which

butts up to the taller building, and which has a sill band and window jamb of an opening within it, together with a wall box for a bearing which might have carried a shaft into the shed or less likely to the building to the east (**24,25**). The sockets of the roof trusses, and paired holes to which brackets for carrying a main line shaft were attached, can also be seen along much of the mill's south elevation (**8,9**); the form of the sockets does suggest that the shed was an original and planned part of the site, but it is curious that the ground floor of the spinning mill here has the same fenestration as the upper storeys.. Otherwise, there are only remnants of the shed's concrete floor, occupying a single level.

Remains of demolished warehouse

- 7.6 Historic photographs show that the building on the west side of the pond was in broadly similar style to the spinning mill, with an array of large windows, eight bays long and three storeys high, with a roof of stone slate. This is likely to be that referred to as having been added in 1870 by Thomas Bland & Co (see above), but now only three courses of the east elevation remain above ground level, forming the pond's west side (**26,27**).

Boiler house

- 7.7 To the east of the spinning mill, separated from it by a gap of about 6m, is a ruined building of up to three storeys, although the west part of the building is of one storey only (**28**). Although characteristically utilitarian in appearance, aspects of its construction suggest a slightly different date from the main building, including the use of shaped kneelers, and it might be postulated that this was added in the 1880s as a boiler house for the new engine, the latter being located further east than the original vertical engines.
- 7.8 The building is about 17m long and 11.5m wide, though it is supplemented by a lean-to against the east part of the south gable, which formerly ran the whole length of the gable. The north gable has a wide opening under a cast iron or steel lintel, partly infilled, with the stone pier within the opening marking the line of a dividing wall which runs the length of the building. A single row of five windows lights the west part of this floor (**29-32**), and this arrangement is repeated on each storey in the east side, which is much overgrown, though it is notable that a doorway near the north end of the east elevation is distinguished by an arched stone lintel (**33-35**). The ground floor ceiling is of fireproof, jack arched construction.
- 7.9 The surviving lean-to at the south end of this building (much hidden by trees) is primarily stone-built, and clearly formed a separate entity, with its own entrance in the east side at ground floor level, as well as a wider opening in the south side which has been altered to form a pair of windows (**36-38**). There is also a higher

level doorway to an upper floor in the west side, outside the demolished south-west part of the lean-to, which was smaller and lower in height (39,40). The only feature of interest in the latter is a flue opening or similar into the main building, under an iron lintel but with arch over, which was probably connected to the boilers or perhaps to the chimney (41,42). No evidence was observed to indicate the means by which water for the engine and boilers was transmitted to and from the pond, but a man-hole over the outlet exists to the south-east of these lean-tos (43).

Offices and cart-shed

- 7.10 The smaller buildings which stand close to the site entrance include a four-bay, two storey building which appears to have been used as offices, with a lower, open-fronted shed at its north end, most likely used as a cart-shed. There are also the remains of minor buildings at the south end of the offices, though these are now almost entirely ruinous; a sloping path next to them runs up the slope and seems to have given access to an upper floor within the west end of the spinning mill (44-46). The offices themselves are back-to-earth, with openings only at first floor level to the west side, and are plain and functional, with construction details including coursed sandstone walls, plain window sills and eaves brackets, and blue slate roof with gable copings. There are now no chimneys, but the RCHME aerial photographs show a single stack along the rear elevation, which might have served four rooms. A number of openings have been blocked historically and more recently, but sash window frames do survive to the first floor (47,48). The lower cart-shed has a canted end where constricted by the gateway, a single-pitch roof now lacking a covering, and little further of its historic appearance can be deduced from the present structure (49-50).

8 Discussion

- 8.1 As far as can be established from the surviving remains and historical evidence, Ivy Bank Mills was a fairly typical integrated worsted mill of the mid nineteenth century, built in about 1860 on a new site, and steam-powered and shaft-driven from the outset, though it is not certain whether it was built by its first occupier Timothy Feather, or by a speculative landowner or developer. Although there was by that time an established model for the integrated mill, at least one new substantial building is reported as having been added in about 1870 by the new owner Thomas Bland, and there is archaeological evidence that the main spinning mill underwent enlargement on at least one occasion. It is however not clear how this extension related to the weaving shed, which was presumably extended at the same time. Alterations were also made to accommodate new steam engines: the original pair of vertical engines was replaced in 1888 by a horizontal tandem compound engine housed in a new room (the new engine

requiring a long, narrow space in contrast to the taller original engine room), and this might have necessitated the construction of a new boiler house, detached from the mill. The 1888 engine is reported as having been replaced in about 1908.

- 8.2 In many respects the mill's location cannot be considered to have been a prime one, as when first built it was poorly served by transport, the nearest railway station being at Keighley, a situation which did not improve until the new line to Oxenhope was opened in 1867: it seems likely that the promise of this connection to the railway was a significant factor in Bland's decision to move production to Haworth from Keighley. The site itself was less than ideal in other aspects, and must have required a considerable effort in the preparation of a level area for the large mill and shed, and this is perhaps an indication of the rewards which it was thought could be made from investing in a worsted factory at a time of high prices and buoyant, growing demand.

Appendix 1: WYAAS specification

Specification For Archaeological Photographic Building Recording And Historical Research at Ivy Bank Mill, Haworth, Bradford (SE 403410 436760)

Specification prepared at the request of by Nansi Rosenberg of Prospect Archaeology in response to the former worsted spinning mill's parlous condition and likely demolition.

1 Summary

1.1 A building record (photographic survey) and historical research is required to identify and document items of archaeological and architectural interest prior to the demolition of this mid 19th century worsted spinning mill complex. This specification for the necessary recording work has been prepared by the West Yorkshire Archaeology Advisory Service (WYAAS), the curators of the West Yorkshire Historic Environment Record.

NOTE: The requirements detailed in paragraphs 6.1.1 to 6.1.5 inclusive, 8.3 to 8.4 are to be met by the archaeological contractor prior to the commencement of fieldwork by completing and returning the attached form to the WY Archaeology Advisory Service.

2 Site Location and Description

2.1 Location

(NGR 403410 436760)

Ivy Bank Mill is located to the south-east of Haworth on a platform or terrace on the western side of a valley above the Bridgehouse Beck and the Keighley and Worth Valley Railway. Ivy bank Lane forms the site's north-western boundary while a lane to Woodlands House lies to the east. The site covers an area of c. 6900m².

The mill is a non-designated heritage asset (West Yorkshire Historic Environment Record PRN 10245) and lies in the Haworth conservation area and the historic township of Haworth.

2.2 Description

The remains of Ivy bank Mill comprises three of standing buildings, a mill pond and track way. The Surviving buildings are in a poor to very poor condition and consists of:

1. Two storey 4 bay stone built (?) office with cart or vehicle shed by the gate to Ivy Bank lane.
2. The three storey by 17 bay mill in the centre of the site. This is also stone built and of two phases. A lavatory tower on the northern façade masks the junction between the two builds but a scar is clearly visible to the rear (southern facade). It is not currently known whether the western 6 bays or eastern 11 bays are the earliest phase.

An engine house at ground level in the eastern most bay is marked by a wide arched window or entrance. The surviving evidence points to a horizontal engine having been installed. Although the engine has been removed overhead lifting points in the low ceiling –to permit maintenance and repair – and various bearing locations inside and outside the mill suggest its general layout. An office chimney is present on the northern gable.

A single window with a round head, altered to accept a rectangular window frame is present in the first floor near the south west corner.

Internally the floors have largely collapsed save at the western end where a bailing press and wooden staircase have survived to first floor level. The mill had timber floors supported on cast iron columns. Some later steel beams were also noted to the east

3. A two storey block to the east of the mill is built into the hillside. The gap between this building and the mill appears to have been roofed over in the past. Historic photographs show building 3 to have had a roof vent and the three wide openings in its northern gable along with blocked flues point to it having housed the mill's boilers.

The mill pond is at a lower level than the mill and evidently fed by springs, part of its retaining wall has collapsed but sluice gear survives to its north as does an outfall to the Bridgehouse Beck. A track leads uphill from Woodlands House Lane to the southern end of the pond before it turns back towards the mill.

3 Planning Background

The owners of the mill, through their archaeological consultant (Prospect Archaeology, Prospect House, Garden Lane, Sherburn-in-Elmet, Leeds, LS25 6AT Tel.: 01977 681885, contact Nansi Rosenberg) have requested this specification to compile an archaeological and architectural record of the surviving mill complex prior to seeking permission to demolish it. The WY Archaeology Advisory Service (as Bradford's archaeological advisor) has prepared this specification in order to allow the owners to seek quotations for this work and to meet any future condition attached to planning consents (not yet sought).

4 Archaeological Interest

4.1 Historical Background

Worsted cloth is characterised as employing only long woollen fibres (tops) or other substitute yarn such as cotton or silk in the warp. The selection and preparation of appropriate long woollen fibres was crucial to the worsted industry. Suitable wool then required extensive combing. This process continued to be carried out by hand well into the 19th century and was not fully mechanized until the 1840s.

Ivy Bank Mill was constructed for Thomas Bland & Sons, Worsted Spinners. The company began trading in 1849 establishing a terminus post quem for the commencement of the mill.

This founding date is after the Ordnance Survey First Edition 6', to the mile map (Sheet 200) was surveyed but several years before the map was published in the 1850s. The mill is not shown on this map. Later historic maps and photographs show Ivy Bank Mill to have had a much greater footprint than the surviving buildings. Demolished structures included, a three storey by eight bay building to the south east of the multi-storey mill, a round section chimney and a large single storey shed to the rear of the mill.

The surviving mill is likely to date to the later 19th century when horizontal steam engines became the most common form of prime mover. Evidence of this installation and the means of transmitting power to the mill and shed survives in the southern wall of the multi-storey mill. It is not currently known if an earlier power source was employed in this building or one of the demolished structures.

Ivy Bank Mill can be characterised as a purpose built mid 19th century, steam powered spinning mill. The survival of its late 19th century engine room, boiler house and mill pond are important evidence of the development and operation of such a mill and its power source. Whilst partial demolition since the 1980s has removed some evidence it has also revealed aspects of the boiler house flues which are often obscured or missing at contemporary mills. However, the form and location of the earliest mill and site's sequence of development is not currently understood.

4.2 Proposed Impact

The WYAAS understand that due to its condition the owners of Ivy Bank Mill will seek total demolition of all buildings within the site.

5 Aims of the Project

5.1 The aim of the proposed work is to carry out photographic recording of the surviving elements of the spinning mill, offices, mill pond and boiler house and to place this record in the public domain by depositing it with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE).

In addition historical research should be carried out to establish the date, form and location of the original mill and if possible, establish its power source. How does this and the later engine relate to the mill pond?

If it is established that evidence of the mill's prime mover(s) is likely to survive as buried remains then an archaeological watching brief should be held to record this information during development of the site.

The development of Ivy Bank Mill should be placed in the chronological and technological context of worsted industry.

6 Recording Methodology

6.1 General Instructions

6.1.1 Health and Safety

The archaeologist on site will naturally operate with due regard for Health and Safety regulations and the requirements of the site's owner. The WYAAS does not consider entry into the mill buildings to be safe and it is not a requirement of this specification. Prior to the commencement of any work on site (and preferably prior to submission of the tender) the archaeological contractor may wish to carry out a Risk Assessment in accordance with the Health and Safety at Work Regulations. The archaeological contractor should identify any contaminants which constitute potential Health and Safety hazards and make arrangements with the client for decontamination/making safe as necessary and appropriate. The WY Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries which may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.

6.1.2 Confirmation of adherence to specification

Prior to the commencement of any work, the archaeological contractor must confirm in writing adherence to this specification (using the attached form), or state in writing (with reasons) any specific proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of the WYAAS to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor (see para. 8.3, below). Modifications presented in the form of a re-written project brief will not be considered by the WYAAS.

6.1.3 Confirmation of timetable and contractor's qualifications

Prior to the commencement of work on site, the archaeological contractor should provide the WYAAS in writing with a projected timetable for the site work, and with details regarding staff structure and numbers. *Curriculum vitae* of key project members (the project manager, site supervisor, photographer, any proposed specialists etc.), along with details of any specialist sub-contractors, should also be supplied to the WYAAS if the contractor has not previously

done so. All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. In particular, staff involved in building recording should have proven expertise in the recording and analysis of industrial buildings.

6.1.4 Site preparation

Prior to the commencement of work on site the archaeological contractor should identify all removable modern material (including modern security fencing) which may significantly obscure material requiring an archaeological record, and should contact the developer in order to make arrangements for their removal (if necessary, under archaeological supervision). It is not the intention of this specification that large-scale removal of material of this type should take place with the archaeological contractor's manpower or at that contractor's expense.

6.1.5 Documentary research

Prior to the commencement of work on site, the archaeological contractor should undertake a rapid map-regression exercise based on the readily-available map and photographic evidence held by the relevant Local History Library (Keighley Library, North Street, Keighley BD21 3SX Tel.: 01535 618215) and the West Yorkshire Archive Service Bradford (Prince's Way, Bradford, West Yorkshire. BD1 1NN Tel.: 0113 393 9785 [sic]), and a rapid examination of the available 19th- and 20th-century Trades and Postal directories, the appropriate census returns and all other available primary and relevant secondary sources. This work is intended to inform the archaeological recording by providing background information with regard to function and phasing.

6.1.6 Site/building plans

It is not known if plans of the mill as existing are held by the owners or their agents. If located and appropriate, these plans may be used as the basis for annotation of the photographic record. Additional information relevant to the historic record should be indicated on the plans, which shall be re-drawn as necessary. It is the archaeological contractors' responsibility to obtain the appropriate copyright permissions for any original material employed as a basis for further work.

If such drawings are not located then the contracting archaeologist should use large scale ordnance survey maps (e.g. master Map) to indicate the location and direction of photographs and phasing information (see 6.4.8).

6.2 Sequence of recording

6.2.1 Initial record

As a result of the modern partitioning and remodelling of Ivy Bank Mill, recording work should take place in two stages. The structures should initially be recorded as extant, with due provision made for the removal of any debris or modern material which may obscure fabric or features requiring an archaeological record (para 6.1.4 above).

6.2.2 Watching Brief

If it is considered to be appropriate a watching brief should be maintained by the contracting archaeologist to record any pertinent historic structural or functional detail of the mill's engine and boiler house which may be exposed during demolition but which are currently inaccessible or concealed, overbuilt or obscured by later alterations to a degree not remediable under normal circumstances of site preparation. This record should be obtained by means of notes, drawings and photographs as appropriate, to the standards outlined elsewhere in this specification. This detail should then be incorporated into the completed record.

6.3 Written Record

The archaeologist on site should carefully examine the mill prior to the commencement of the photographic recording, in order to identify all features related to its former use and the distribution of power. As part of this exercise, the archaeologist on site should produce written observations (e.g. on phasing and materials) sufficient to permit the preparation of a report on the structure.

6.4 Photographic Record

6.4.1 External photographs

An external photographic record should be made of all elevations of each/the building, from vantage points as nearly parallel to the elevation being photographed as is possible within the constraints of the site. The contractor should ensure that all visible elements of each elevation are recorded photographically; this may require photographs from a number of vantage points. AND/OR List specific shots. A general external photographic record should also be made which includes a number of oblique general views of the building(s) from all sides, showing it/them and the complex as a whole in its/their setting. In addition, a 35mm general colour-slide survey of the building(s) should also be provided (using a variety of wide-angle, medium and long-distance lenses). While it is not necessary to duplicate every black-and-white shot, the colour record should be sufficiently comprehensive to provide a good picture of the form and general appearance of the complex and of the individual structures. The colour slide record should include some internal shots. Digital photography may be employed as an alternative to 35mm slides. See section 6.4.5 below.

6.4.2 Detail photographs

In addition, detailed external record shots should be made of all features of archaeological and architectural interest identified during the process of appraisal. Typically, items of interest would be:

- Evidence of process flow
- Evidence power transmission

but this list should not be treated as exhaustive. The archaeologist on site should also identify and note:

- All evidence for the generation or transmission of power
- Evidence of boiler installation and flues
- All original or later historical structural elements
- Hoists or other lifting mechanisms
- All evidence for original access arrangements
- Evidence for original sanitation arrangements/provision
- All evidence for significant structural alterations such as a change in roof height or pitch

Elements for which multiple examples exist (e.g. each type of roof truss, column or window frame) may be recorded by means of a single representative photograph. N.B. Detail photographs must be taken at medium-to-close range and be framed in such a way as to ensure that the element being photographed clearly constitutes the principal feature of the photograph.

6.4.4 Equipment

General photographs should be taken with a Large Format monorail camera (5" x 4" or 10" x 8"), or with a Medium Format camera that has perspective control, using a tripod. The contractor must have proven expertise in this type of work. Any detail photographs of structural elements should if possible be taken with a camera with perspective control. Other detail photographs may be taken with either a Medium Format or a 35mm camera. All detail photographs must contain a graduated photographic scale of appropriate dimensions

(measuring tapes and surveying staffs are not considered to be acceptable scales in this context). A 2-metre ranging-rod, discretely positioned, should be included in a selection of general shots, sufficient to independently establish the scale of all elements of the structure.

6.4.5 Digital photography

As an alternative to our requirement for colour slide photography, good quality digital photography will be supplied as an alternative, using cameras with a minimum resolution of 8 megapixels. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied in three file formats (as a RAW data file, a DNG file and as a JPEG file). The contractor must include metadata embedded in the DNG file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. Images are to be supplied to WYAAS on gold CDs by the archaeological contractor accompanying the hard copy of the report.

Consideration should be given to the use of a pole mounted camera, scaffolding or a cherry picker to obtain limited photographic coverage of the remaining upper floors from an external position.

6.4.6 Film stock

All record photographs to be black and white, using conventional (not chromogenic) silver-based film only, such as Ilford FP4 or HP5, or Delta 400 Pro that is replacing HP5 in certain film sizes (such as 220). Dye-based films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities.

6.4.7 Printing

6.3.7a Record photographs should be printed at a minimum of 5" x 7". In addition, a selection of photographs intended to illustrate structural detail should be printed at 10" x 8" (it is expected that there is likely to be a need for 4 such prints).

6.4.7b Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but not in a manner which alters detail or perspective). All digital prints must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the WYAAS, with supporting documentation indicating their archival stability/durability. Written confirmation that the materials are acceptable must have been received from the WYAAS prior to the commencement of work on site.

6.4.8 Documentation

A photographic register detailing (as a minimum) location, direction and subject of shot must accompany the photographic record; a separate photographic register should be supplied for any colour slides and digital photographs. Position and direction of each photograph and slide should be noted on a scaled copy of the building plan (minimum acceptable scale 1:100), which should also be marked with a north pointer.

7. Post-Recording Work and Report Preparation

7.1 After completion of fieldwork

Prior to the commencement of any other work on site, the archaeological contractor should arrange a meeting at the offices of the WY Archaeology Advisory Service to present a draft of the 1st- stage drawn record (fully labelled and at the scale specified above), a photo-

location plan, and photographic contact prints adequately referenced to this plan (material supplied will be returned to the contractor). Copies of the slides or digital photographs should also be brought in for checking. N.B. if full-sized prints or digital versions of contact sheets are supplied for this purpose, they must be accompanied by a sample of the processed negatives. If appropriate, the WY Archaeology Advisory Service will then confirm to Bradford Planning Services that fieldwork has been satisfactorily completed and that other work on site may commence (although discharge of the archaeological condition will not be recommended until the watching brief, if necessary, has been undertaken and a completed copy of the full report and photographic record has been received and approved by the West Yorkshire Archaeology Advisory Service). Please note that as of the 1st April 2011, the WYAAS will charge the archaeological contractor a fee for each fieldwork verification meeting.

7.2 Report Preparation

7.2.1 Report format and content

A written report should be produced. This should include:

- an executive summary including dates of fieldwork, name of commissioning body, and a brief summary of the results including details of any significant findings
- an introduction outlining the reasons for the survey
- a brief architectural description of the mill followed by descriptions of the areas identified correlated to the photographic record and presented in a logical manner, (as a walk around the structure, starting with setting, then progressing to a more detailed and phased record).
- a discussion placing Ivy Bank Mill in its local, historical and technological context, describing and analysing the surviving evidence and with particular attention being given to historical plan form, technical layout, process flow and the means of power generation and distribution.
- the results of any archaeological watching brief held

The architectural description should be fully cross-referenced to the photographic record, sufficient to illustrate the major features of the buildings and the major points raised. It is not envisaged that the report is likely to be published, but it should be produced with sufficient care and attention to detail to be of academic use to future researchers. A copy of this specification and a quantified index to the field archive should also be bound into the back of the report. The cover sheet should include a centred eight-figure OS grid reference and the name of the township in which the site is located (Haworth).

7.2.2 Report Illustrations

Illustrations should include:

- a location map at a scale sufficient to allow clear identification of the building in relation to other buildings in the immediate area
- any relevant historic map editions, with the position and extent of the site clearly indicated (red lined)
- any additional illustrations pertinent to the site
- A complete set of good-quality laser copies of all photographs. All photographs should be accompanied by detailed captions clearly locating and identifying any pertinent features.

The latter should be bound into the report, appropriately labelled (numbered, and captioned in full) and fully referenced within the report. When captioning, contractors should identify the individual photographs by means of a running sequence of numbers (e.g. Plate no. 1; Plate no. 2), and it is this numbering system which should be used in cross-referencing throughout

the report and on the photographic plans. However, the relevant original film and frame number should be included in brackets at the end of each caption.

7.3 Report deposition

7.3.1 General considerations

7.3.1a The report should be supplied to the client and identical copies supplied to the West Yorkshire HER (including a .PDF copy on CD), the WY Archive Service and to the Oasis project. A recommendation from WYAAS for discharge of the archaeological condition is dependant upon receipt by WYAAS of a satisfactory report which has been prepared in accordance with this specification. Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS.

7.3.1b The report copy supplied to the West Yorkshire HER should include a complete set of photographic prints (see Para. 7.3.2 below). The finished report should be supplied within eight weeks of completion of all fieldwork, unless otherwise agreed with the West Yorkshire Archaeology Advisory Service. The information content of the report will become publicly accessible once deposited with the Advisory Service, unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposit.

7.3.1c **Copyright** - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act 1988* (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for non-commercial use by third parties, with the copyright owner suitably acknowledged.

7.3.1.d The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

7.3.1e With the permission of the developer, the archaeological contractor are encouraged to consider the deposition of a copy of the report for this site with the appropriate Local History Library

7.3.1d An entry for Post-medieval Fieldwork in England and Northern Ireland should be submitted to the Journal of the Society for Post – Medieval Archaeology.

7.3.2 Deposition with WY Archaeology Advisory Service (West Yorkshire Historic Environment Record)

The report copy supplied to the WY Archaeology Advisory Service should also be accompanied by both the photographic negatives and a complete set of labelled photographic prints (mounted in archivally stable KENRO display pockets or similar, and arranged in such a way that labelling is readily visible) bound in a form which will fit readily into a standard filing cabinet suspension file (not using hard-backed ring-binders). Labelling

should be on the back of the print in pencil giving film and frame number only and on applied printed labels on the front of the appropriate photographic sleeve which should include:

- film and frame number
- date recorded and photographer's name
- name and address of building
- national grid reference
- specific subject of photograph.

Negatives should be supplied in archivally stable mounts (KENRO display pockets or similar), and each page of negatives should be clearly labelled with the following:

- Township name
- Site name and address
- Date of photographs (month/year)
- Name of archaeological contractor
- Film number

Colour slides should be mounted, and the mounts suitably marked with – 'Haworth' (the Township name) with 'Ivy Bank Mill' under, at the top of the slide; grid reference at the bottom; date of photograph at the right hand side of the mount; subject of photograph at the left hand side of the mount. Subject labelling may take the form of a numbered reference to the relevant photographic register. The slides should be supplied to the WY Archaeology Advisory Service in an appropriate, archivally stable slide hanger (for storage in a filing cabinet).

7.3.3 Copyright - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act 1988* (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for non-commercial use by third parties, with the copyright owner suitably acknowledged

7.4 Summary for publication

The attached summary sheet should be completed and submitted to the WYAAS for inclusion in the summary of archaeological work in West Yorkshire published on the WYAAS website.

7.5 Preparation and deposition of the building recording archive

After the completion of all recording and post-recording work, a fully indexed field archive should be compiled consisting of all primary written documents and drawings, and a set of suitably labelled photographic contact sheets (only). Standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007). The field archive should be deposited with the Bradford Office of the West Yorkshire Archive Service (Prince's Way, Bradford, West Yorkshire. BD1 1NN Tel.: 0113 393 9785 [sic]) and should be accompanied by a copy of the full report as detailed above. Deposition of the archive should be confirmed in writing to the WY Archaeology Advisory Service.

8 General considerations

8.1 Technical queries

Any technical queries arising from this specification should be addressed to the WYAAS without delay.

8.2 Authorised alterations to specification by contractor

It should be noted that this specification is based upon records and information available in the West Yorkshire Historic Environment Record and on a brief examination of the site by the WYAAS. Archaeological contractors submitting tenders should carry out an inspection of the site prior to submission. If, on first visiting the site or at any time during the course of the recording exercise, it appears in the archaeologist's professional judgement that

- i) a part or the whole of the site is not amenable to recording as detailed above, and/or
- ii) an alternative approach may be more appropriate or likely to produce more informative results, and/or
- iii) any features which should be recorded, as having a bearing on the interpretation of the structure, have been omitted from the specification,

then it is expected that the archaeologist will contact the WYAAS as a matter of urgency. If contractors have not yet been appointed, any variations which the WYAAS considers to be justifiable on archaeological grounds will be incorporated into a revised specification, which will then be re-issued to the developer for redistribution to the tendering contractors. If an appointment has already been made and site work is ongoing, the WYAAS will resolve the matter in liaison with the developer and the Local Planning Authority.

8.3 Unauthorised alterations to specification by contractor

It is the archaeological contractor's responsibility to ensure that they have obtained the WYAAS's consent in writing to any variation of the specification prior to the commencement of on-site work or (where applicable) prior to the finalisation of the tender. Unauthorised variations may result in the WYAAS being unable to authorise payment..

8.4 Monitoring

This exercise will be monitored as necessary and practicable by the WYAAS in its role as 'curator' of the county's archaeology. The WYAAS should receive no less than one week's notice in writing of the intention to start fieldwork. A copy of the contractor's Risk Assessment should accompany this notification.

8.5 Valid period of specification

This specification is valid for a period of one year from date of issue. After that time it may need to be revised to take into account new discoveries, changes in policy or the introduction of new working practices or techniques.

Any queries relating to this specification should be addressed to the WYAAS without delay.

West Yorkshire Archaeology Advisory Service

David Hunter May 2014

**West Yorkshire Archaeology Advisory Service
Registry of Deeds
Newstead Road
Wakefield
WF1 2DE**

**Telephone: (01924 306798).
Fax: (01924) 306810
E-mail: dhunter@wyjs.org.uk**

Appendix 2: List of digital photographs

CD of photographs (in JPG, ORF & DNG formats) deposited with the West Yorkshire Historic Environment Record

Number	Subject
d01	General view of the entrance to the site, from Ivy Bank Lane
d02	The spinning mill, from the north-east
d03	Spinning mill: north elevation
d04	Spinning mill: detail of lavatory tower, from the north-east
d05	Spinning mill: straight joint in south elevation
d06	Spinning mill: west end of south elevation
d07	Spinning mill: south elevation, from the south-west
d08	Spinning mill: west end of north elevation, with inserted hoist in central bay
d09	Spinning mill: east end of south elevation
d10	Spinning mill: east end of north elevation, with arch to horizontal engine room
d11	Horizontal engine room, from the north
d12	Spinning mill: foot of east gable, from the south-east
d13	North gable of boiler house
d14	West side of boiler house, from the south-west
d15	Boiler house and mill pond, from the south-west
d16	Boiler house lean-to (partly demolished), from the south-west
d17	Doorway in west side of boiler house lean-to
d18	Offices at north-west corner of site, from the east
d19	Offices and cart shed, from the east
d20	Offices, from the north-east

Appendix 3: Contents of the project archive

To be deposited with the Bradford office of the West Yorkshire Archive Service

1 file, containing:

- a copy of the report
- photographic contact sheets (4 no)
- site notes

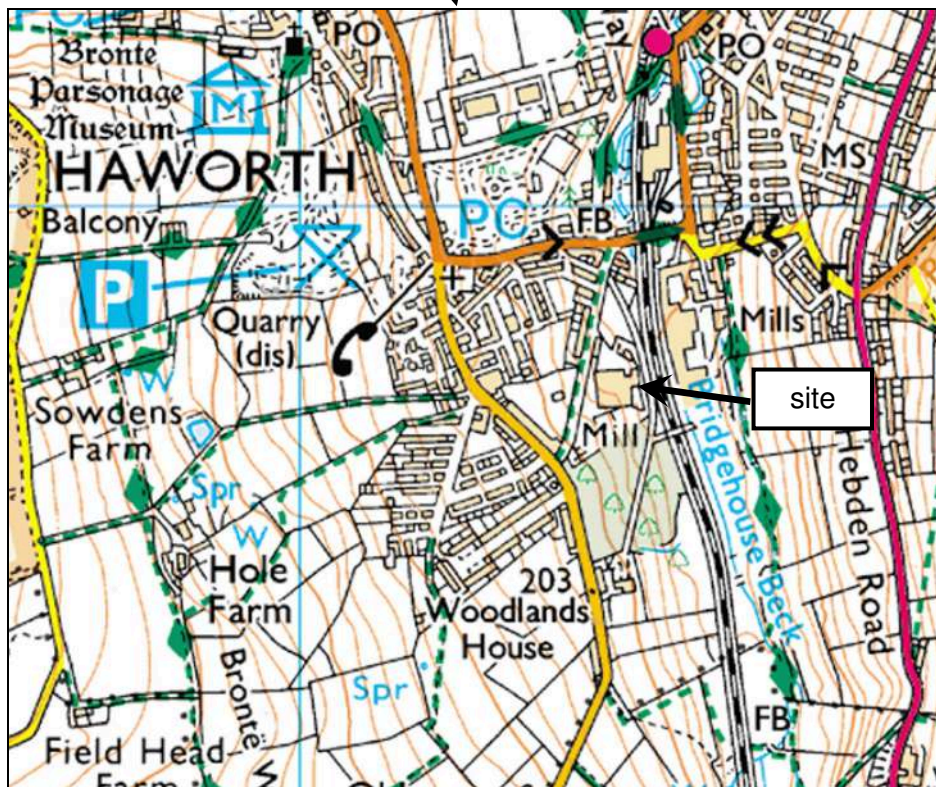
Complete list of black and white photographs taken, in film order

Photo	Film	Frame	Subject
3	1	1	Spinning mill: north elevation
14	1	3	Spinning mill: east end of north elevation, with arch to horizontal engine room
2	1	4	The spinning mill, from the north-east
4	1	5	Spinning mill: detail of lavatory tower, from the north-east
11	1	6	Spinning mill: west end of north elevation, with inserted hoist in central bay
22	1	7	Spinning mill: view through north elevation to interior on first floor, showing cast iron column and timber beam
44	1	10	Offices at north-west corner of site, from the east
45	1	11	Offices and cart shed, from the east
49	1	13	Cart shed, from the east
47	1	15	Offices, from the north-east
16	1	16	Horizontal engine room, from the north
15	1	17	Ceiling over horizontal engine room, from the north
17	1	18	Spinning mill: east gable, from the north-east
29	2	1	North gable of boiler house
18	2	3	Spinning mill: foot of east gable, from the south-east
24	2	4	Stub of former weaving shed wall, south-east corner of spinning mill
25	2	5	Wall bearing in east side of former weaving shed
19	2	6	Spinning mill: massive bearing in east (outer) side of engine room
20	2	7	Spinning mill: wall bearing in east gable
21	2	9	Spinning mill: east gable, showing shuttered opening and window with former transom
32	2	10	West side of boiler house, from the south-west
39	2	11	Boiler house lean-to (partly demolished), from the south-west
40	2	12	Doorway in west side of boiler house lean-to
41	2	13	Flue(?) in south gable of boiler house
36	2	15	Boiler house and mill pond, from the south-west
26	2	16	Mill pond from the west, taken from site of demolished warehouse
23	2	17	Retaining wall forming west side of demolished weaving shed
6	2	18	Spinning mill: west end of south elevation
9	3	1	Spinning mill: south elevation, from the south-west
5	3	3	Spinning mill: straight joint in south elevation
7	3	4	Spinning mill: west end of south elevation
12	3	5	Spinning mill: east end of south elevation
13	3	6	Spinning mill: window to former vertical engine room, south elevation
31	3	7	Boiler house, from the south-west
10	3	9	Spinning mill: detail of chimney stack over west gable, from the south-east
33	3	10	East side of boiler house (overgrown), from the south-east

37	3	11	Window and doorway in east side of boiler house lean-to
43	3	12	Man-hole over culvert forming outfall from mill pond
27	3	13	Mill pond, and south side of spinning mill, from the south-east
35	3	15	Ground floor doorway in east side of boiler house
34	3	16	Upper windows in east side of boiler house
28	3	17	Boiler house (left) and entrance to horizontal engine room, from the north-west
1	3	18	General view of the entrance to the site, from Ivy Bank Lane
8	4	1	Spinning mill: break in sill band in south elevation
42	4	4	Flue(?) in south gable of boiler house
38	4	5	Windows in south side of boiler house lean-to
30	4	6	Boiler house, from the north-west
46	4	7	Offices and cart shed, from the south-east
51	4	9	Cart shed and offices, from the north
50	4	10	Rear of cart shed, from the north-west
48	4	11	Offices, from the south-west



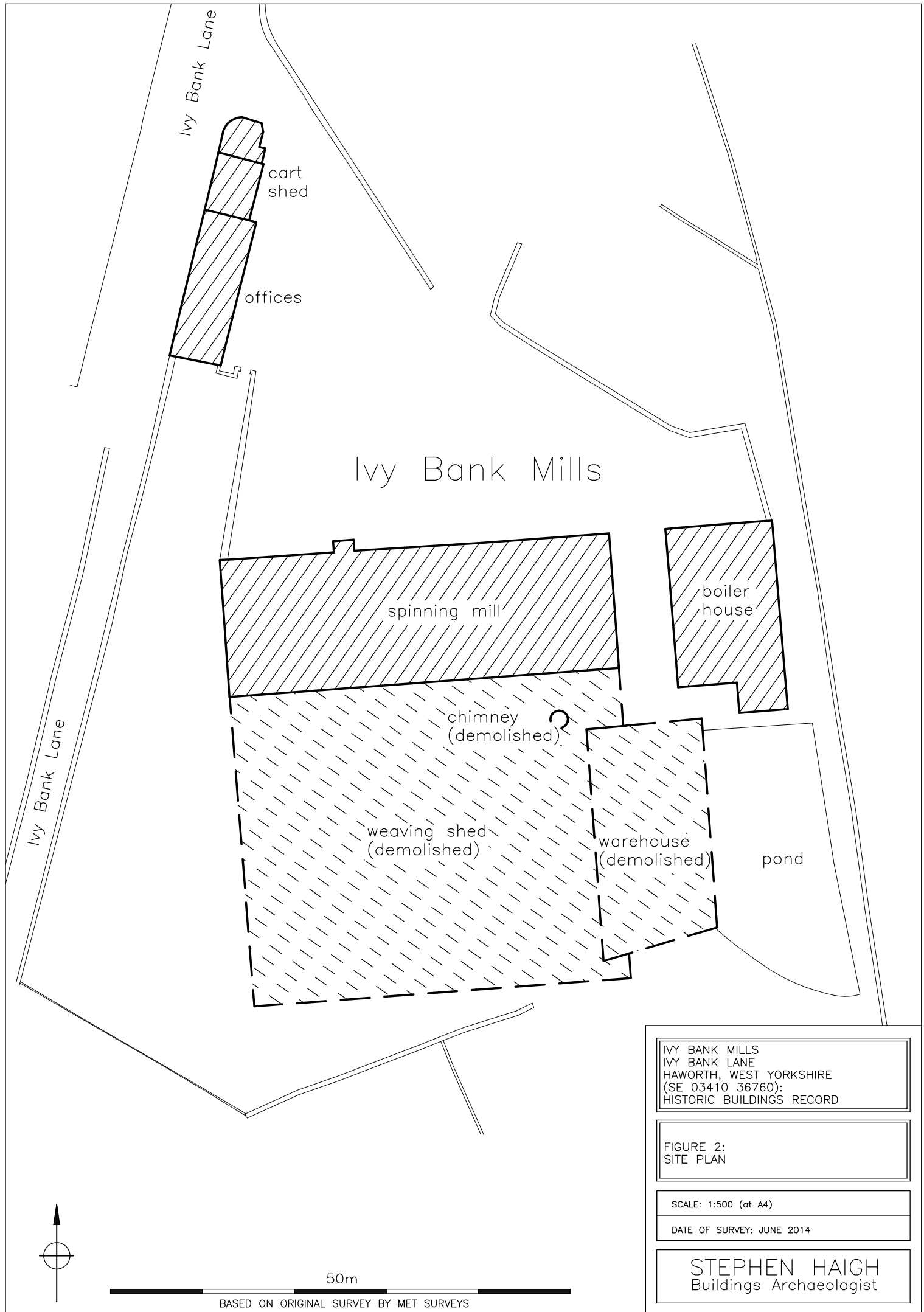
1:200,000



1:10,000

Figure 1: Location maps

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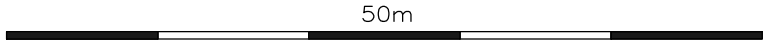
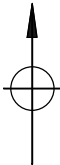
IVY BANK MILLS
IVY BANK LANE
HAWORTH, WEST YORKSHIRE
(SE 03410 36760):
HISTORIC BUILDINGS RECORD

FIGURE 2:
SITE PLAN

SCALE: 1:500 (at A4)

DATE OF SURVEY: JUNE 2014

STEPHEN HAIGH
Buildings Archaeologist



BASED ON ORIGINAL SURVEY BY MET SURVEYS

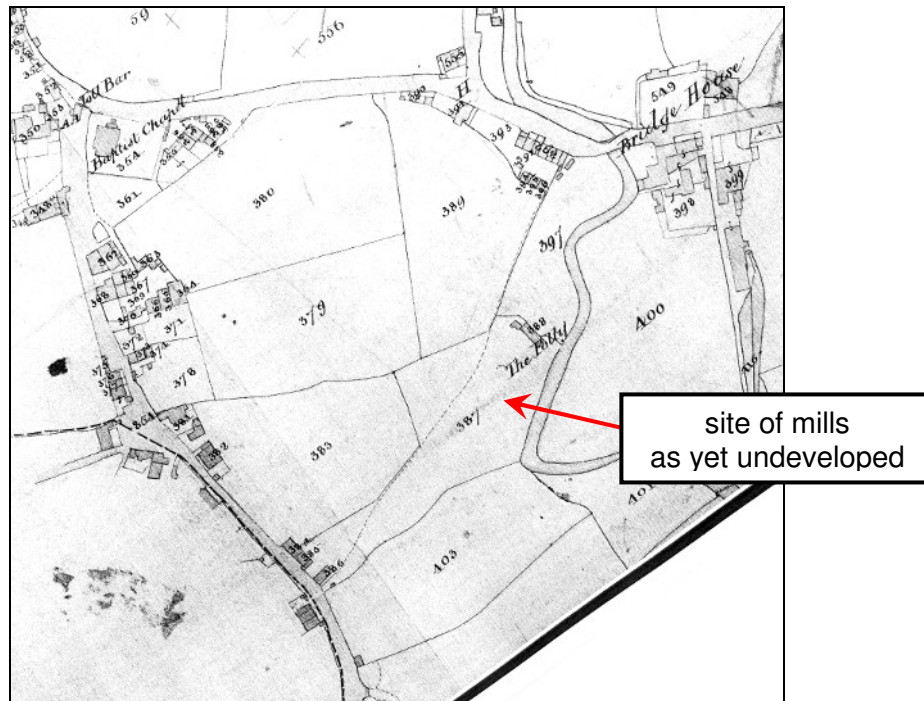


Figure 3: Extract from the Haworth tithe map, c.1850 (Keighley Local Studies Library)
Not at original scale

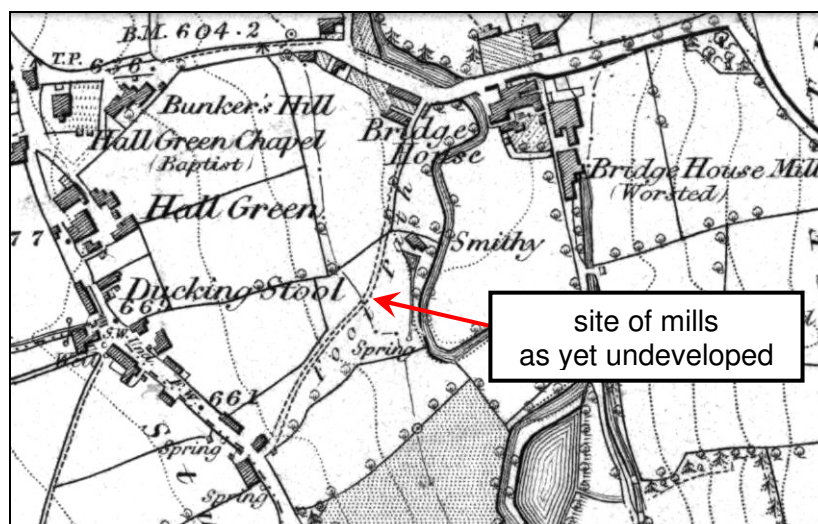


Figure 4: Ordnance Survey 1:10,560 map, published 1852 (surveyed 1848-9)
Sheet no: Yorkshire 200
Not at original scale

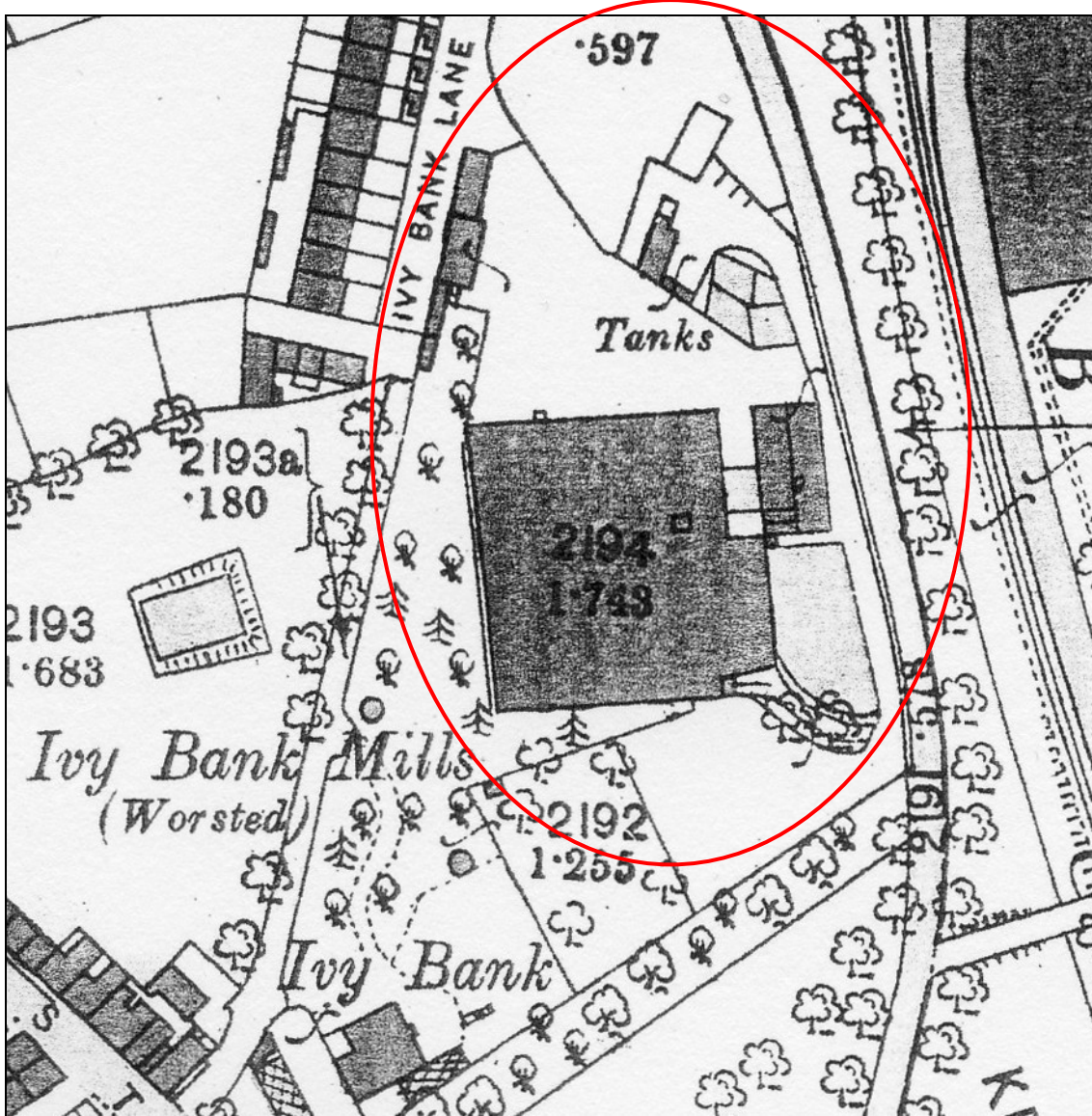


Figure 5: Ordnance Survey 1:2500 map, published 1894 (surveyed 1892)
Sheet no: Yorkshire 200.11
Enlarged to approx 1:1250



Figure 6: Ordnance Survey 1:2500 map, published 1908 (revised 1906)
Sheet no: Yorkshire 200.11

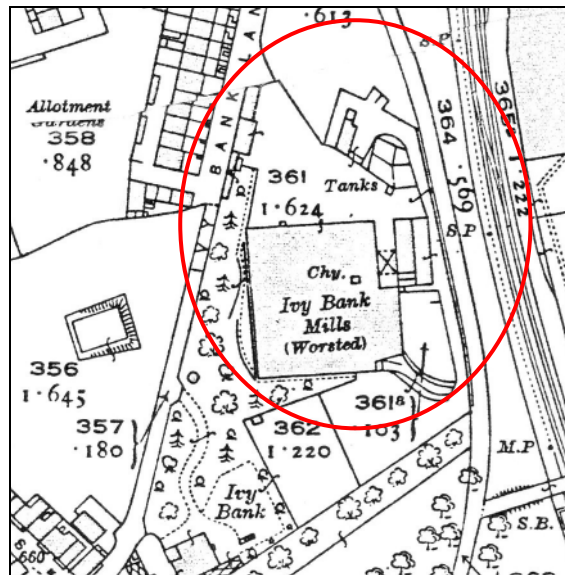


Figure 7: Ordnance Survey 1:2500 map, published 1934 (revised 1914)
Sheet no: Yorkshire 200.11

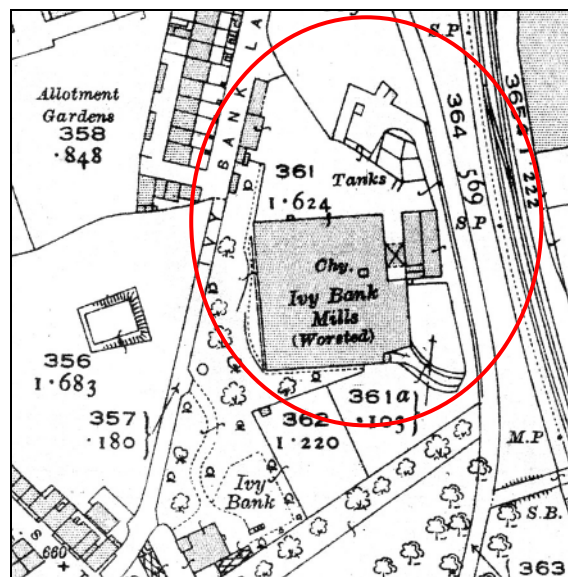
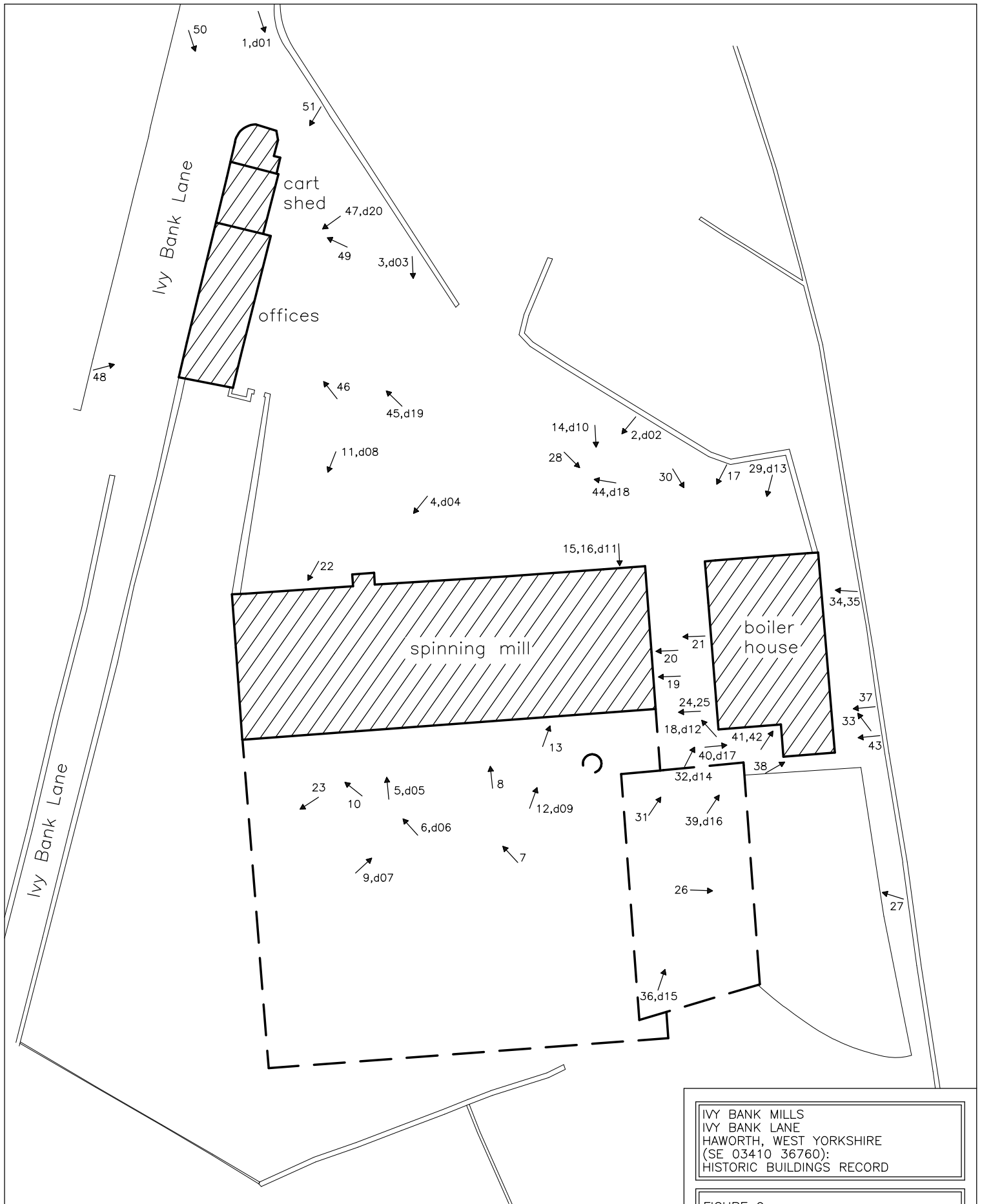


Figure 8: Ordnance Survey 1:2500 map, published 1935 (revised 1934)
Sheet no: Yorkshire 200.11



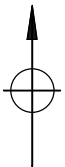
IVY BANK MILLS
 IVY BANK LANE
 HAWORTH, WEST YORKSHIRE
 (SE 03410 36760):
 HISTORIC BUILDINGS RECORD

FIGURE 9:
 SITE PLAN
 WITH KEY TO PHOTOGRAPHS

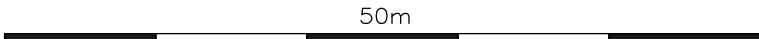
SCALE: 1:500 (at A4)

DATE OF SURVEY: JUNE 2014

STEPHEN HAIGH
 Buildings Archaeologist



↗ 1: photograph direction and number (black and white)
 ↘ d01: photograph number and direction (digital)



50m
 BASED ON ORIGINAL SURVEY BY MET SURVEYS



Photo 1: General view of the entrance to the site, from Ivy Bank Lane (film 3, frame 18)



Photo 2: The spinning mill, from the north-east (film 1, frame 4)

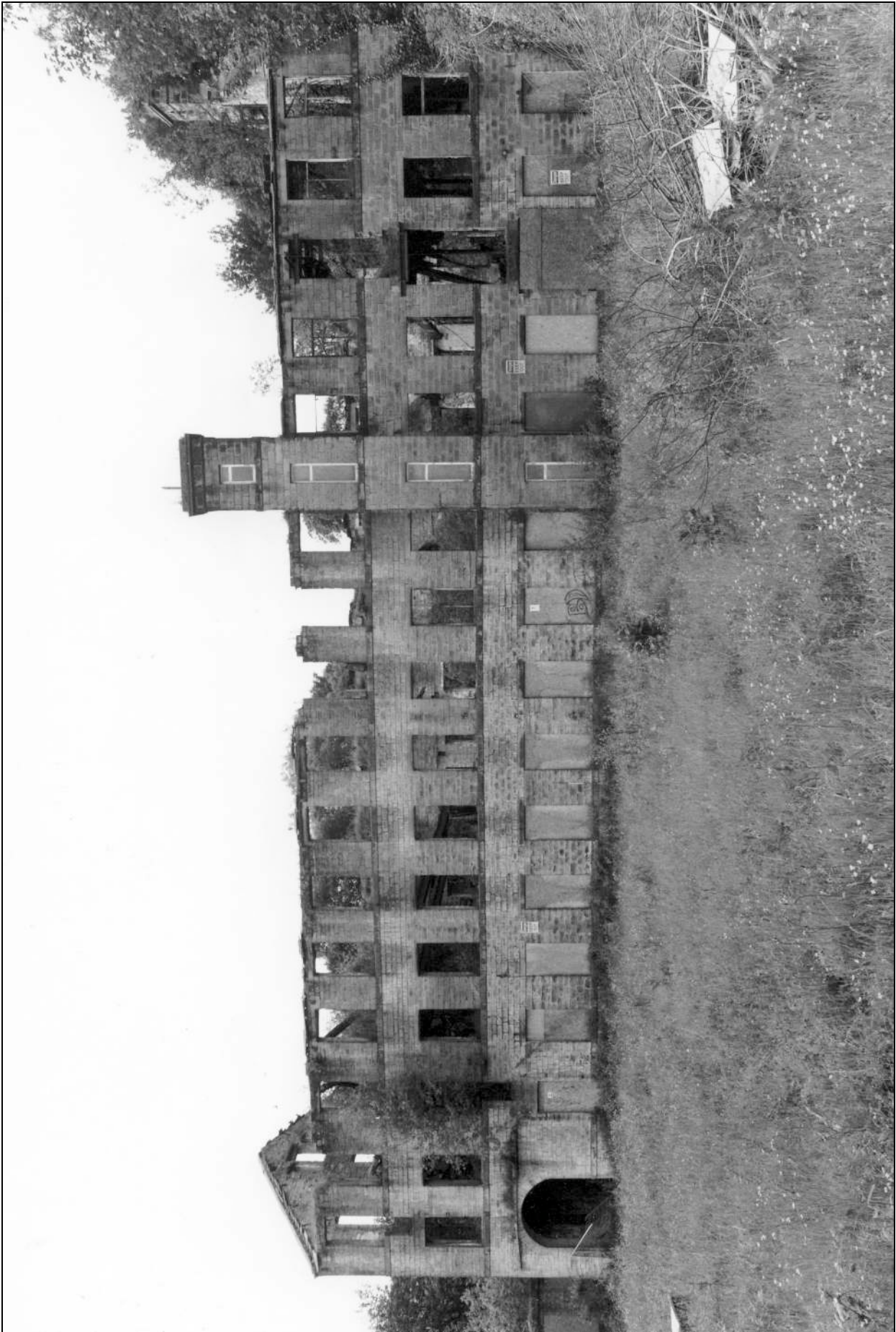


Photo 3: Spinning mill: north elevation (film 1, frame 1)



Photo 4: Spinning mill: detail of lavatory tower, from the north-east (film 1, frame 5)



Photo 5: Spinning mill: straight joint in south elevation (film 3, frame 3)



Photo 6: Spinning mill: west end of south elevation (film 2, frame 18)



Photo 7: Spinning mill: west end of south elevation (film 3, frame 4)



Photo 8: Spinning mill: break in sill band in south elevation (film 4, frame 1)



Photo 9: Spinning mill: south elevation, from the south-west (film 3, frame 1)



Photo 10: Spinning mill: detail of chimney stack over west gable, from the south-east (film 3, frame 9)



Photo 11: Spinning mill: west end of north elevation, with inserted hoist in central bay (film 1, frame 6)



Photo 12: Spinning mill: east end of south elevation (film 3, frame 5)

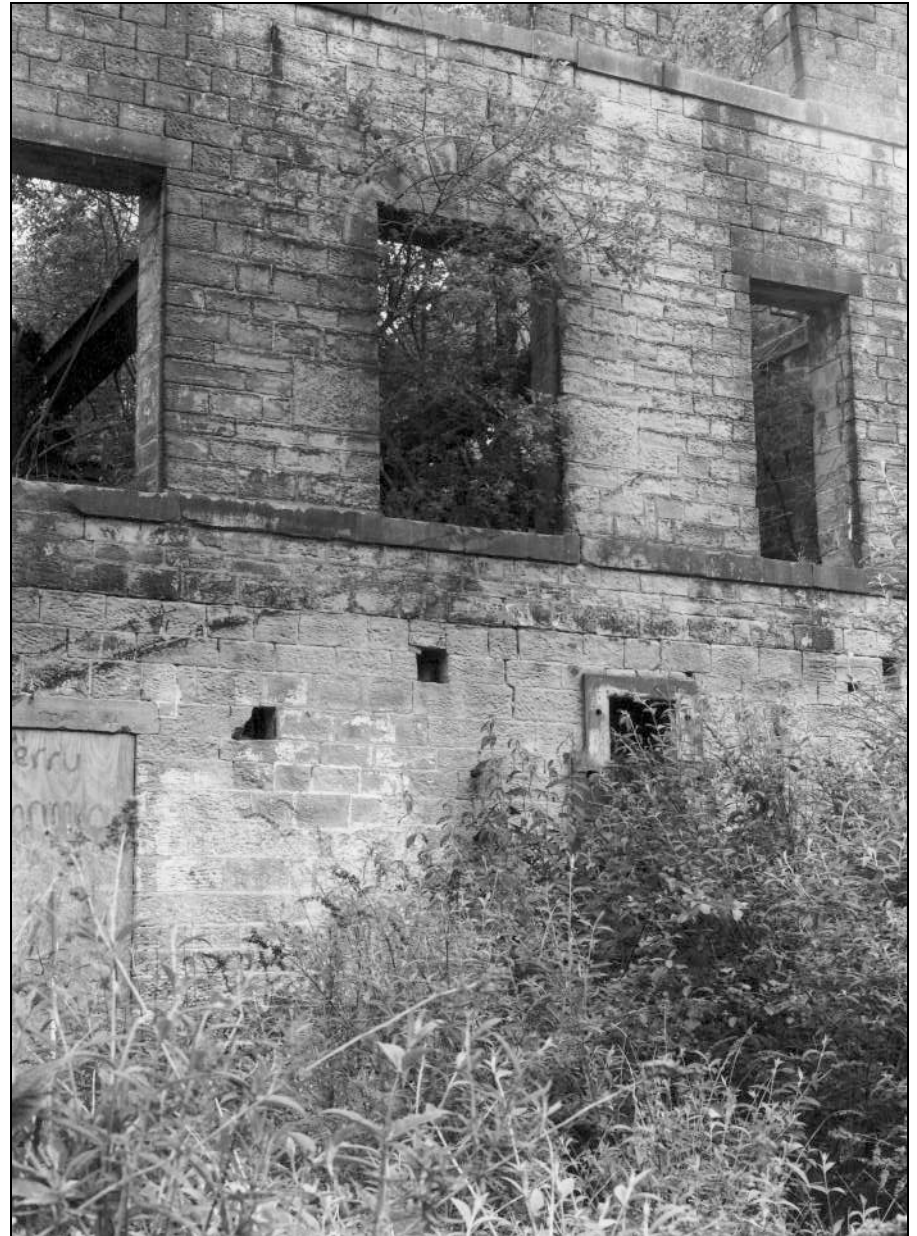


Photo 13: Spinning mill: window to former vertical engine room, south elevation (film 3, frame 6)

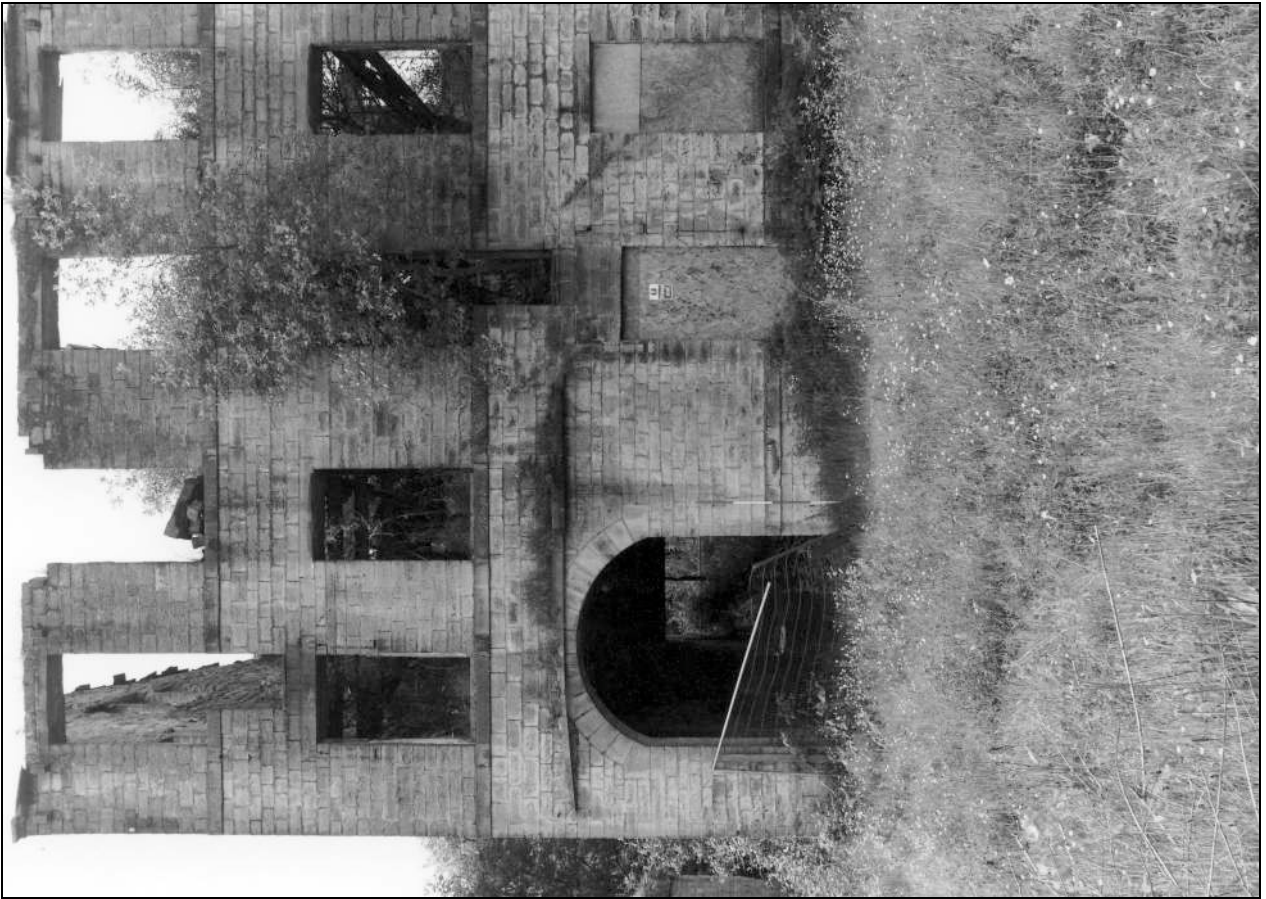


Photo 14: Spinning mill: east end of north elevation, with arch to horizontal engine room (film 1, frame 3)



Photo 15: Ceiling over horizontal engine room, from the north (film 1, frame 17)



Photo 16: Horizontal engine room, from the north (film 1, frame 16)

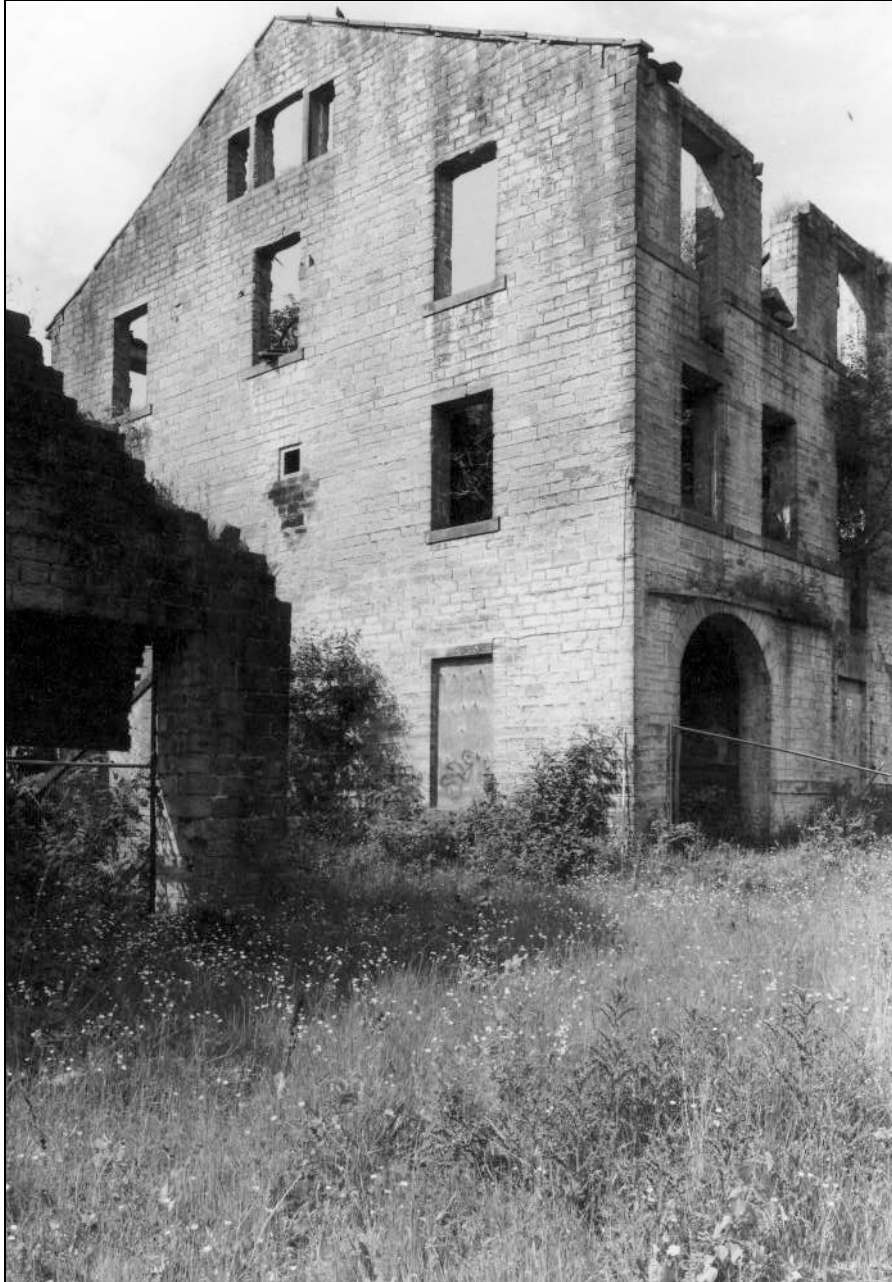


Photo 17: Spinning mill: east gable, from the north-east (film 1, frame 18)

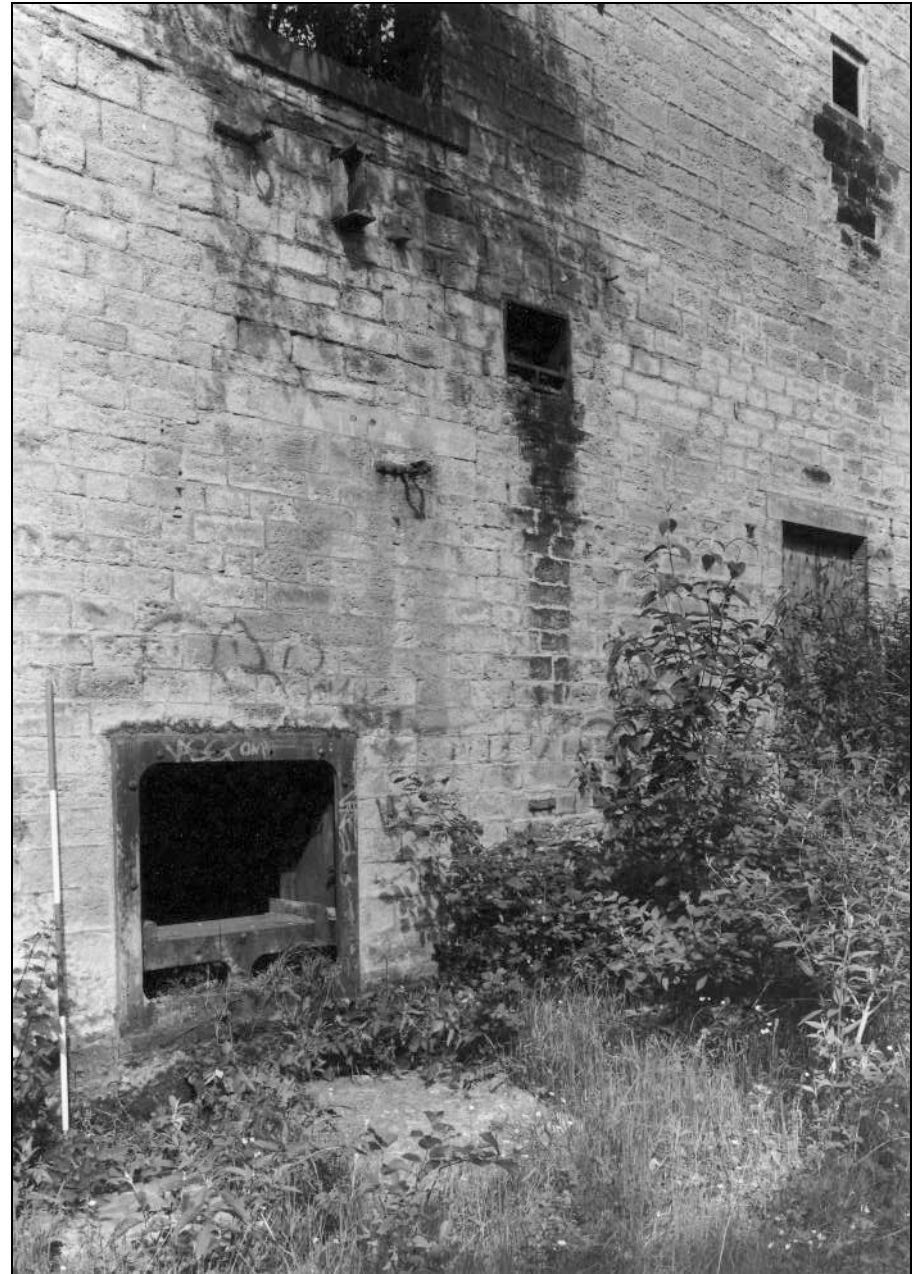


Photo 18: Spinning mill: foot of east gable, from the south-east (film 2, frame 3)

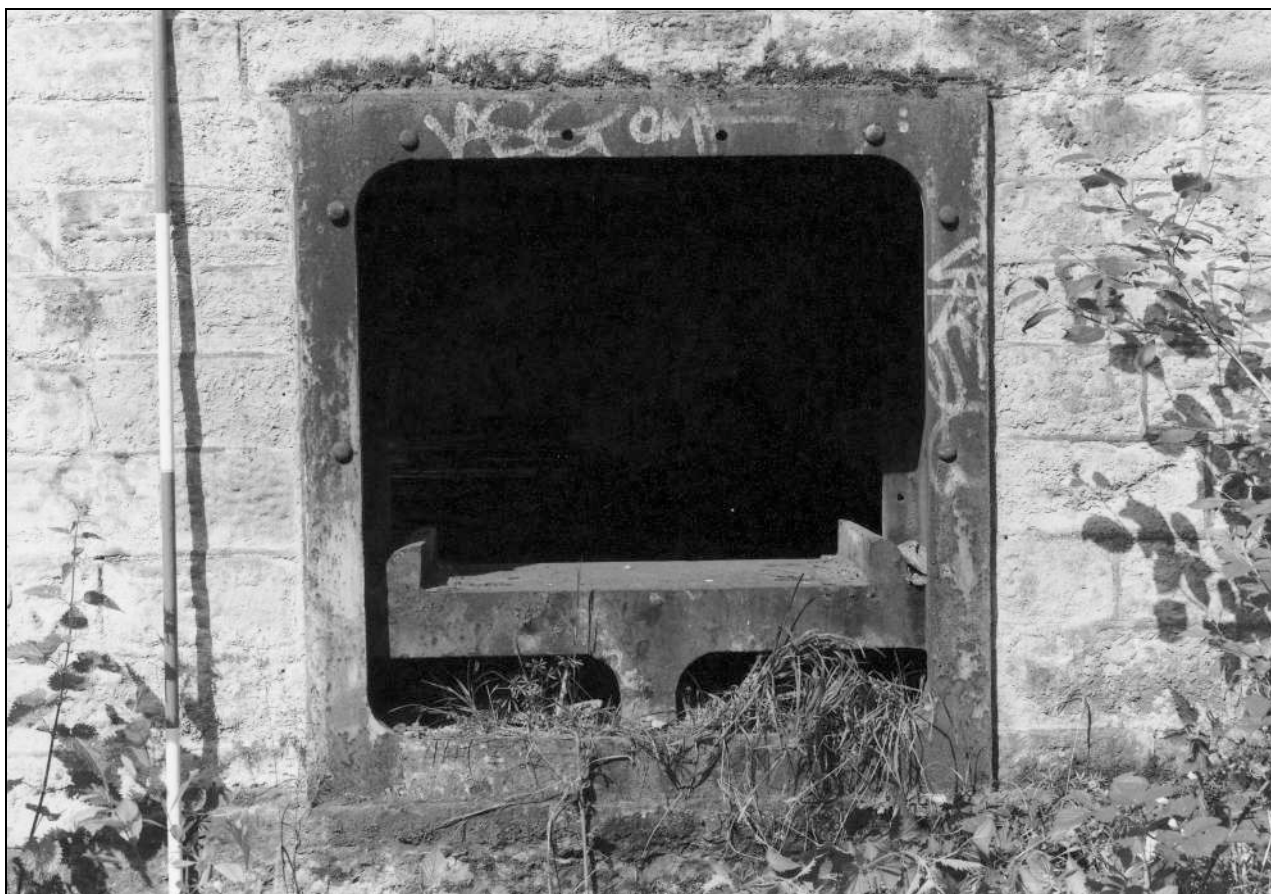


Photo 19: Spinning mill: massive bearing in east (outer) side of engine room (film 2, frame 6)

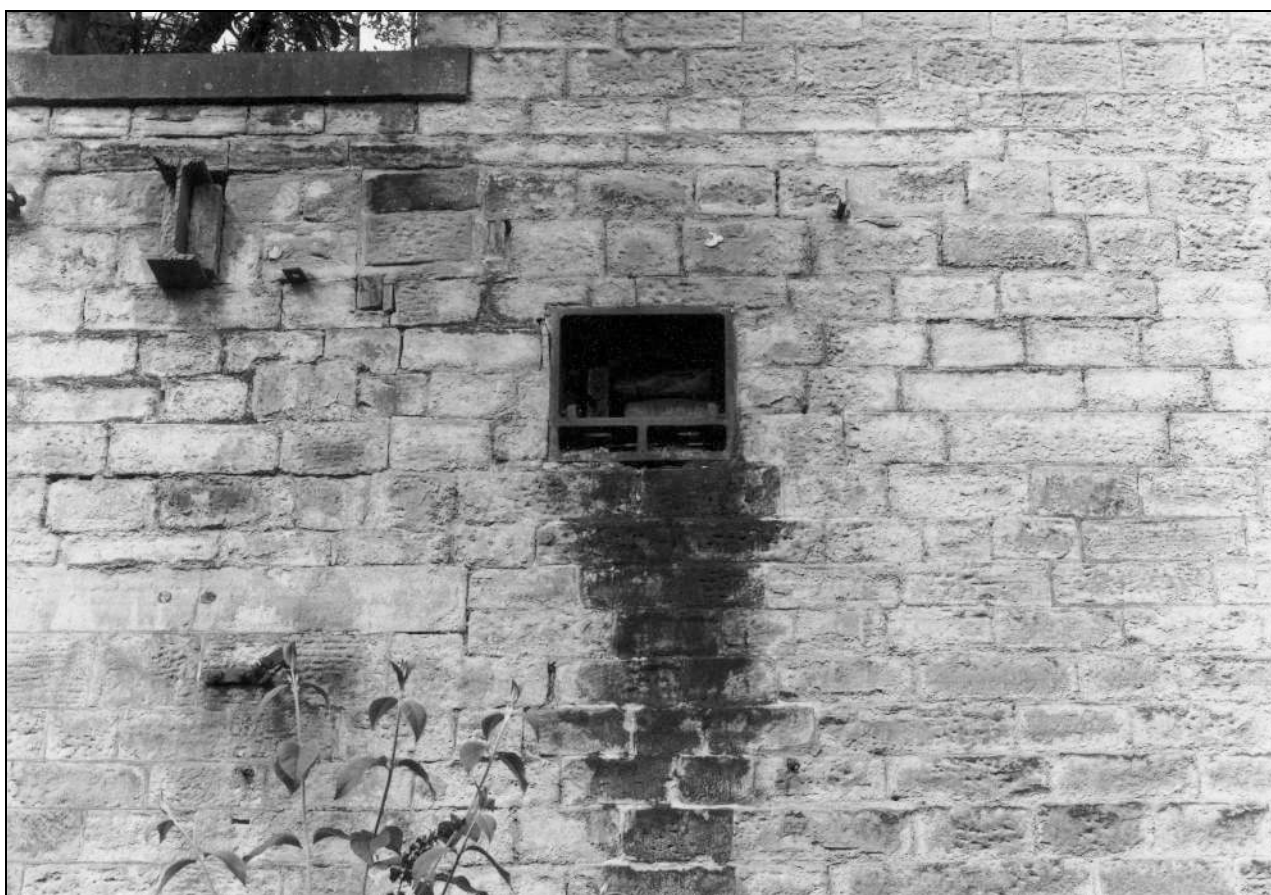


Photo 20: Spinning mill: wall bearing in east gable (film 2, frame 7)

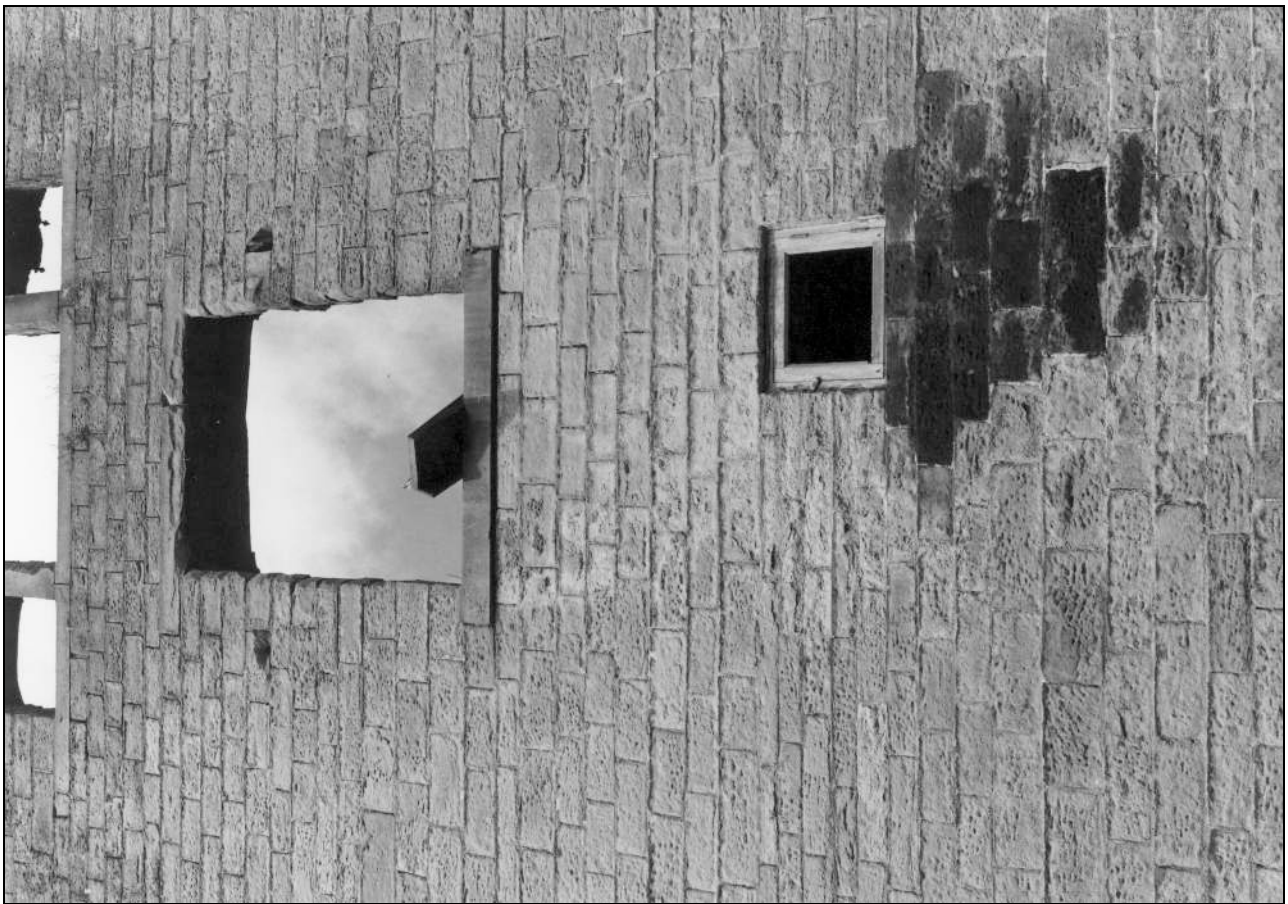


Photo 21: Spinning mill: east gable, showing shuttered opening and window with former transom (film 2, frame 9)



Photo 22: Spinning mill: view through north elevation to interior on first floor, showing cast iron column and timber beam (film 1, frame 7)

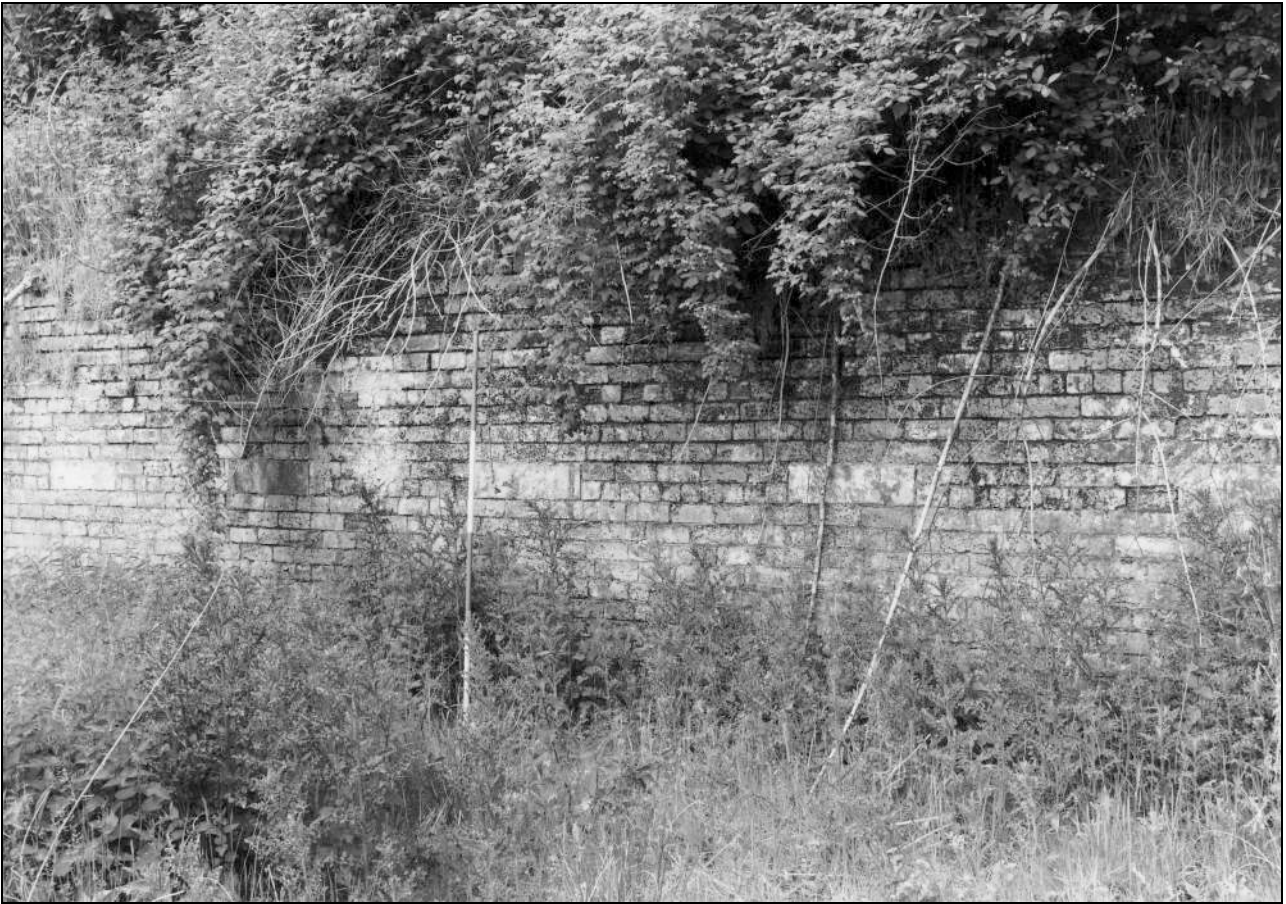


Photo 23: Retaining wall forming west side of demolished weaving shed (film 2, frame 17)



Photo 24: Stub of former weaving shed wall, south-east corner of spinning mill (film 2, frame 4)



Photo 25: Wall bearing in east side of former weaving shed (film 2, frame 5)



Photo 26: Mill pond from the west, taken from site of demolished warehouse (film 2, frame 16)



Photo 27: Mill pond, and south side of spinning mill, from the south-east (film 3, frame 13)

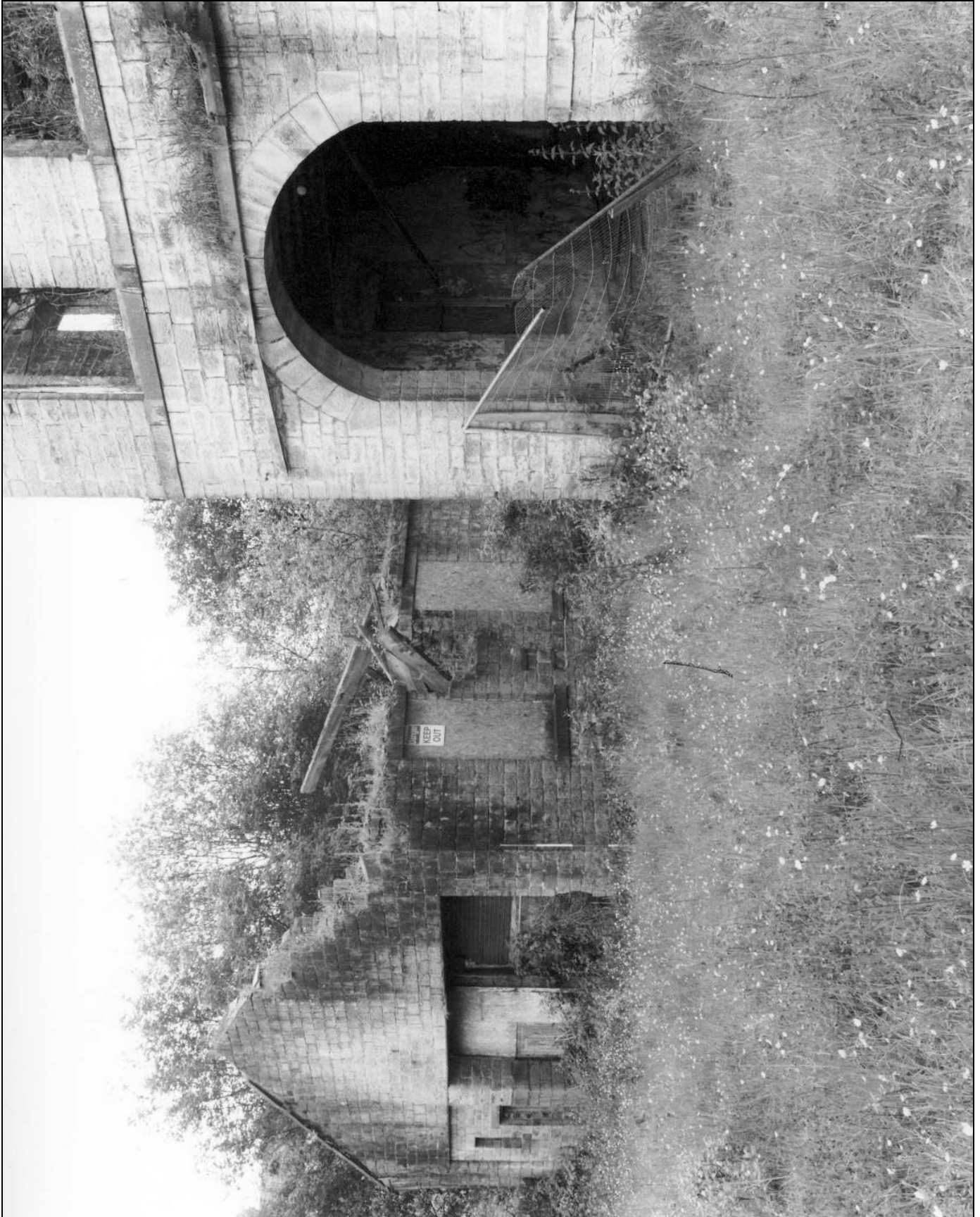


Photo 28: Boiler house (left) and entrance to horizontal engine room, from the north-west (film 3, frame 17)



Photo 29: North gable of boiler house (film 2, frame 1)



Photo 30: Boiler house, from the north-west (film 4, frame 6)



Photo 31: Boiler house, from the south-west (film 3, frame 7)



Photo 32: West side of boiler house, from the south-west (film 2, frame 10)



Photo 33: East side of boiler house (overgrown), from the south-east (film 3, frame 10)



Photo 34: Upper windows in east side of boiler house (film 3, frame 16)



Photo 35: Ground floor doorway in east side of boiler house (film 3, frame 15)



Photo 36: Boiler house and mill pond, from the south-west (film 2, frame 15)



Photo 37: Window and doorway in east side of boiler house lean-to (film 3, frame 11)



Photo 38: Windows in south side of boiler house lean-to (film 4, frame 5)



Photo 39: Boiler house lean-to (partly demolished), from the south-west (film 2, frame 11)



Photo 40: Doorway in west side of boiler house lean-to (film 2, frame 12)



Photo 41: Flue(?) in south gable of boiler house (film 2, frame 13)



Photo 42: Flue(?) in south gable of boiler house (film 4, frame 4)



Photo 43: Man-hole over culvert forming outfall from mill pond (film 3, frame 12)



Photo 44: Offices at north-west corner of site, from the east (film 1, frame 10)



Photo 45: Offices and cart shed, from the east (film 1, frame 11)



Photo 46: Offices and cart shed, from the south-east (film 4, frame 7)



Photo 47: Offices, from the north-east (film 1, frame 15)



Photo 48: Offices, from the south-west (film 4, frame 11)



Photo 49: Cart shed, from the east (film 1, frame 13)



Photo 50: Rear of cart shed, from the north-west (film 4, frame 10)

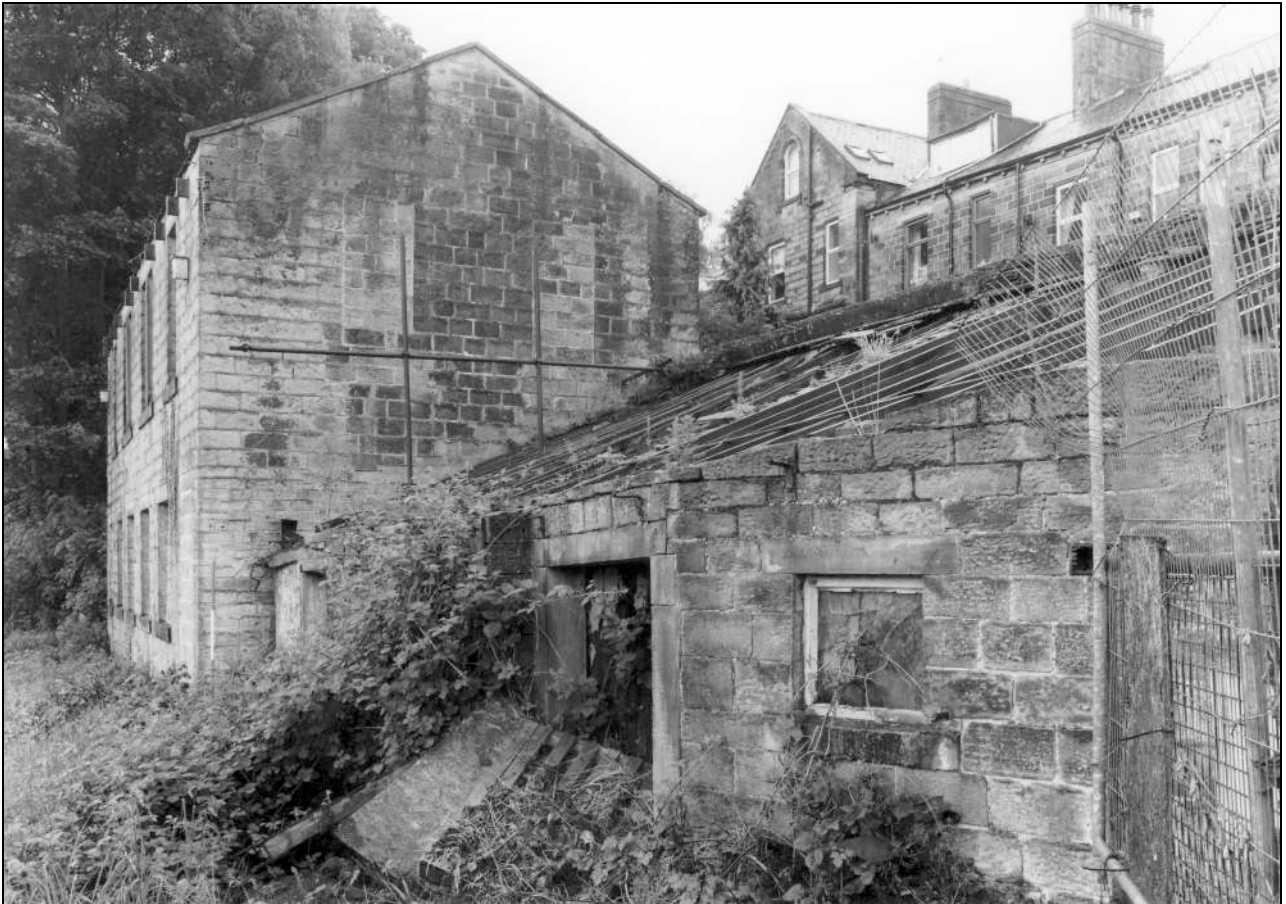


Photo 51: Cart shed and offices, from the north (film 4, frame 9)