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NON-TECHNICAL SUMMARY

An archaeological building survey was required as a condition of planning permission for the redevelopment of Britannia Mill, Mill Street, Haslingden (NGR SD 7853 2404). The work was carried out on behalf of Mr Dale Winfield by J. M. Trippier Archaeological and Surveying Consultancy. The mill was found to have been built in the 1850s and comprised a cotton weaving shed with a 3-storey preparation and warehouse block, which was extended in the early 20th century, and a power plant comprising an engine house, boiler house and square stone built chimney. Although latterly used for the shoe trade the mill remains a good example of the weaving mills that were being built at the height of the cotton trade expansion in the mid-19th century and is an evocative reminder of Haslingden's industrial past.

ACKNOWLEDGEMENTS

Thanks are due to Mr Dale Winfield for his instructions and to Ms B. Brownridge of the Graham Bolton Planning Partnership who commissioned the survey on his behalf. Thanks are due also to and to the staff of Haslingden and Rawtenstall Local Studies Libraries and the Lancashire County Record Office for their assistance with the documentary research.

1. INTRODUCTION

- 1.1 J. M. Trippier Archaeological and Surveying Consultancy was instructed by Mr Dale Winfield to carry out an archaeological building recording programme at Britannia Mill, Mill Street, Haslingden prior to the redevelopment of the building. Mr. John Trippier BA (Hons.), MRICS, PIFA is a Chartered Surveyor and Practitioner of the Institute of Field Archaeologists with over 30 years experience of surveying and recording buildings of many types.
- 1.2 It is understood that the recording programme was required as a result of a condition attached to the planning permission by Rossendale Borough Council. This condition follows the advice given by central government as set out in *Planning Policy Guidance: Planning and the Historic Environment* (PPG15) and *Planning Policy Guidance on Archaeology and Planning* (PPG16) issued by the (then) DOE. The Lancashire County Council Archaeology Service (LCCAS) prepared a specification setting out the work necessary to fulfil the condition (see Appendix 1) and the resultant survey and this report followed that specification.

2. SITE LOCATION

- 2.1 Britannia Mill lies in Holden Vale at the north end of Haslingden, a small town in the Rossendale valley approximately five miles south-east of Blackburn. The national grid reference of the site is SD 7853 2404. A blue

arrow on the map enclosed as Fig 1 marks its general location and it is shown more precisely edged red on the map enclosed at Fig 2.

3. AIMS AND OBJECTIVES

- 3.1 Buildings are an important part of the historic environment providing information on historical technology, social structure and lifestyles. The loss or alteration of such buildings removes evidence of their past uses and occupation and makes it more difficult for future historians to understand and interpret them.
- 3.2 The aim of the survey was to preserve 'by record' the information that may be lost as a result of the development proposals. This was achieved by recording and analysing the plan form, function, age and development of the building and by the provision of a written, drawn and photographic archive for future reference. These objectives are described in more detail at sections 8 to 11 of the project specification. which has been included at Appendix 1.
- 3.3 The survey represents a level 2/3 survey as specified in *Understanding Historic Buildings: A guide to good practice*, English Heritage, February 2006

4. METHODOLOGY

- 4.1 An on-site survey was carried out on 12-15 November 2007 to enable a detailed assessment of the plan, form and function of the building to be made and notes of the structural details of the building to be compiled.
- 4.2 A photographic record was made using a Canon 35mm camera and a Pentax ME loaded with Ilford HP5 film to enable the production of 5"x 7" monochrome prints. A 2 metre ranging rod, discretely positioned, was included in general shots sufficient to independently establish the scale of all elements of the buildings and structures. Plates 4,5,13,22,26 and 28 will also be printed at 10" by 8" for archive purposes.
- 4.3 This report has been prepared to meet the aims and objectives listed at section 11 of appendix 1. In addition to those photographs used as illustrations a photographic record as described at para.4.2 above will be deposited with the site archive and otherwise made available as the planning authority requires. The report also includes a location map at 1:2500 scale and a site plan at 1:500. As no architect's drawings were available a complete set of drawings was made on site to fulfil the requirements of the project specification. These were reproduced electronically and have been included as Figures at Appendix 2 of this report. All copyright and licence agreement numbers have been included where necessary.

- 4.4. The historical and archaeological background to Britannia Mill and its locality were studied via a variety of media. The Lancashire Record Office in Preston and the Local Studies Libraries at Haslingden and Rawtenstall were consulted for cartographic and documentary data. Works of historical and archaeological synthesis were also consulted and a map regression exercise was carried out. This work was intended to inform the archaeological recording by providing background information with regard to the date of construction, use and re-use of the building and its site and a discussion of their significance. The results are summarised at Section 5 of this report.
- 4.5 The project was carried out in accordance with the recommendations of *The Management of Archaeological Projects* 2nd ed. 1991 and the Institute of Field Archaeologists' *Code of Conduct and Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings and Structures*

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 5.1 Britannia Mill is recorded in the Lancashire Sites and Monuments Record as PRN 21159. It is neither a Listed Building nor a Scheduled Ancient Monument. It is described as 'pre-1868' in the Lancashire Historic Towns Assessment (2005, 22).
- 5.2 Britannia Mill lies in Holden Vale at the north end of Haslingden, a small town in the Rossendale valley approximately five miles south-east of Blackburn. The town is built on a plateau above the valley of the Swinnel Brook, a tributary of the River Ogden which in turn flows the River Irwell. The historic core of the town lies at the northern end of the plateau spreading along the main roads. The dense population of the town and the locality more generally results primarily from the development of the textile industry in the 19th century. The underlying solid geology of the area is carboniferous millstone grit overlain with coal measures, sandstones and mudstone. The proximity to coal was a decisive influence in continuing the concentration of the textile industry during the 19th century (Ashmore 1969, 15) and the sandstone has been quarried for roof and flag stones and used for building material in the surrounding towns.
- 5.3 There is no recorded evidence for prehistoric settlement at Haslingden. The generally accepted interpretation of the name Haslingden is 'valley of the hazels', from the Old English *hoeslen* and *denu* (Ekwall 1922, 91; Mills 1976, 93). A cross base in the churchyard is thought by some to have a pre-Conquest date (Farrer and Brownbill 1911, 427). Haslingden does not specifically appear in the Domesday Survey, but lay within the Hundred of Blackburn where 28 thanes held land (Tupling 1927, 2). The first documentary evidence for Haslingden dates from 1241 when it is recorded as part of the de Lacy Honor of Clitheroe. In 1269 a messuage and 16 acres of land were held by Robert de Haslingden from Hugh de Thewode (Farrer and Brownbill 1911, 428). Robert has been presumed to have been Robert de Holden (Gaskell 1850, 332) whose

son Adam is documented in 1272 when Henry de Lacy granted lands in Haslingden to Adam de Holden.

- 5.4 Settlement in the medieval period is likely to have been dispersed across the township. However the de Lacy *compoti* of 1296 shows that there was a chapel, dependant on St Mary's church, Whalley. There was also a manorial mill, at an unknown location in Haslingden referred to as 'Oakenhead Wood' (Hill nd, 2) which was likely to have served the Rawtenstall and Bacup areas as well as Haslingden. In 1546, the Holdens built their own corn mill, which was held as a copyhold from the manor (Woodcock 1952, 34-5). By 1641 the mill had been granted to the Holdens as a freehold property, at which time there was also a corn mill at Ewood (Tupling 1927, 40). The exact locations of these two mills are not known, but they were probably on the site of the later Holden and Ewood Bridge cotton mills (Lancashire County Council 2005, 17). The valley above which Haslingden lies formed a route through Rossendale Forest to the manorial centre of Clitheroe and the ecclesiastical centre of Whalley and thus any nucleated settlement in the locality is likely to have developed along this route. Accordingly Haslingden became a market town, first documented in 1555, and fairs were held twice yearly (Tupling 1927, 2).
- 5.5 Documentary sources from the late thirteenth and early fourteenth centuries indicate that 'waste' land was being enclosed for farming and that as Haslingden prospered its population increased. In 1502 Henry VII made an order to deforest the area and clearing of forest and enclosing small parcels of 'waste' continued into the early 17th century and was often accompanied by house building. In the 16th century the sub-division of landholdings together with the marginal nature of agricultural land led to the need for the small landowners and tenant farmers to supplement their income by other means. In the reign of Henry VII woollen manufacture was introduced to Rossendale and became a staple trade of the area for 300 years (Newbigging 1893, 283). As demand for wool increased sheep replaced cattle on the land and domestic textile production became an increasing feature of the economy (Lancashire County Council 2005, 1-2). In 1536 Haslingden rendered 30 lambs and 8 stones of wool to the Abbot of Whalley (Hill nd, 3).
- 5.6 At the end of the 17th century the cotton industry began to play a significant part in the economy. During the 1720's parish registers indicate that 35% of occupations were connected with the textile industry and that at this time many of the population would work both as farmers or labourers with secondary occupations in the textile industry. At the beginning of the 18th century 37 weavers and 3 clothiers are recorded in Haslingden parish. However the fact that only one weaver, two clothiers and one feltmaker actually lived in the 'town' indicates that the industry was on a domestic scale amongst the dispersed settlement (Tupling 1927, 178-9).
- 5.7 The first steps towards mass production were taken in the late eighteenth century, with the mechanisation of the carding and fulling processes (Tupling 1927, 196). The earliest known fulling mill in the Haslingden area was at Paghouse, where there was also a dyehouse. When the Holden estates were

sold in 1762 a ‘fuling mill and dye house, with tenters and tenter crofts and the butts and other implements thereto belonging in the procession of Benjamin Boothman rent £32’ formed part of the catalogue (Aspin 1963, 65). Flash Mill at Holden was the earliest carding mill, and by 1800 there was also a fulling mill at Bridge End (Tupling 1927, 196). At the end of the 18th century the population of Haslingden had increased from c. 1000 in 1750 to c. 4000 in 1801 and it was considered a prosperous manufacturing market town (Lancashire Country Council 2005, 19). The overall number of mills in Haslingden remained relatively small with only eight woollen mills recorded in 1834. By the mid-nineteenth century many mills converted to cotton production, or else added cotton to an existing woollen business. By 1844 the number of mills in Haslingden numbered at least 48 (Lancashire County Council 2005, 9). While the population of Haslingden increased in the 19th century it was a lesser rate than that of other east Lancashire towns as a result of a continued reliance on wool rather than cotton (Corry 1825, 333).

- 5.8 At the same time iron and brass foundries became one of Haslingden’s major industries, and the town became an important supplier of steam engines and boilers to the textile industry. In 1824 Thomas Aspden, an iron founder, is recorded at Ewood Bridge (Baines 1824, 646) and there was a foundry in existence at Holden Vale between 1849 and 1893 (Lancashire County Council 2005, 25). The industrial development of Haslingden generally followed a well-defined ribbon running north-south down the Swinnel Brook to the west of the town to Helmshore and then along the Ogden Brook. The latter joined the Irwell at Irwell Vale and there were further mill complexes here and at Ewood Bridge slightly upstream to the north-east. A major influence on further industrial development in Haslingden was the arrival of the East Lancashire Railway Cos. line from Manchester and Bury to Accrington via Stubbins Junction in 1848 (Bairstow 1988, 26).
- 5.9 It is in the mid-nineteenth century that the Britannia Mill and other industrial buildings were constructed at Holden Vale in the valley of the Swinnel Brook as part of the ribbon development along the line of the railway. Britannia Mill, along with Albert Mill and Union Mill were constructed as cotton weaving factories and this industrial area included the Victoria and Holden Vale Mills and an iron foundry (Lancashire County Council 2005, 32). An iron works was located immediately north of Britannia Mill building (OS 1911); this was truncated when the mill was extended by a three storey stone built extension (OS 1930). Although the area continued in industrial use into the 20th century its character has substantially changed. The railway was closed in 1966 and a major dual carriageway (A56) developed following the Swinnel Brook valley, linking the M66 and Manchester with the M65 and the north. Britannia Mill survives and the original nineteenth century buildings of Albert Mill only partially survive, including a round, brick, red-striped chimney. There is now a modern industrial building on the site of Union Mills.
- 5.10 Britannia Mill does not appear on the 1st edition OS 6” sheet of 1849 (Lancashire Sheet 71) and neither of Slater’s Directories of Lancashire in 1848 or 1851 contain any reference to it. This negative evidence suggests that

it was not constructed until later. The first documentary reference to it is in 1858 in Slater's Directory of Lancashire. The decade of 1850-9 represented the period in which there was greatest growth in the cotton industry in Rossendale and 45 cotton mills were constructed during that period (Newbigging 1893, 298). The listings of Britannia Mill found in Lancashire trade directories and other sources are tabled below.

Name of Directory/source	Year	Occupier of Britannia Mill	Trade
Slater's	1848	No Listing	
Slater's	1851	No Listing	
Slater's	1858	Elizabeth Hargreaves	Manufacturers of Cotton Goods
Kelly's	1864	Mrs. E. Hargreaves	Manufacturers of Cotton Goods
Slater's	1865	E. Hargreaves	Manufacturers of Cotton Goods
Slater's	1869	E. Hargreaves	Manufacturers of Cotton Goods
Worrall's	1872	E. Hargreaves & Son	Manufacturers of Cotton Goods
Mannex	1876	E. Hargreaves	Manufacturers of Cotton Goods
Slater's	1876	Britannia Mill Co.Ltd	Manufacturers of Cotton Goods
Slater's	1879	E. Hargreaves	Cotton Manufacturers
MacDonald's	1879	Britannia Mill Co.Ltd	Cotton Manufacturers
Slater's	1882	Britannia Mill Co.Ltd	Manufacturers of Cotton Goods
Slater's	1885	No Listing	
Slater's	1890	Baxenden Industrial Manufacturing Co. Ltd.	Manufacturers of Cotton Goods
Kelly's	1905	Baxenden Industrial Manufacturing Co. Ltd.	Manufacturers of Cotton Goods
Kelly's	1913	Anderton & Halstead Ltd.	Manufacturers of Cotton Goods
Kelly's	1918	Anderton & Halstead Ltd.	Manufacturers of Cotton Goods
OS Map	1930		Cotton
BTC Map	1957	C.W.S Ltd.	Slipper factory
Classified Trades & Industrial	1963	C.W.S Ltd.	Shoe and slipper manufacturer
Classified Trades & Industrial	1968	No Listing	

5.11 Throughout the 19th century Britannia Mill was listed consistently as 'a manufacturer of cotton goods' indicating the mill was used for weaving cotton. This is confirmed by cartographic evidence as Britannia Mill appears first on the 1893 OS map and is annotated 'cotton'. In 1858 the mill owner is listed as E. Hargreaves (Mrs. Elizabeth Hargreaves) and by 1872 the firm is shown as Hargreaves and Son. The 'cotton famine' caused by the American Civil War of the early 1860s closed down many of the Lancashire cotton mills but Britannia Mill seems to have remained in business throughout this period. By 1876 it is also listed as being in the occupation of a joint stock company, the Britannia Mill Co. Ltd., and from 1879 until 1882 the company is listed as the sole occupier. (It could of course be the case that the Hargreaves' were still significant shareholders in the Company). The mill may have ceased trading in

the middle of the 1880s since there is an absence of any listing in 1885. However it re-appears in 1890 under the changed occupation of Baxenden Industrial Manufacturing Co. Ltd. again in the cotton manufacturing trade. They were still in occupation in 1905 but by 1913 Anderton and Halstead Ltd., who also had Albert Mill on the other side of the street, appear to have acquired Britannia Mill for cotton manufacturing.

- 5.12 An additional three-storey building was added at the north-east end of the complex sometime between 1911 and 1930 (OS 1911 and 1930). The OS Map of 1930 still shows Britannia Mill as being involved in cotton but by 1957 there had been a change in trade to a slipper factory in the occupation of the C.W.S Ltd. (The Co-op). The manufacture of slippers from felt had begun in Rossendale in the 1870s using waste products from the woollen industry and as the textile industry began to decline in the 20th century many slipper firms took over redundant cotton mills. In 1893 there were 10 slipper factories in Rossendale producing 70,000 pairs per week and employing 1,300 people (www.lancashire.gov.uk). By 1973 there were approximately 24 slipper works in Rossendale (Elliott 1976, 20). Britannia Mill followed this pattern and this use continued until at least 1963 when the Classified Trades and Industrial Directory Rossendale still lists the occupiers as C.W.S. Ltd., shoe and slipper manufacturers. However it is not listed in the same directory of 1969 and it is assumed that manufacturing had ceased by then after which the mill was acquired by the current owners who are involved in the retailing side of the footwear trade.

6. PHYSICAL DESCRIPTION

6.1 GENERAL DESCRIPTION

- 6.1.1 Britannia mill (**Front cover and Plates 1 and 29**) comprises a three storey rectangular stone built building with a chimney, engine and boiler house located against the east elevation and a single storey north-light weaving shed to the south and east of these buildings. The original three storey building was subsequently extended to the north by the addition of a three storey stone building aligned north-south creating an 'L' shaped plan with a total footprint of approx.1125 sq.m. including the boiler and engine house. The original three storey building has a double pitch roof aligned east-west and covered in Welsh slates whilst the extension carries four small double pitch roofs also aligned east-west also covered in Welsh slates. The original boiler house and part of the engine room have been rebuilt and extended in machine made brick forming a single storey structure joining the main building and the weaving shed and totally enclosing the chimney. The single storey weaving shed is enclosed by a 3m high perimeter wall and has a footprint of approx. 2665sq.m.including a rectangular two-storey office building located in the south-east corner of the weaving shed.

6.2 ORIGINAL THREE STOREY BUILDING - EXTERNAL DESCRIPTION

- 6.2.1 North Elevation (Plate 2). The north elevation of the original building is constructed of pitch (or rock) faced yellow sandstone blocks varying in size from 400mm x 260mm to 300mm x 200mm laid in regular courses and bonded with lime mortar. The western part of this elevation is now concealed by the northern extension which butts up against it. The ground floor of the visible eastern portion has a large infill of machine-made brick apparently inserted at the same time as the boiler/engine house rebuild which enclosed the chimney (see para 6.1.1 above). Fenestration consists of a row of four tall windows (2m high x 1.3m wide) on each of the upper floors and four windows of varying size on the ground floor. The three westernmost windows on the first and second floors have segmental arched heads comprising two rows of stone headers, adjoining stone jambs and sandstone sills. The easternmost ones have horizontal sandstone lintels. The frames are constructed of timber and contain twelve fixed lights but the first floor windows are boarded over with timber sheets. The ground floor windows have largely been rebuilt with machine made brick with only the most westerly one retaining the form of the upper windows; this has been blocked with a steel sheet. The three remaining windows have concrete lintels, adjoining brick jambs and timber sills. The frames are constructed of timber; the two easternmost each have fifteen fixed lights and the westernmost one has ten. A timber framed personnel door has been constructed in the brickwork between the two easternmost windows.
- 6.2.2 West Elevation (Plate 3). This elevation comprises the gable end of the original three storey building and is constructed of pitch (or rock) faced yellow sandstone blocks varying in size from 230mm square to 660mm x 25mm, regularly coursed and bonded with cement mortar. Fenestration comprises a row of three tall windows (2m high x 1.3m wide) on the two upper floors. All have stone segmental arched heads, adjoining stone jambs and sandstone slab sills. The central windows have been blocked with brick, cemented over and fitted with ceramic air vents. All remaining windows are fitted with timber frames containing twelve fixed lights. The northernmost ground floor window has a steel or wrought iron lintel, cement jambs and a stone cill. The southernmost one is as those on the upper floors. Both have been blocked with brick and cemented over as has the central aperture on this floor. However sandstone quoins are visible around the latter and appear to form the jambs to a now blocked doorway. The roofline consists of a large gable with stone covered verges. Athwart the apex is a 1m high rectangular stone tower with a stone coping and an iron strap around the base. This was the tower for an internal lift shaft.
- 6.2.3 South Elevation (Plate 4). The ground floor of the south elevation of the building is obscured by the adjoining weaving shed and is only visible at first floor level and above. It is constructed in random sandstone rubble with a rows of eight windows tall windows (2m high x 1.3m wide) on each of the on each of the first and second floors. The windows have segmental arched heads comprising two rows of stone headers, adjoining stone jambs and sandstone sills. The frames are constructed of timber and contain twelve fixed lights on

the second floor and four on the first. The ends of the roof trusses are also visible just below the timber box guttering.

- 6.2.4 East Elevation (Plates 1 & 5) The east elevation of the original mill building is constructed of sandstone rubble smooth rendered with cement. The remains of a gable with a double pitched roofline are visible to the south of the chimney (Plate 5). This possibly indicates the position and style of the original boiler house running alongside the southern side of the chimney. Four windows are visible in this elevation; two tall arched windows at first floor level constructed as those in the north elevation; a large rectangular window just below the apex and fitted with a timber frame containing nine fixed lights; and a small rectangular window with a timber frame and two fixed lights just below the northern verge (Plate 1). A personnel doorway fitted with a timber frame and door has been inserted between the two arched windows and provides access from the first floor of the mill building to the flat roof behind the chimney.

6.3 ORIGINAL THREE STOREY BUILDING - INTERNAL DESCRIPTION

- 6.3.1 Ground floor (Plate 6). This originally comprised a rectangular area (approximately 25m x 12.5m) with the longer axis running east-west. The walls are constructed of painted random sandstone rubble. The floor of the mill consists of smooth concrete and the ceiling (3.8m high) is constructed of timber planks carried on east–west orientated joists supported by five large timber beams running north-south. These are let into the north and south external walls and are also supported by a row of cast iron columns. Along the line of these columns is a brick wall running east-west and then returning north. The area to the north of the wall has been subdivided to form ladies and gents toilets with another inaccessible room to the west of the latter. An L-shaped storage area remains to the south and west of the brick wall. In the south–east corner is a stairwell enclosing a concrete stairway that leads to the upper floors of the building. The east wall north of the stairwell has been broken through to give access to an area immediately west of the chimney stack which is incorporated into the ladies toilets mentioned above. An RSJ now supports the floor above. There is a brick-built lift shaft on the west wall of this floor (Plate 6). The only external access to this building is via a single personnel door on the north elevation (Para. 6.2.1 above) which leads into a passageway between the ladies and gents toilets. There are two doorways in the north wall of the weaving shed which also provide access to the building. On the north wall a doorway fitted with a timber sliding door has been inserted into an existing window and provides access to the three-storey extension (see Section 6.4 below). A window located to the east of the door looks out into the extension (Plate 6).
- 6.3.2 First Floor (Plates 7 & 8). This area is accessed via the enclosed staircase located at the southern end of the east wall and described above. All walls are constructed of painted sandstone rubble. The floor consists of flush timber planking. The ceiling (4m high) is constructed of timber planks carried on east–west orientated joists supported by seven large timber beams running

north-south. These are let into the north and south external walls and are also supported by a row of centrally located cast iron columns (2.92m spacing). Above the capitals of the latter are straps surrounding the beams and transferring the weight of the upper floors directly to ground level via the columns themselves without placing any additional load on the beams. The lift shaft mentioned on the ground floor is centrally located against the west wall with a window either side. The southern window is obscured by a timber partition office in the south-west corner. A small window is located to the extreme north. Seven windows are located in the south wall, two of which are obscured by the timber office. A timber fire door is located at the eastern end of the wall. The north wall now has seven windows, three of which now look into the extension to the north (**Plate 8**). An eighth (the most westerly) has been converted into a doorway providing access to the extension. The windows in the south wall have heavily chamfered stone cills, stone jambs and lintels. The others all have horizontal cills. A timber frame fitted with a timber personnel door in the east wall north of the stairwell allows access to the flat roof of the boiler house.

- 6.3.3 Second Floor (**Plate 9**). This floor is also accessed from the enclosed stairway in the south-east corner of the building. It is now in use as a store for a collection of motorcycles. The floor is boarded as for the floor below (see para.6.3.2). The west end of the original north wall has been removed creating an opening 8.3m wide and 2.8m high which leads through to the first floor of the extension to the north (**Plate 10**). A large RSJ supported by two cast iron columns has been inserted above the large opening at the juncture of the original building and the extension. To the west of the opening part of the original north wall remains for 2m exhibiting a single blocked tall window. Four windows remain in the north wall to the east of the opening. The layout and design of the windows in the west, south and east walls mirrors that on the first floor (see para.6.3.2 above). The ceiling (3.74m high), walls and window surrounds are all plaster-boarded. A row of cast iron columns runs east-west and supports seven timber beams which comprise the tie beams for the roof trusses described at para.6.3.4 below. The beams are also encased in plasterboard (**Plate 11**). Two hatches provide access to a loft area. One hatch is located to the south of the lift shaft with an iron ladder affixed to the wall allowing access to the attic; the other is centrally located to the north of the columns.
- 6.3.4 Attic and Roof Timbers(**Plate 12**). The attic has a floor consisting of timber planking and is open allowing inspection of the roof timbers. The double pitch roof is orientated east-west and is carried by seven 'queen post' trusses the tie beams of which are visible in the room below (see para. 6.3.4 above). The underside of the roof is open to the slates. A rectangular window is located below the apex in the east wall (see para.6.2.4 above).

6.4 THREE STOREY EXTENSION- EXTERNAL DESCRIPTION

- 6.4.1 East Elevation (**Plate 13**). The east elevation of the extension is constructed of

machine-cut rusticated yellow sandstone blocks with an average size of 380mm x 140mm laid in regular courses and bonded with cement mortar.

Fenestration consists of a row of seven windows on each of the first and second floors and three centrally located on the ground floor. All windows are of the same construction with fine-particled sandstone slab lintels and cills with adjoining stone jambs and most are fitted with timber frames containing twelve fixed lights. The second south windows on the second and first floors are sixteen light sashes. The fourth, fifth and sixth from the south on the first floor have three opening top hung lights. The northernmost on the second floor and all three on the ground floor are boarded with plywood. Two large goods doorways are located at the north and south ends of the elevation, both with RSJ lintels. The southern one has adjoining stone jambs; those of the northern one are steel lined. The southern doorway is fitted with a large timber external sliding door and the northern doorway is fitted with a metal roller shutter door. Above the upper row of windows is a row of stone corbels upon which rests a timber box gutter running the length of the elevation. The roofline consists of four small gables, the most northerly being narrower than the others.

6.4.2 **North Elevation (Plate 14).** The north elevation of the extension is constructed of machine-cut rusticated yellow sandstone blocks with an average size of 380mm x 150mm laid in regular courses and bonded with cement mortar. Fenestration consists of a row of four windows on each of the three floors. All windows (2.4m high x 1.4m wide) are constructed with fine-particled sandstone lintels and cills and adjoining stone jambs. The three easternmost windows at second floor level are fitted with timber frames containing twelve fixed lights. The westernmost ones at second and first floor levels have been converted to fire escape doors with four fixed lights in a timber frame above. The adjoining window at first floor level has been blocked with modern brick. The one to the east of that had been partially boarded over with two lights visible at the base whilst the easternmost one still holds twelve timber framed fixed lights. The ground floor windows have all been blocked up. A wrought iron or steel fire escape ladder links the second and first floors and zigzags to ground level. A modern alarm box is affixed to the wall centrally, at second floor level. At the extreme west of the elevation a small stone chimney is visible above the roofline.

6.4.3 **West Elevation (Plate 3).** This elevation of the two storey extension is a northern continuation of the gable end of the original three storey building. It is constructed of machine-cut rusticated yellow sandstone blocks with an average size of 400mm x 100mm laid in regular courses and bonded with cement mortar. Fenestration consists of a row of seven tall windows on each of the three floors. They are all of identical construction with fine-particled sandstone slab lintels and sills with adjoining stone jambs. All windows are fitted with a timber frame containing twelve fixed lights apart from the most southerly one on the second floor which has six lights. The ground floor windows have all been blocked with brick or timber sheet and are partly covered by a rise in ground level. The roofline consists of four gables the northern one being narrower than the others. The stone chimney mentioned at para. 6.4.2 above is also visible at the extreme north of the elevation.

- 6.4.4 South Elevation. There is no external elevation at this orientation. The extension butts up against the north wall of the original three storey building which now forms an internal wall between the two phases.

6.5 THREE STOREY EXTENSION- INTERNAL DESCRIPTION

- 6.5.1 Ground Floor (Plates 15 & 16). This originally comprised a rectangular area (approximately 22m long x 12.5m wide) with the longer axis running north-south. The southern wall is the western half of the north elevation of the original three-storey building and is already described at para. 6.2.1 above. All walls are constructed of painted random sandstone rubble. A similar wall of east- west orientation divides the floor area into two sections. A large door located at its west end provides access between the two rooms.

- 6.5.2 The southern area (**Plate 15**) which is accessed from the exterior by the sliding door described in para. 6.4.1 above, is 12.5m long x 8.6m wide and was in use as a garage. Two windows are visible in the south wall, one blocked with aluminium sheet and the other looking into the area described at para.6.3.1 above. The west wall contains three rectangular tall windows (2.14m high x 1.25m wide). All have boarded sills, bull nose brick jambs, sandstone lintels and timber frames containing nine lights. They have been bricked up on the outside (see para. 6.4.3 above). The floor comprises stone setts and flags and the ceiling is constructed of timber planks and joists supported by two east-west orientated RSJs. The northerly RSJ is supported by a large cast iron column with a saddle and strap which transfers the load from the floor above directly thorough the column. Two large apertures located in the ceiling provide access to the upper floors for a conveyor belt (eastern aperture) and a hoist (northern aperture). To the north of the external door a timber partition encloses a timber L-shaped staircase providing access to the floors above (fire escape).

- 6.5.3 The northern area (**Plate 16**) is accessed from the exterior by the centrally located metal roller shutter door in the east wall as described at para. 6.4.1 above. This wall also has two painted windows of the same construction as the windows in west wall of the garage (see para. 6.5.2 above). The north wall has four similarly constructed windows. These are filled with cement blocks or bricks. The west wall has three painted windows of the same construction but blocked on the outside with timber sheets (see para. 6.4.3 above).The south wall contain a doorway at the west end that leads to the garage. There is a stone flagged floor and a timber plank ceiling carried on joists supported by three east-west orientated RSJs in turn supported by three centrally located cast iron columns running north-south. A triangular brick chimney rises from floor to ceiling in the north-west corner of the room

- 6.5.4 First Floor (Plate 17). This area also used for storage. All main walls are constructed of painted random sandstone rubble except for the southern wall which is the western half of the north elevation of the original three-storey building already described at para. 6.2.1 above. There are six windows with

brick jambs sandstone lintels and boarded sills as for those described at paras. 6.5.2 and 6.5.3 above. The most westerly window in the south wall has been converted to a doorway to provide access from the original three-storey building to the extension (see para. 6.3.2 above). The most westerly window in the northern wall has been converted to a fire escape door. There is a timber boarded floor and a boarded ceiling supported by north-south floor joists on east-west steel beams resting on a row of five centrally located cast iron columns (3m spacing) mirroring those on the ground floor. A timber stairway is located against the east wall and provides access to the upper and lower floors. A large aperture (2.7m x 1m) in the floor against the southern end of the east wall provides hoist access between floors and another aperture (2.4m x 1.7m) centrally located against the south wall allows a conveyor from the ground floor to access this floor. Both apertures are protected by 1m high timber fencing. A triangular brick chimney in the north-west corner of the room rises from floor to ceiling

- 6.5.5 Second Floor (Plates 10 & 18). The layout and construction of the floor, walls and windows are as on the first floor (see para. 6.5.4 above). The south wall has been largely removed, as described in para 6.3.3 above, apart from the stonework above the RSJ where the tops and lintels of three windows are visible (**Plate 18**). The ceiling is open to the roof which consists of four double pitches running east-west; each one carried upon three 'king post' trusses (**Plate 19**). The most northerly of the three roofs is narrower than the others and the trusses commensurately smaller. The trusses are supported by three north-south orientated timber wall plates located under the valleys of the roofs and each supported by three cast iron columns spaced 6.4m apart, the most northerly located 3.5m from the north wall. The capitals have saddles matching those on the other floors but there are no straps. Both apertures for the hoist and conveyor on this floor are protected by 1m high timber fencing.

6.6 POWER PLANT

- 6.6.1 General Description. A square chimney constructed of regularly coursed sandstone blocks and tapering to a height of approx. 30m rises immediately east of the east elevation of the original three storey building (**Plate 1**). Immediately east of this is a single storey flat roofed brick building (**Plate 20**), which also wraps around the chimney to the north and south as well as filling the small gap between the chimney and the east elevation of the original three storey building. This building is used as a boiler house and probably replaces and earlier one on the same site. There is a raised skylight on the flat roof that now looks down into the boilerhouse. The east wall of this brick building slightly overlaps and butts up against a taller mainly stone built building which lies immediately to the east and is topped with a steel tank (**Plate 21**). This building has now been converted to an electricity sub-station but was probably originally the engine house.
- 6.6.2 Boiler House - North Elevation (Plate 20). This elevation is built in machine made brick substantially keyed in to the north-east corner of the original three

storey building. It is built in English bond of alternate rows of headers and stretchers bonded in cement mortar. The elevation continues upwards as a parapet which protects the flat felt roof and is topped with a stone coping. From west to east the brick frontage contains a single window with a concrete lintel, a modern timber frame and ten lights the upper four of which are top-hung openers. Beyond this is a sealed steel door which may provide access to the chimney base. Continuing east a timber framed personnel door and a large doorway fitted with a steel roller shutter door provide access to the current boiler room.

- 6.6.3 Boiler House – East Elevation. This elevation has also been built in machine made brick laid in English bond of alternate rows of headers and stretchers bonded in cement mortar. The elevation continues upwards as a parapet which protects the flat felt roof and is topped with a stone coping. The wall overlaps and butts up against the north wall of the adjoining original engine house (now a sub-station) (**Plate 21**). The original random rubble sandstone of the wall for an earlier building is still visible in the south-east corner of this elevation.
- 6.6.4 Boiler House - South Elevation (**Plates 22 & 23**). This elevation has also been built in machine made brick laid in English bond of alternate rows of headers and stretchers bonded in cement mortar. It now forms the north wall of a passage that separates the boiler house from the weaving shed to the south.
- 6.6.5 Boiler House - West Elevation. This elevation has also been built in machine made brick laid in English bond of alternate rows of headers and stretchers bonded in cement mortar. It is only visible internally where it butts up against the chimney stack described at para.6.6.1 above.
- 6.6.6 Boiler House Interior (**Plate 22**). This area is accessed via the roller shutter and the personnel door in the north elevation. These lead into a rectangular room (10.3m x 8m) constructed of brick in garden-wall bond with four rows of stretchers to one of headers and cement mortared. The east wall is mainly rendered with bare bricks above but the others are painted. There is a concrete floor and ceiling (5.09m high). The ceiling is fitted with a metal framed glazed box skylight. Within the room is a concrete block screen separating the coke store at the eastern end of the room from the area occupied by two redundant Britannia Ideal boilers. The boilers were auto fed by two screw mechanisms located in the coke store. A concrete ramped path located to the west of the boilers leads from the external personnel door through the boiler room to a personnel door located in the south wall. This door provides access to a broad corridor aligned east –west which leads to the former engine house to the east via a large opening, and also leads into an enclosed area approx. 5m x 6.4m to the west to the south of the stone built chimney. At the western end of the corridor a small timber office is attached to the south wall (**Plate 23**). The corridor has a concrete floor and ceiling like those in the boiler house. Two rows of windows, each with eight fixed lights and metal frames mullions and transoms, are located on the south wall of the corridor; the lower row facing into the weaving shed. This is the north wall of the weaving shed which was

originally stone built but has now been brick lined on the south side and is apparently the load bearing wall for the flat concrete and felt roof that now covers the whole area between the east wall of the original three storey building and the east wall of the boiler house. A transmission shaft fitted with pulleys is affixed to this south wall just below ceiling height and runs the length of the corridor into the engine house terminating in a bearing box in the east wall of the latter (see para. 6.6.11 below). Although this appears to be an original piece of transmission gear its current position above the roof of the weaving shed would be impractical for supplying motive power. It may have been re-sited (presumably when the brick lined load bearing south wall was built).

- 6.6.7 Engine House- North Elevation (Plate 21). This is set back approx. 6m. from the north elevation of the brick-built boiler house. It is constructed of random rubble sandstone with dressed sandstone quoins and has been repointed with cement mortar. There is a centrally located tall aperture with sandstone quoins which appears to extend almost to ground level. It now has a wrought iron lintel impressed with the date 1895. Below the lintel is a timber framed window with two opening and four fixed lights. The lower part of the aperture is now infilled with machine-made brick which extend to the east through the line of the quoins to surround a doorway below a concrete lintel. This holds a pair of double timber louvred doors giving access to an electricity substation. The building is topped with a decorated cast iron tank approx. 1m high and covering the area of the roof. This probably provided a reservoir for the internal sprinkler system. A large transformer has been located in front of this building and iron railings flush with the rest of the elevation prevent access.
- 6.6.8 Engine House- East Elevation. The upper level is visible above the weaving shed and is constructed of random rubble sandstone with dressed sandstone quoins repointed with cement mortar matching that of the north elevation (Plate 24). There is a centrally located window at the upper level constructed with a sandstone slab lintel, sill and staggered sandstone quoins and fitted with a timber frame with four fixed lights each with a central timber mullion. Above this, located on the roof is the water tank described in 6.6.7. The lower level is obscured at ground level by the adjoining single storey weaving shed. However it is visible within a ramped passage (Plate 25) to the east which separates the engine house from the weaving shed. It comprises a roughly rendered stone wall with a number of blocked apertures about two metres above floor level which presumably once held transmission boxes.
- 6.6.9 Engine House- South Elevation. The south elevation of the engine house is obscured by the adjoining single storey weaving shed. However the upper level appears to be of the same random rubble sandstone construction as the other elevations described at paras. 6.6.7 and 6.6.8 above.
- 6.6.10 Engine House-West Elevation. The lower part of this elevation is co-terminus with the east elevation of the boiler house (see para.6.6.3 above). the upper level appears to be of the same random rubble sandstone construction as the other elevations described at paras. 6.6.7 and 6.6.8 above.

6.6.11 Engine House-Interior The interior of the engine house is open to the roof (7.32m high) which is underboarded and supported on timber joists. Although the external walls of the engine house are constructed of random sandstone rubble the interior walls are lined with brick. A timber frame doorway fitted with a double personnel door in the south wall provides access to the weaving shed. A brick wall (approx. 3m high) aligned east-west now splits off the area in which the electrical substation is located and which is inaccessible from the interior. A transmission shaft fitted with pulleys enters the upper part of the engine house from the passage behind the boiler house (see para. 6.6.6 above) through the west wall (**Plate 26**). It is fixed to the south wall just below ceiling height and terminates in a bearing box in the east wall.

6.7 WEAVING SHED

6.7.1 General Description. The weaving shed occupies the major part of the mill's footprint and is located to the south and east of the original three-storey building and the power plant (**Plate 1**). It is a sub-rectangular single storey building comprising a perimeter wall constructed of cement rendered random sandstone rubble surmounted by a north light roof which is aligned east-west. The northern pitches of the roof are glazed and the southern ones are slated externally and plasterboarded internally. The roof is supported by braced timber trusses and cast iron columns and saddles (**Plate 27**).

6.7.2 North Elevation (**Plate 24**). This elevation consists of the perimeter wall of the weaving shed which is constructed of cement rendered random sandstone rubble. At the eastern end it steps up slightly in line with the rising ground level. At the western end there is a short return with a parapet and stone coping which protects the end of the north-light roof (**Plate 21**). The return respects the northern wall of the former engine house which it overlaps and abutts. At the western extremity of the north elevation there is a set of steel fronted double doors below a concrete lintel (**Plate 24**).

6.7.3 West Elevation (**Plate 4**). This elevation consists of a blank perimeter wall of the weaving shed which is constructed of cement rendered random sandstone rubble. It is topped with a parapet and stone coping which protects the western end of the north light roof.

6.7.4 South Elevation (**Plates 28 & 29**). Most of this elevation consists of the perimeter wall of the weaving shed which is constructed of cement rendered random sandstone rubble. A timber personnel door with timber frame (fire exit) is located toward the western end of the wall. Midway along its length the wall is stepped back 1m. At the eastern end of the elevation is a two storey office block (**Plate 28**). It is mainly constructed of whitewashed random sandstone rubble although the east wall is of pitch (rock) faced gritstone. The east-west orientated double pitched roof is covered with Welsh slates. There is a stone built chimney on each gable. On the south elevation there are four windows of varying sizes on the ground floor and two centrally located windows on the first floor. All windows are constructed with stone slab lintels

and sills with adjoining stone jambs. The upper eastern window is fitted with a metal frame; the remainder are fitted with modern timber frames containing from three to six lights. On the west elevation of this building can be seen the shadow of an earlier pitched roof for a building that has been subsumed within the weaving shed.

- 6.7.5 East Elevation. This elevation comprises the east perimeter wall of the weaving shed. It is convex in plan, following the line of the adjoining roadway to which it is flush. It is constructed of cement rendered random sandstone rubble topped with a parapet and stone coping which protects the eastern end of the north light roof. It is otherwise blank.
- 6.7.6 Weaving Shed Interior (Plate 27). The weaving shed is roughly 'L' shaped containing an area that extends west to east along the southern boundary of the original three storey building and power block and then wraps round the east elevation of the latter until it reaches a point flush with the north elevations of those buildings (see Fig. 7). It measures 48.6m north-south x 67.5m east-west at its greatest extent (the east wall being convex in plan). The east, west, south walls and the east part of the north wall are constructed of random sandstone rubble either plastered and painted or plasterboarded over. A timber door and doorway (fire exit) is located in the south wall. The weaving shed has a smooth concrete floor and the ceiling is open to the roof, which comprises ten north light roofs aligned east-west. These are carried by timber valleys, crossbeams and trusses supported by rows of 15 to 21 cast iron columns located beneath the valleys; the number per row varying due to the shape of the shed.
- 6.7.7 A brick and timber partition wall has been erected in the north east part of the shed, which adjoins the east wall of the former engine house, to create a corridor or passage way leading to the timber framed double goods door in the north elevation. The concrete floor to the latter has been ramped up (Plate 25).
- 6.7.8 The west wall of this corridor (east wall of engine house) contains several blocked slots and openings. Three blocked slots (1.9m long x 0.46m wide) are regularly spaced in the upper wall. The two southerly slots have a further blocked sub circular hole approx. 0.45m diam. located approx. 1m to the north of each slot. Below these a rectangular hole (1.85m wide x 1.56m high) is located centrally at ground level. To the north and below the most northerly slot there is evidence of a large goods doorway that was initially reduced to a personnel door and then subsequently blocked. All apertures have been blocked with machine made brick. Either side of the entrance to the corridor from the weaving shed stand large stanchions with extended brackets.
- 6.7.9 In the south-east corner of the weaving shed is the three storey office block (see para. 6. 7. 4 above). It is possible to access the basement of this from the weaving shed by doors in the north and west walls of the office block. Internally the walls of the office block are constructed of random sandstone rubble and the basement contains an original stone flagged floor. The timber ceiling is supported by timber joists aligned north-south carried on four cast

iron stanchions. A timber staircase (1m. wide) leads to the upper floors which have been totally modernised into two floors of offices.

7. ANALYSIS AND INTERPRETATION

- 7.1 It appears from the cartographic and documentary evidence (see para.5.10 above) that Britannia Mill was constructed between 1851 and 1858. The 1850s was the decade of greatest growth in the cotton industry of Rossendale as by this time both power spinning and power loom weaving had become well established in the textile industry of the north-west as had steam power (Ashmore 1982, 4). It seems clear that the Britannia Mill was always a weaving mill as no reference is made in the documentary sources to spinning being carried on there (see the table in para.5.10 above – ‘manufacturers’ in the directories can always be taken to mean weaving). It seems likely that, from the start, the mill would have comprised three main elements -the weaving shed, the power plant in the north-west corner and three storey rectangular stone structure immediately to west which is referred to in the survey as ‘ the original three-storey building’.
- 7.2 The weaving shed follows the classic design of a single storey building with a north-light roof structure supported on timber roof trusses and cast iron columns. In this case the roof lights do face north but this is not always the case. Specialised weaving sheds of this design were being built by the mid-1840s (Rothwell2007, 77) and so Britannia Mill fits into this period of development. Its date of construction suggests that it was probably a fairly early example of this type of building. The walls are mainly built of random stone which can be contrasted with the brick used in later weaving sheds which again bespeaks of an early date. The cast iron columns still have the brackets that carried the shafting for transmitting power to the actual looms (see illustration in (Ashmore 1982, 184). It should be mentioned that the office block in the south-east corner of the shed shows evidence of the roof line of an earlier building that must have stood on the site of the shed itself (see para. 6.7.4 above). However there is no evidence for either the office or this demolished building on the 1849 OS Map. The latter must therefore have been short-lived and soon replaced by the weaving shed.
- 7.3 Because of their large ‘footprint’ weaving sheds were commonly built on the edges of towns where sufficient land was more likely to be available. They were also located close to transport facilities such as canals and railways. As water power was replaced by coal powered steam engines this was a key factor in bringing textile mills out of the hills to locations where large quantities of raw materials and finished goods could be moved to and from the mill more economically. Again Britannia Mill is a good example of a mill location driven by these imperatives as the A56 dual carriageway which runs immediately to the west of the mill is on the line of the former railway. There is an evocative photograph in (Aspin and Simpson 2002, 24) which illustrates how close the Mill was to the old Haslingden railway station. It is also noticeable how the west elevations of the warehouse and preparation blocks

(see paras 7.7 & 7.8 below)were constructed and finished in finer materials to display an enhanced frontage to the passing railway traffic.

- 7.4 It is clear that Britannia Mill must have been driven by coal –powered steam engine from the start. There is evidence of a lodge and a goit which apparently carried water from the Swinnel Brook via Carr Mill to the north and Pag House Mill to the south (OS 1849). However this goit is located on the opposite side of Mill Street from Britannia Mill and there is no indication of it feeding into the mill (OS 1893). It is equally clear that the stone built building that now contains a sub-station must have been the original engine house and there is still evidence of blocked up power transmission boxes in the lower east wall of this building which is now within a ramped passageway giving access to the weaving shed but which must have originally been part of the weaving shed itself. This wall has numerous slots that appear to have allowed transmission shafts to enter the weaving shed at 90 degrees and 270 degrees via a pinion gear, the shafts being carried through bearing boxes supported on heavy duty stanchions located to the south of this wall.
- 7.5 Direct acting horizontal engines were being installed from about 1850 (Jones 2006, 52). However this building is of the appropriate proportions to have originally housed a beam-engine which were still popular well into the late 1860s (Rothwell 2007, 13, 14, 70 & 77, Dickinson, T.C., 2002, 56). Although the exterior of the existing engine house is relatively unchanged it is apparent that the north elevation was partially rebuilt at some time – probably in 1895 when the date plaque and water storage tank on the roof were added (see Plate 21). The water storage may have been installed to feed the sprinkler system in the weaving shed (sprinklers having been invented in America in 1881). At that time the long window, which was a feature of engine houses of the early to mid-19th century, was partially filled in and the interior of the engine house was lined with brick. It may be that these alterations were connected with the replacement of steam by electricity as interior has been extensively modified to house a sub-station and electrical switchgear and to facilitate its incorporation into the boiler house rebuild. It is also possible that the north elevation may have been rebuilt because of damage sustained when the steam engine was removed.
- 7.6 The existing boiler house is a brick built single storey structure with a flat roof that has totally enclosed the mill chimney. It contains two Britannia Ideal self-feeding boilers which appear to have been decommissioned some time ago. However it is apparent that this building is a rebuild as it is constructed in the same brick as that in the partially rebuilt part of the engine house and in the three storey building to the west (see para.6.2.1 above).The original boiler house may have been the building with a double pitched roof that stood to the south of the chimney alongside the weaving shed and has left a ‘shadow of the double pitched roofline on the east wall of the adjoining three storey block (see para.6.2.4 above and Plate 5). This building was demolished at a date unknown and replaced with the existing boiler house which now extends to fill the original gap between the three storey building to the west and the mill

chimney (see Fig. 7). The latter is stone built of rectangular regularly coursed sandstone blocks and is square in plan. Square stone chimneys are generally of pre-mid 1860s vintage which again ties in with a suggested date for this mill of the 1850s (Dickinson 2002, 71).

- 7.7 Immediately to the west of the chimney is a three storey rectangular building constructed of regularly coursed stone. Internally each upper floor is supported by timber beams which run north-south between the long exterior walls and are also supported centrally by a row of cast iron columns which runs the length of the building. It seems likely that this building was the preparation and warehouse block associated with 1850s weaving shed. There is a lift shaft on the west wall which would have allowed good to be loaded/unloaded from the exterior of the building through the now blocked central ground floor door on the west elevation. Goods could also be taken from the bay in which the lift shaft is situated through to the weaving shed without too long a journey (Fig 7). The almost vernacular form of construction offered no proofing against fire unlike the brick arched construction introduced by Fairbairn that came into general use after 1865 (Holden 1998, 84). However the cast iron supporting columns were topped by saddles that enveloped the timber beams and allowed loads from the floor above to be transmitted to the ground directly through the columns without crushing the timber beams themselves (see Plate 7 and Jones 2007, 28). It is noticeable that the saddles supporting the floor beams do not have brackets for carrying transmission shafting (cf. those in weaving shed and in three storey extension described below).
- 7.8 Immediately to the north of the above is a three storey rectangular extension building, again built of regularly coursed stone; although, in this case, machine cut denoting a later construction date. It is apparent from the cartographic evidence that this extension was built between 1911 and 1930 when the mill was in the possession of Messrs. Anderson and Halstead who were still involved in cotton weaving (see para. 5.10 above). Internally each upper floor is supported by steel beams which run east-west between the long exterior walls and are also supported centrally by a row of cast iron columns which runs the length of the building but which, again, offer no proofing against fire. These columns also employ load transmitting saddles as in the original three storey building (see Plates 8 and 17). However in this case they also have brackets that suggest they may have been intended to carry power transmission shafts. It was not possible to ascertain whether this extension was ever used for manufacturing or whether it was a further preparation and warehouse area.
- 7.9 Sometime between 1930 and 1957 cotton weaving ceased at Britannia Mill and by the later date the Co-op were running it as a slipper factory. It was still so used in 1963 but appears to have gone out of use by 1968 and was subsequently taken over by Mr. Winfield's firm who are footwear retailers and currently use it for storage. Fortunately these changes of use have had little effect on the mill's layout or fabric and its original use as a weaving mill is still easily traceable within the buildings.

8. CONCLUSION

- 8.1 Documentary evidence relating to the specific history of Britannia Mill is quite sparse; this may be because it was not one of the larger mill complexes in Haslingden and no events appear to have singled it out. There are two mill complexes in Haslingden which have Scheduled Monument Status. The first, Higher Mill, Helmsore (Scheduled Monument Number La143) and the second is at Grane Mill (Scheduled Monument Number 34999) These two monuments represent one of the earliest mills, with Higher Mill dating to 1789, and one of the latest, with Grane Mill dating to 1907 (Lancashire County Council 2005, 49). Britannia Mill is nevertheless representative of one of the high points of the Lancashire cotton industry as it was built in the 1850s, a decade which saw the greatest growth in the cotton industry in Rossendale just prior to the American Civil War and the Cotton Famine of the early 1860s. It comprises a single storey weaving shed with a three-storey preparation and warehouse block, an attractive engine house exterior and a good square stone-built chimney which are all typical of the period. Whilst not singled out for statutory listing, Britannia Mill is an important element in the historic townscape of the locality. It is situated on Mill Street immediately east of the (now removed) railway and its prominent position next to the Haslingden By- Pass provides an evocative reminder of the town's industrial past.

9. ARCHIVING

- 9.1 A fully indexed archive is to be compiled consisting of all primary written documents, plans, photographic negatives and a complete set of labelled photographic prints. Labelling will be in indelible ink on the back of the print and will include film and frame number; date photographed and photographer's name; name and address of feature/building; and NGR. The prints be mounted in appropriate archival stable sleeves.
- 9.2 The archive resulting from the building recording will be deposited with the Lancashire County Record Office in a format to be agreed with the Archives Officer and within a timescale to be agreed with the Specialist Archaeological Advisor or the Planning Officer (Archaeology).
- 9.3 The site archive will be prepared and stored according to the UKIC Guidelines for the preparation of excavation archives for long term- storage (1990) and the Museum and Galleries Commission Standards in the Museum Care of Archaeological Collections(1992) 'Standards for the preparation and transfer of archaeological archives'.
- 9.4 A copy of this report will be supplied to the Lancashire Sites and Monuments Record in Adobe Acrobat 'PDF.' format on CD-ROM on the understanding that it will become a public document after an appropriate period (six months after completion of the field work unless another date is agreed with the Specialist Archaeological Advisor or the Planning Officer

(Archaeology)). A copy of the report will also be supplied to the Local Planning Authority responsible for the planning decision.

- 9.5 A summary of the report will be submitted to English Heritage's 'OASIS' Database as soon as further guidance is provided by the Planning Officer (Archaeology).

10. COPYRIGHT

- 10.1 Full copyright of this commissioned report and other project documents shall be retained by the author of the report under the Copyright, Designs and Patents Act 1988.

11. BIBLIOGRAPHY

Abbreviations

HLSL	Haslingden Local Studies Library
LRO	Lancashire County Record Office
OS	Ordnance Survey
RLSL	Rawtenstall Local Studies Library

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Trades Directories

- Classified Trades and Industrial Directory Rossendale, 1963, 1969, Rossendale
- Kelly's Directory of Lancashire, 1864, 1909, 1913, 1918, Kinsley
- MacDonald's Directory of Rochdale 1879, Manchester
- Mannex and Co. Directory and Topography of North East Lancashire, vol II, 1876, Preston
- Slater's Directory of Lancashire 1848, 1851, 1858, 1865, 1869, 1876, 1879, 1882, 1885, 1890, Manchester
- Worrall's Directory for Haslingden, Helmshore and Ewood Bridge 1872, Oldham

APPENDIX 1 PROJECT BRIEF

SPECIFICATION FOR ARCHAEOLOGICAL RECORDING OF
BRITANNIA MILL, MILL STREET, HASLINGDEN
(SD 7852 2404)

**Prepared on behalf of Rossendale Borough for Barbara Brownridge,
Garham Bolton Planning acting for Mr Dale Winfield, owner**

1. Summary

1.1 Planning permission (14/02/348) for a proposed change of use to retail, storage, motorcycle museum, café and workshops at Britannia Mill, Mill Street, Haslingden has been granted by Rossendale Borough Council. Because of the historic nature of the site it has been recommended that an archaeological record of the buildings should be made.

1.2 This recommendation follows the advice given by central government as set out in *Planning Policy Guidance: Planning and the Historic Environment* (PPG 15) and *Planning Policy Guidance: Archaeology and Planning* (PPG 16) issued by the DoE.

2. Site Location and Description

2.1 The site is located at NGR SD 7853 2404, bounded by Mill Street to the east, the Haslingden A56 by-pass to the west, vacant land to the north and Vale Street to the south. The mill and weaving sheds are currently used as storage for Mr Winfield's business as well as his collection of vintage motorcycles.

3. Planning Background

3.1 The proposed development will require the refurbishment of the mill and associated buildings, as well as the insertion of new partitions to form offices, a café, museum and other staff areas.

3.2 It is a condition of the planning permission that a programme of building recording and analysis be undertaken prior to any conversion works taking place.

4. Archaeological Background

4.1 The mill buildings (Lancashire Sites and Monuments Record PRN 21159) appear on the 1st edition Ordnance Survey 1:2500 maps (Lancashire

Sheet LXXI.12) surveyed in the early 1890s, and comprise an original 8 bay three storey mill with weaving sheds to the south. A later extension to the north is characterised by windows with stone lintels and cills. Internally this extension can be seen at second floor level where the head of the original windows can be seen on a former exterior wall. A steel lintel on the boiler house, which retains two (not original) boilers, has the date 1895.

4.2 The textile mills of the north west were of great historical significance, shaping the landscape and the communities within which they were built and which surrounded them. However to date, no systematic study of the mills of the Borough or the County as a whole has been made, and the importance of this particular site remains to be assessed.

5. Requirement for Recording & Aims of the project

5.1 From the time of the Industrial Revolution the North West has held an important position in the industrial development of the country and, as the area that led the cotton-based textile industry and the development of the factory system, contains many buildings of great significance, both locally and nationally. In recent years however many such structures have been lost through demolition or redevelopment with no record of their original form surviving. Buildings are an important part of the historic environment, providing information on historical technology, social structure and lifestyles.

5.2 The first aim of the proposed work is to identify and objectively record by means of photographs and annotated drawings any significant evidence for the original and subsequent historical form and functions of the building.

5.3 The second aim of the proposed work is to analyse and interpret the building as part of an integrated system intended to perform a specialised function. The archaeologist on site should give particular attention to reconstructing as far as possible the functional arrangements and division of the building. The roles of historical plan form, technical layout and process flow should all be considered in this process of interpretation.

6. General Instructions

6.1 Health and Safety - The archaeologists on site will naturally operate with due regard for Health and Safety regulations, and the contractor must ensure that all relevant requirements are met with regard both to site personnel and to members of the public. This work may require the preparation of a Risk Assessment of the site, in accordance with the Health and Safety at Work Regulations prior to submission of the tender. **Lancashire County Archaeology Service (LCAS) and its officers cannot be held responsible for any accidents that may occur to outside contractors**

engaged to undertake this work while attempting to conform to this specification.

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

6.3 Confirmation of Timetable and Contractors' Qualifications - Prior to the commencement of *any work*, the archaeological contractor should provide LCAS **in writing** with a projected timetable for the site work, and with details regarding staff structure and numbers. The names and *curriculum vitae* of key project members (the project manager, site supervisor, any proposed specialists *etc.*), along with details of any specialist sub-contractors, should also be supplied to LCAS (if C.V.s have not previously been supplied). All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard, subject to the ultimate judgement of LCAS.

7. Level of Recording

7.1 The survey shall be based on a Level 2/3 survey, as specified in *Understanding Historic Buildings: A guide to good practice* (English Heritage 2006). The archaeological contractor must ensure that all parts of the buildings are made available for inspection.

1.1

1.2 8. The Written Record;

8.1 The location of the building, including name or street name and number, town, civil parish, and National Grid Reference.

8.2 The date when the record was made and the names of the recorders and the organisation which employs them (e.g. Unit name) as well as the reason for the record (to meet the requirements of a planning condition) and quoting the relevant planning application reference (see 1. Summary).

8.3. A detailed description of the building. This should describe the building's plan, form, function, age and development sequence. The names of architects, builders, patrons and owners should be included if known. The purpose of this is to describe the building when no fuller record is required or to serve as an introduction to a more detailed record that may follow.

8.4 An account of the building's overall form and its successive phases of development, and of the evidence supporting this analysis.

8.5 An account of the building's past and present use, and of the uses of its parts, with the evidence for these interpretations. An account of any fixtures or fittings associated with the building.

8.6 Copies of other records of the building, or a note of their existence and location.

8.7 The archaeological contractor will undertake a map-regression exercise based on the readily-available map evidence held by the Lancashire Record Office, Preston and a rapid examination of the available 19th- and 20th-century Trades and Postal directories and all relevant secondary sources. This work is intended to inform the archaeological recording by providing background information with regard to function and phasing. Relevant information from any other readily available sources should be consulted and from other people such as owners, building contractors or architects) who may be familiar with the building. Sources of such information should be given. Please note that this exercise is not intended to be a formal desk-based assessment, and should not represent a disproportionate percentage of the time allowed for the project overall.

Note: The original site of Britannia Mill, along with the adjacent Victoria and Albert Mills, can be seen on the 1st Edition 1:2500 mapping. Mr Winfield, the owner of all three sites, has indicated that he would be interested see a quote to carry out the works outlined in paragraph 8.7 above for Victoria and Albert Mills, to be submitted as a separate document.

8.8 A note of the building's past and present relationship to its setting: for example its relationship to local settlement patterns or its part in a larger functional group of buildings.

8.9 A note of the significance of the building locally, regionally or nationally, in terms of its origin, purpose, form, construction, design, materials or status.

8.10 A copy of this specification should be included, as an appendix, in the report on the building.

9. The Drawn Record;

9.1 Plans (to scale or fully dimensioned, usually 1:50 or 1:100) of all main floors as existing. Buildings with a repetitive structure (e.g. many industrial buildings) may be planned on one floor only, but a note or a sketch plan should be made to show the arrangement of other floors. Plans should show the form and location of any structural features of historic significance. Items of interest would typically include:

- all structural elements (including posts, columns, etc)
- truss positions and form

- evidence for power transmission
- original staircases
- original doors and windows, including associated shutters or other fittings
- original and subsequent historical internal partitions
- blocked doors and windows
- masonry joints

9.2 Drawings (to scale or fully dimensioned) recording the form and location of other significant structural details (e.g. timber or metal framing, roofs).

9.3 Sections to illustrate the vertical relationships within a building (e.g., ceiling heights; differing floor heights; roof trusses).

9.4 Drawing conventions should conform to English Heritage guidelines as laid out in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006).

10. The Photographic Record;

10.1 General view or views of the exteriors and interiors of the buildings prior to demolition.

10.2 The overall appearance of principal rooms and circulation areas.

(After demolition of the modern extensions)

10.3 Detailed coverage of the building's external appearance. In the case of a buildings designed by an architect, or intended to be seen from a certain point of view, it is important to have regard to the builders intentions and to record the effect of the design or of the building's placing.

10.4 Any external detail, structural or decorative, which is relevant to the building's design, development and use and which does not show adequately on general photographs.

10.5 The building's relationship to its setting, to other buildings, or to a significant viewpoint.

10.6 Internal detail, structural and decorative which is relevant to the building's design, development and use and which does not show adequately on general photographs.

10.7 A plan at a suitable scale (1:50 or 1:100), for each floor, showing the location from which the photographs have been taken. The annotation of architects plans for this purpose is acceptable.

10.8 A photographic register listing all photographs taken (b/w prints and colour slides are required for record shots, whilst high quality digital images are acceptable within the report). For ease of use each set of photographs should be numbered sequentially 1, 2, 3, etc.

10.9 General photographs can be taken with a 35mm camera (Medium or Large Format cameras may also be used). 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 building and its structure.

10.10 All record photographs to be black and white, using conventional silver-based film only, such as Ilford FP4 or HP5, or Delta 400 Pro (a recent replacement for HP5 in certain film sizes such as 220). Dye-based (chromogenic) films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities. Digital photography is unacceptable due to unproven archiving qualities.

10.11 Record photographs should be printed at a minimum of 5" x 7" In addition, a small selection of photographs (the best of the exterior setting shots and interior shots) should be printed at 10" x 8". Bracketed shots of identical viewpoints need not be reproduced, but all viewpoints must be represented within the report.

11. Post-Recording Work and Report Preparation

1.3 A written report shall be produced. This will include:

11.1 The location of the building, including name or street name and number, town, civil parish, and National Grid Reference.

11.2 The date when the record was made and the names of the recorders and the organisation which employs them (e.g. Unit name) as well as the reason for the record (to meet the requirements of a planning condition) and quoting the relevant planning application reference (see 1. Summary).

11.3 A detailed description of the building. This should describe the building's plan, form, function, age and development sequence. The names of architects, builders, patrons and owners should be included if known. The purpose of this is to describe the building when no fuller record is required or to serve as an introduction to a more detailed record that may follow.

11.4 An account of the building's overall form and of its successive phases of development, and of the evidence supporting this analysis.

11.5 An account of the building's past and present use, and of the uses of its parts, with the evidence for these interpretations. An account of any fixtures, fittings, plant or machinery associated with the building.

11.6 Any evidence for the former existence of demolished structures or plant associated with the building should be given.

11.7 Copies of other records of the building, or a note of their existence and location.

11.8. Relevant information from other readily available sources and from other people such as owners, building contractors or architects) who may be familiar with the building. Sources of such information should be given.

11.9 A note of the building's past and present relationship to its setting: for example its relationship to local settlement patterns or its part in a larger functional group of buildings.

11.10 A note of the significance of the building locally, regionally or nationally, in terms of its origin, purpose, form, construction, design, materials or status.

11.11 The report illustrations should include as a minimum: a location map at not less than 1:2500; a site plan at not less than 1:500 with the building being recorded clearly marked; photographs used to illustrate key points and a complete set of site drawings, at an appropriate scale, executed to publication standard. Extracts from all historic maps studied during the map analysis stage (section 8.8.) are also to be included, where they clearly show changes, within the report with the building/buildings of interest clearly visible. All copyright and Licence agreement numbers should be included where necessary. The photographic record plan and register must also be included.

11.12 A copy of this specification should be bound into the back of the report.

11.13 A fully indexed archive is to be compiled consisting of all primary written documents, plans, photographic negatives and a complete set of labelled photographic prints. Labelling should be in indelible ink on the back of the print and should include: film and frame number; date recorded and photographer's name; name and address of feature/building; national grid reference. Printed adhesive labels are also acceptable. Photographic prints should be mounted in appropriate archival stable sleeves.

12. Deposition of archive

12.1 The ARCHIVE resulting from building recording will be deposited with the Lancashire Records Office, in a format to be agreed with the County Records Officer, and within a timetable to be agreed with the Specialist Advisor (Archaeology) or Planning Officer (Archaeology). A summary record of the building with appropriate illustrations will be deposited with the Lancashire Sites and Monuments Record and with the National Monuments Record in Swindon.

12.2 The site archive, including finds and environmental material, shall be conserved and stored according to the UKIC *Guidelines for the preparation of excavation archives for long-term storage* (1990) and the Museum and Galleries Commission *Standards in the Museum Care of Archaeological collections* (1992) 'Standards for the preparation and transfer of archaeological archives'.

12.3 Copies of the report will be supplied to the Specialist Advisor (Archaeology) or Planning Officer (Archaeology) and to the Lancashire Sites and Monuments Record on the understanding that it will become a public document after an appropriate period (a maximum of 6 months after the completion of the fieldwork unless another date is agreed in writing with the County Archaeological Officer). This should be provided as an Adobe Acrobat 'pdf' format file on CD-ROM. Paper copies will be supplied to the Local Planning Authority.

13. Further Details

13.1 Any queries about the contents of the brief should be addressed to the Lancashire County Archaeology Service, Lancashire County Council Environment Directorate, Guild House, Cross Street, Preston PR1 8RD Tel 01772 531734, fax 01772 533423

14. Valid period of specification

14.1 This specification will remain valid for up to one year from the 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 Lancashire County Archaeology Service without delay.

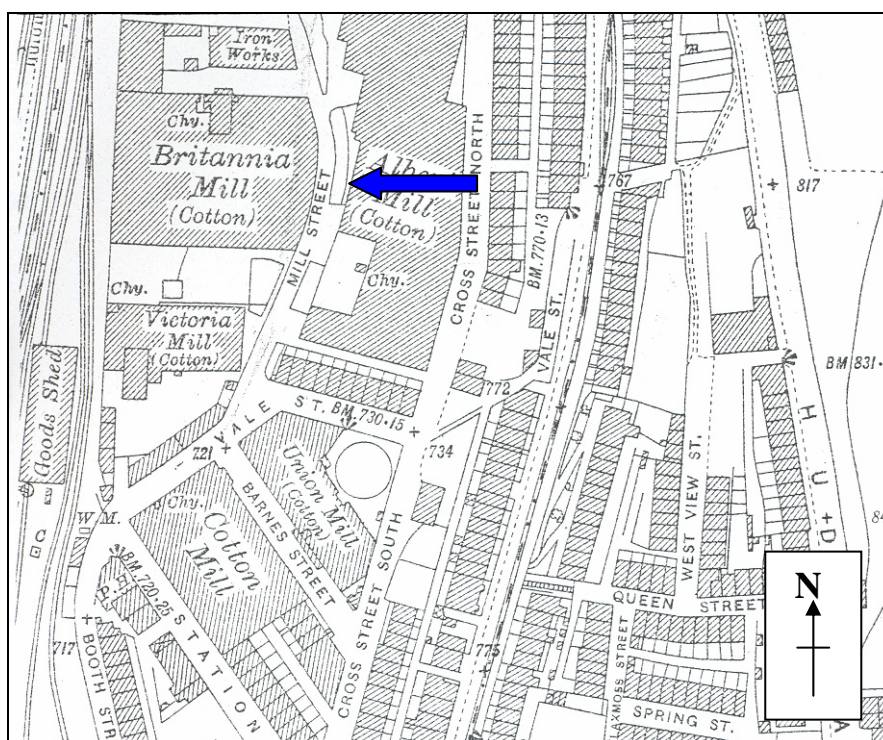
Lancashire County Archaeology Service
2007

October

Douglas Moir
Planning Officer (Archaeology)
E-mail: Douglas.moir@env.lancscc.gov.uk

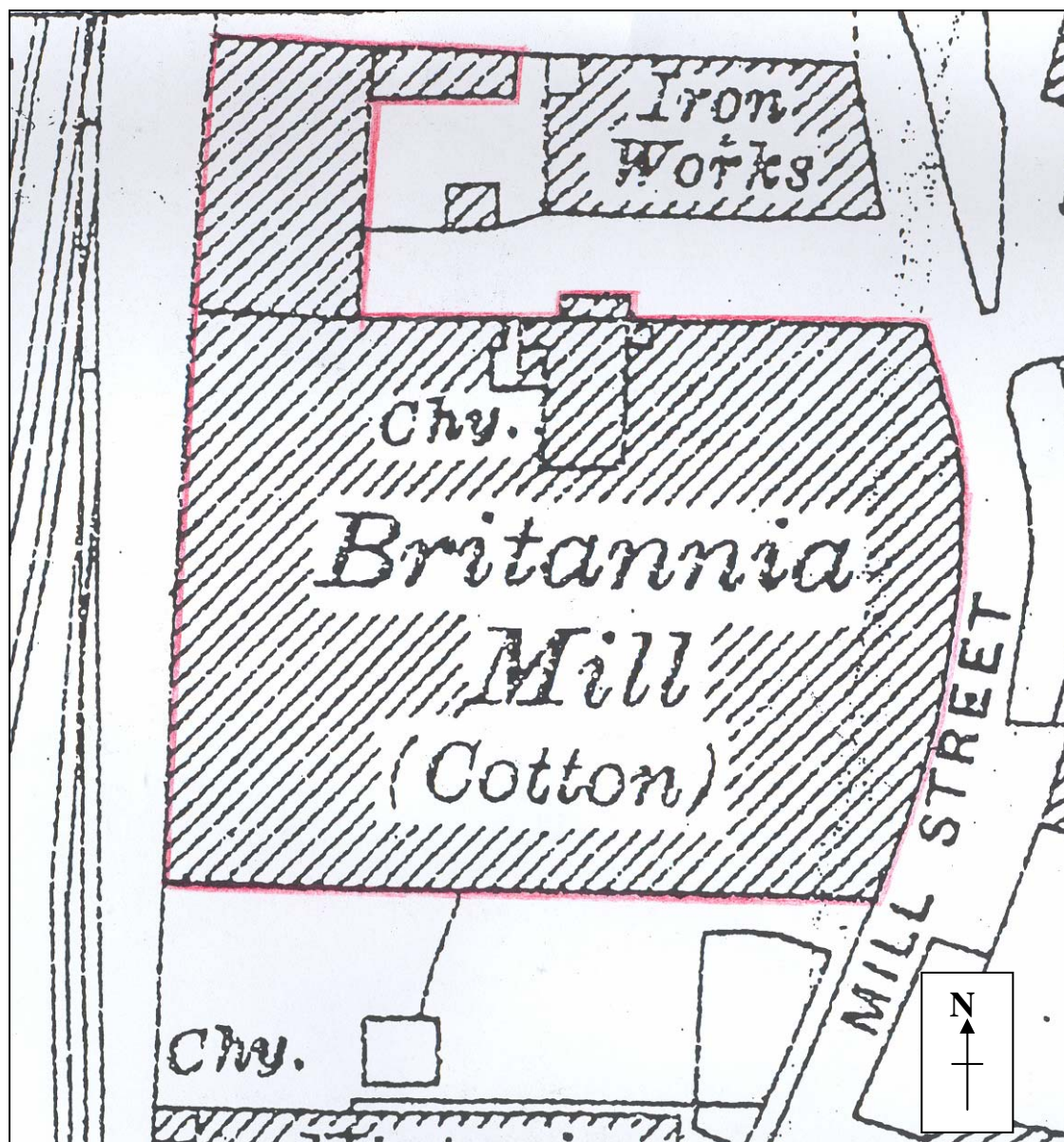
APPENDIX 2 FIGURES

- Fig. 1: Location Map at 1:2500 Scale**
- Fig. 2: Site Plan at 1:500 Scale**
- Fig. 3: OS 1849, 1:10,560 Scale, Lancashire Sheet 71**
- Fig. 4: OS 1893, 1:2,500 Scale, Lancashire Sheet 71.12**
- Fig. 5: OS 1911, 1:2,500 Scale, Lancashire Sheet 71.12**
- Fig 6: OS 1930, 1:2,500 Scale, Lancashire Sheet 71.12**
- Fig. 7: Building Plan –Ground Floor**
- Fig. 8: Sections through Building**
- Fig. 9: Photographic Register**
- Fig. 10: Photograph Location Plan –Ground Floor**
- Fig. 11: Photograph Location Plan –First Floor**
- Fig. 12: Photograph Location Plan –Second Floor**
- Fig. 13: Photograph Location Plan –Attic**



Reproduced from OS Sheet 71.12, 1:2500 scale, 1930

FIG. 1: LOCATION MAP



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FIG. 2: SITE PLAN



FIG 3: OS 1849, 1:10,560, Sheet 71

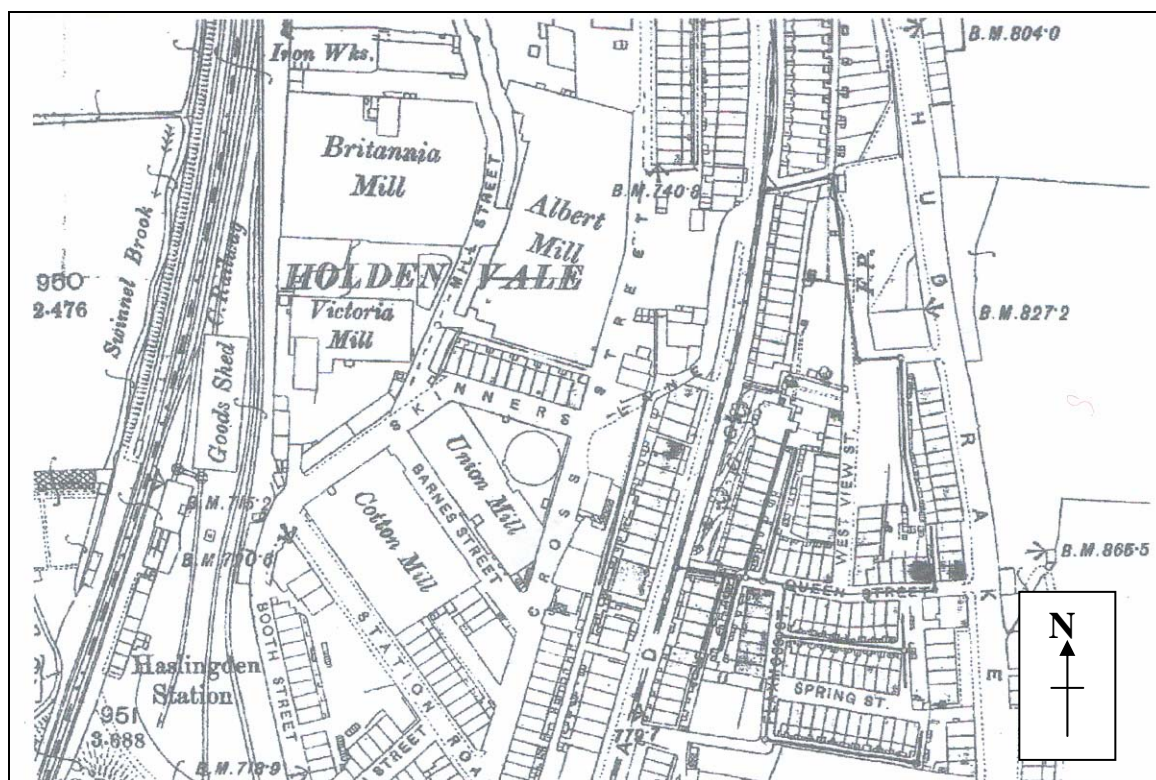


FIG. 4: OS 1893, 1:2,500, Sheet 71.12

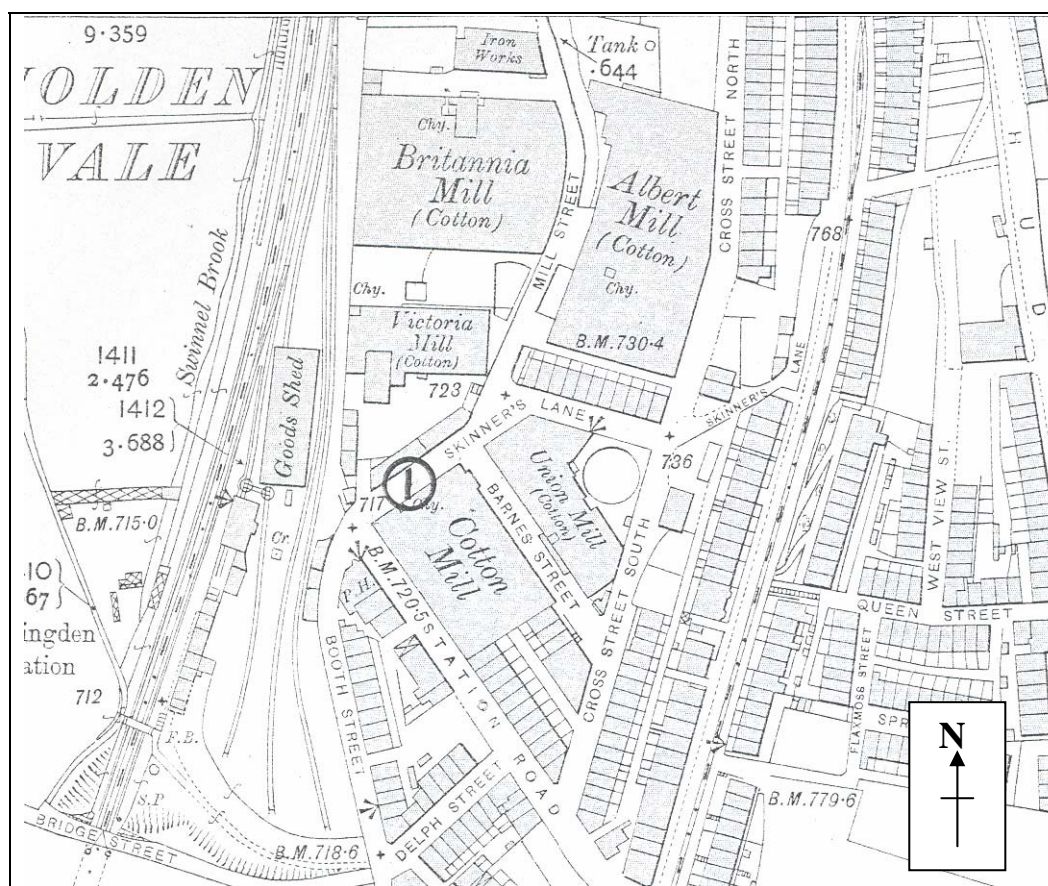


FIG 5: OS 1911, 1:2,500, Sheet 71.12

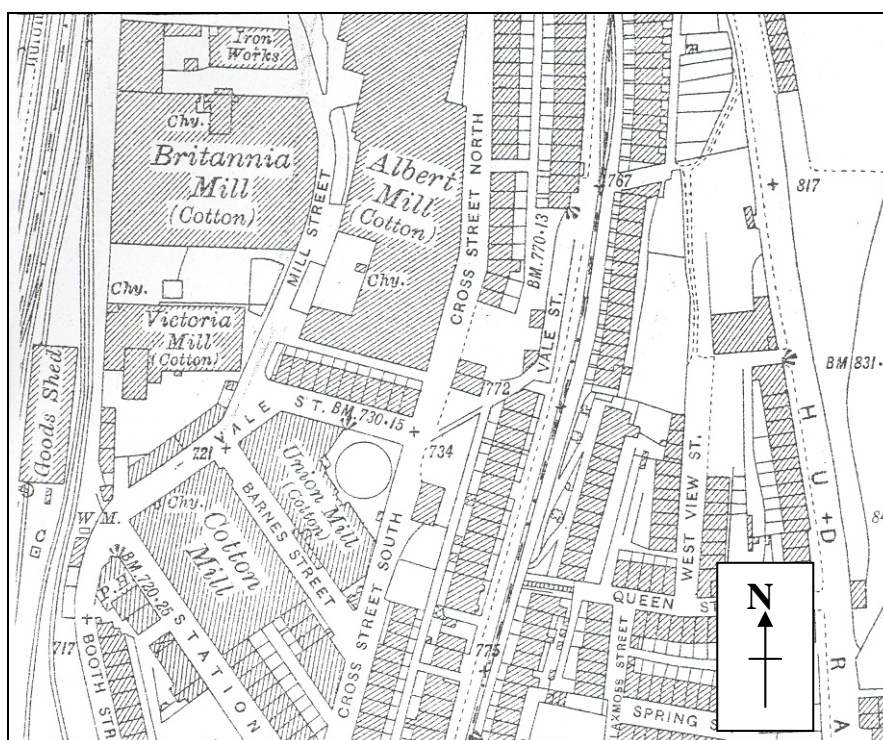
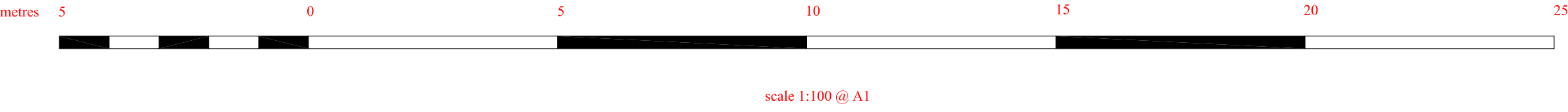
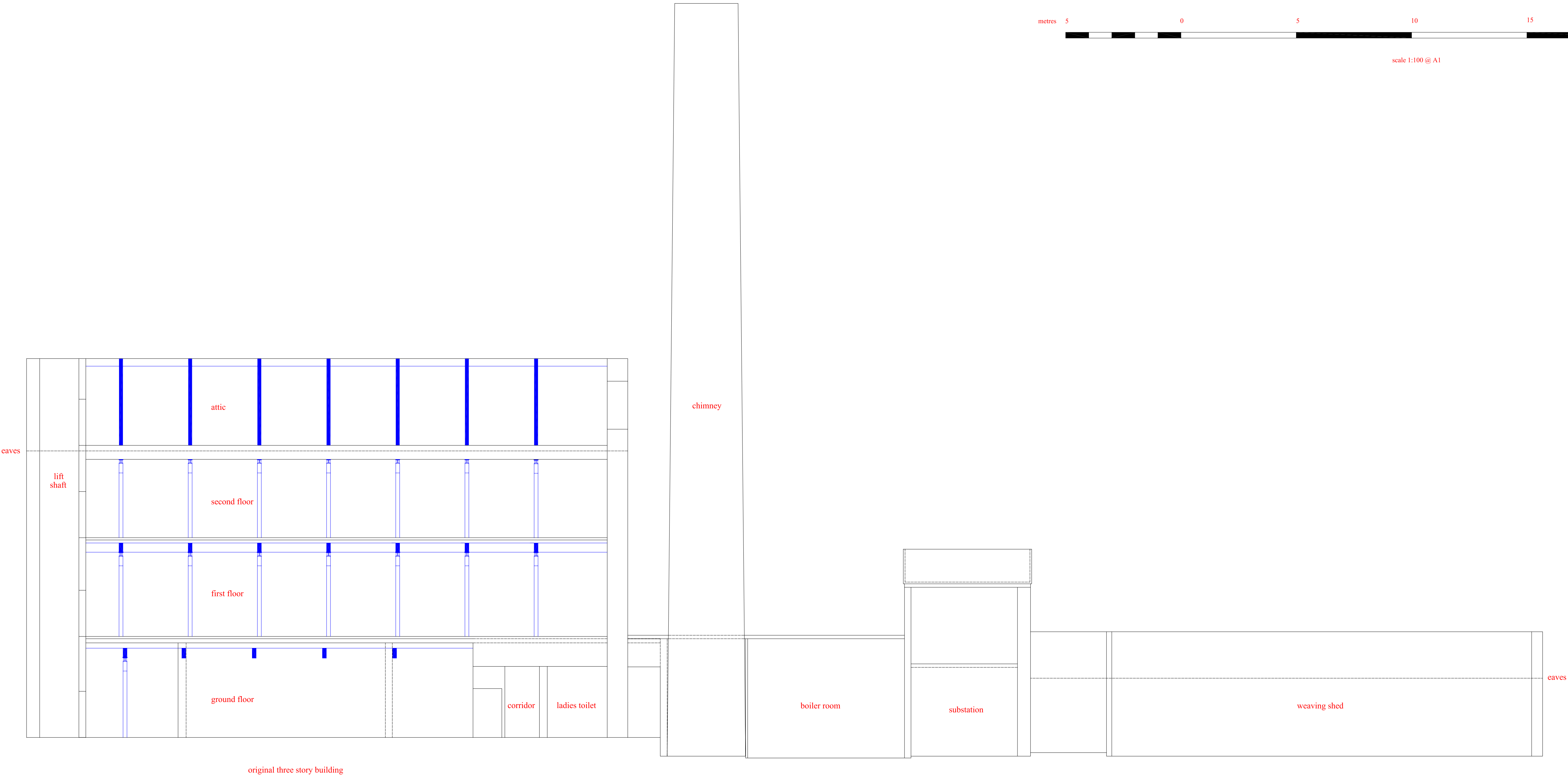


FIG 6: OS 1930, 1:2,500, Sheet 71.8



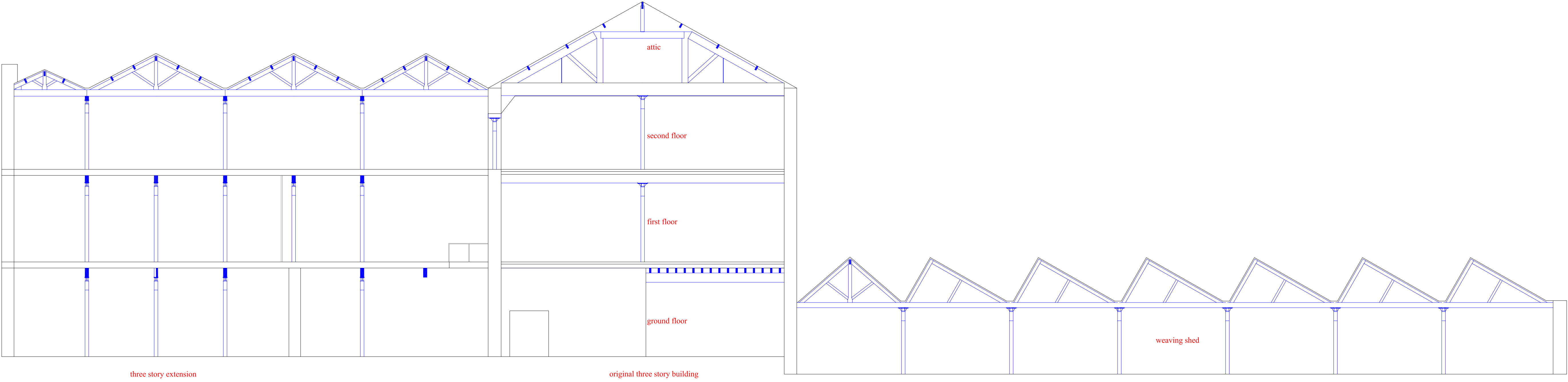


B



B1

A



A1

Figure 8. Sections through the buildings

FIG. 9: PHOTOGRAPHIC REGISTER (1 of 2)

Plate Nos. In Report	Monochrome Prints film/ frame	Description	Direction from which shot was taken
	1/36	East Elevation (GF not wholly visible)	NE
	1/35	View of mill from n/e showing n and e elevations with chimney	NE
	1/34	North elevation of original 3-storey building	N
	1/33	East elevation – post-1910 north extension to original 3-storey building	NE
14	2/24A	North elevation – post-1910 north extension to original 3-storey building	N
13	2/25A	East elevation of post-1910 north extension	E
2	2/20A	North elevation of original 3-storey building showing GF level	N
20	2/21A	Boiler house north elevation	NW
1	2/28	View of eastern front from Albert Mill	E
	1/26	View of mill from Albert Mill	NE
29	1/25	View of south elevation looking north across weaving shed roof to south front of original 3-storey building (lower levels obscured by weaving shed roof	S
4	1/22	South elevation of original 3-storey building from roadside	W
3	1/24	West elevation of original 3-storey building and extension	SW
	2/22A	West elevation of original 3-storey building	W
	1/23	West and south elevations of original 3-storey building	W
FC	1/26	General shot of mill from s/w	SW
21	2/26A	Engine house north elevation	N
24	1/10	Engine house east elevation	NE
22	2/18A	Interior of modern boiler house	NW
23	1/21	Ground floor corridor leading to weaving shed south of boiler/ engine houses	E
26	1/20	Detail of flywheel and horizontal driveshaft attached to upper south wall in engine house	NE
27	1/19	View across weaving shed looking n/e	SW
	2/19A	Detail of cast iron column in weaving shed	NW
25	1/18	Corridor between engine house and north –east corner of weaving shed	S
	1/17	View looking west across n/e corner of	E

		weaving shed.	
6	1/16	Looking north towards lift shaft on west wall of GF in original 3-storey building	S
15	1/15	North elevation of GF in original 3-storey building as seen within post-1910 extension	NW
16	2/16A	Garage in north bays of post-1910 extension	SW
7	1/14	1 st Fl. in original 3-storey building	E
8	2/11A	1 st Fl. in post- 1910 extension	SW
	1/13	1 st Fl. in original 3-storey building	W
	1/11	Loading hatch on east wall of 1 st Fl. in post- 1910 extension	W
17	1/12	1 st Fl. of post-1910 extension	SE
9	1/9	View across 2 nd Fl. of original 3-storey building	SW
	1/8	View across 2 nd Fl. of original 3-storey building	SE
	1/7	View from 2 nd Fl. in original 3-storey building to 2 nd Fl. in post-1910 extension	S
11	2/4A	Detail of column capitals within 2 nd Fl. of original 3-storey building	W
10	2/3A	View looking north-east into 2 nd Fl. post-1910 extension from 2 nd Fl. in original 3-storey building	SW
	1/4	Tops of former tall windows along north wall of 2 nd fl. in original 3-storey building retained when walls knocked through to post-1910 extension.	N
18	2/7A	Tops of former tall windows along north wall of 2 nd fl. in original 3-storey building retained when walls knocked through to post-1910 extension.	NE
19	1/3	Roof trusses on 2 nd fl of post- 1910 extension (example of king post truss)	E
28	2/35A	Mill looking NW	SE
5	2/33	Shadow of former roof line on upper east elevation of original 3-storey building	SE
30	2/30A	Shadow of former roof line on west elevation of office building	SW
12	2/2A	Attic in original 3-storey building	W

FIG. 9: PHOTOGRAPHIC REGISTER (2 of 2)

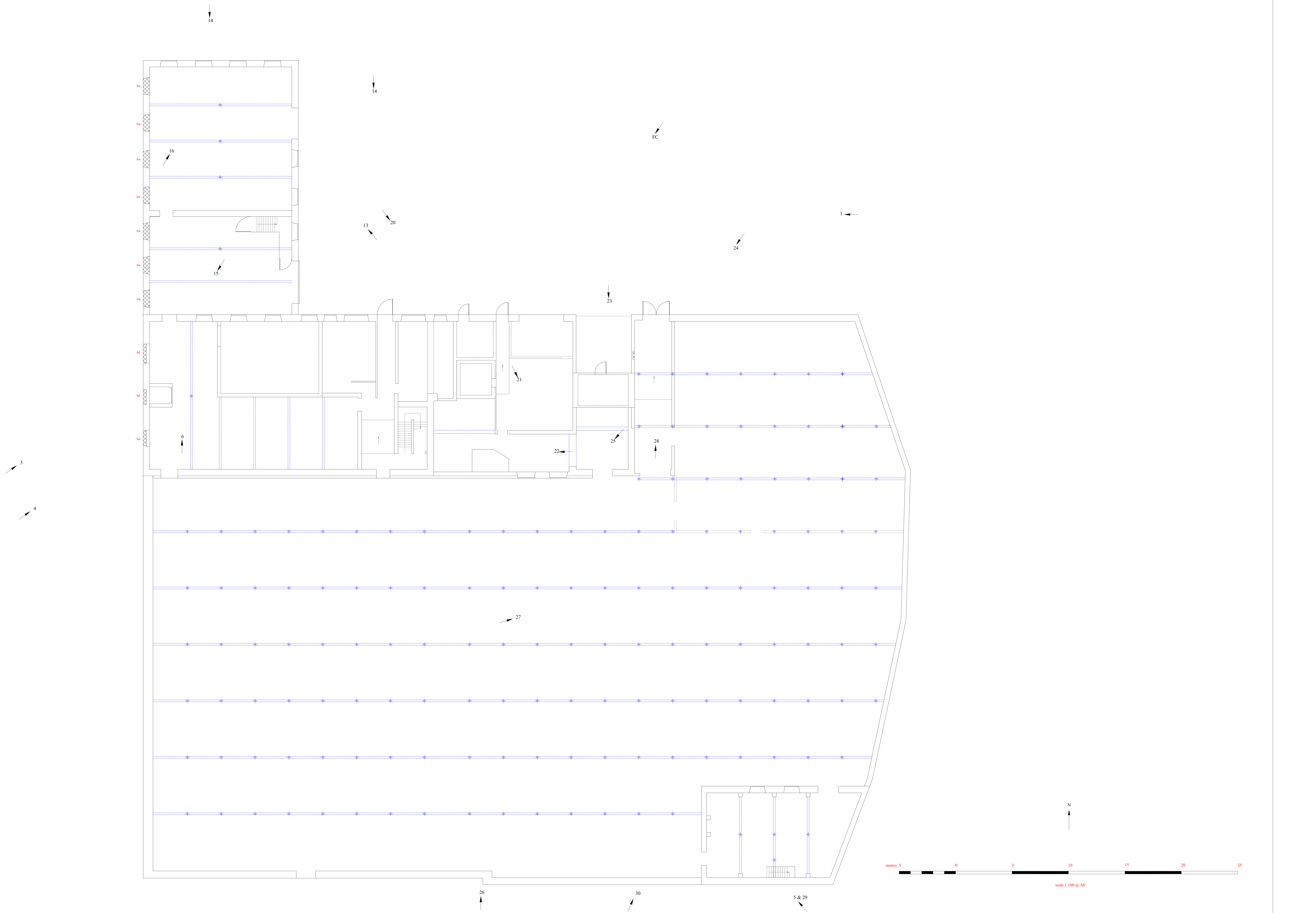


Figure 10: Ground Floor Photograph Location Plan

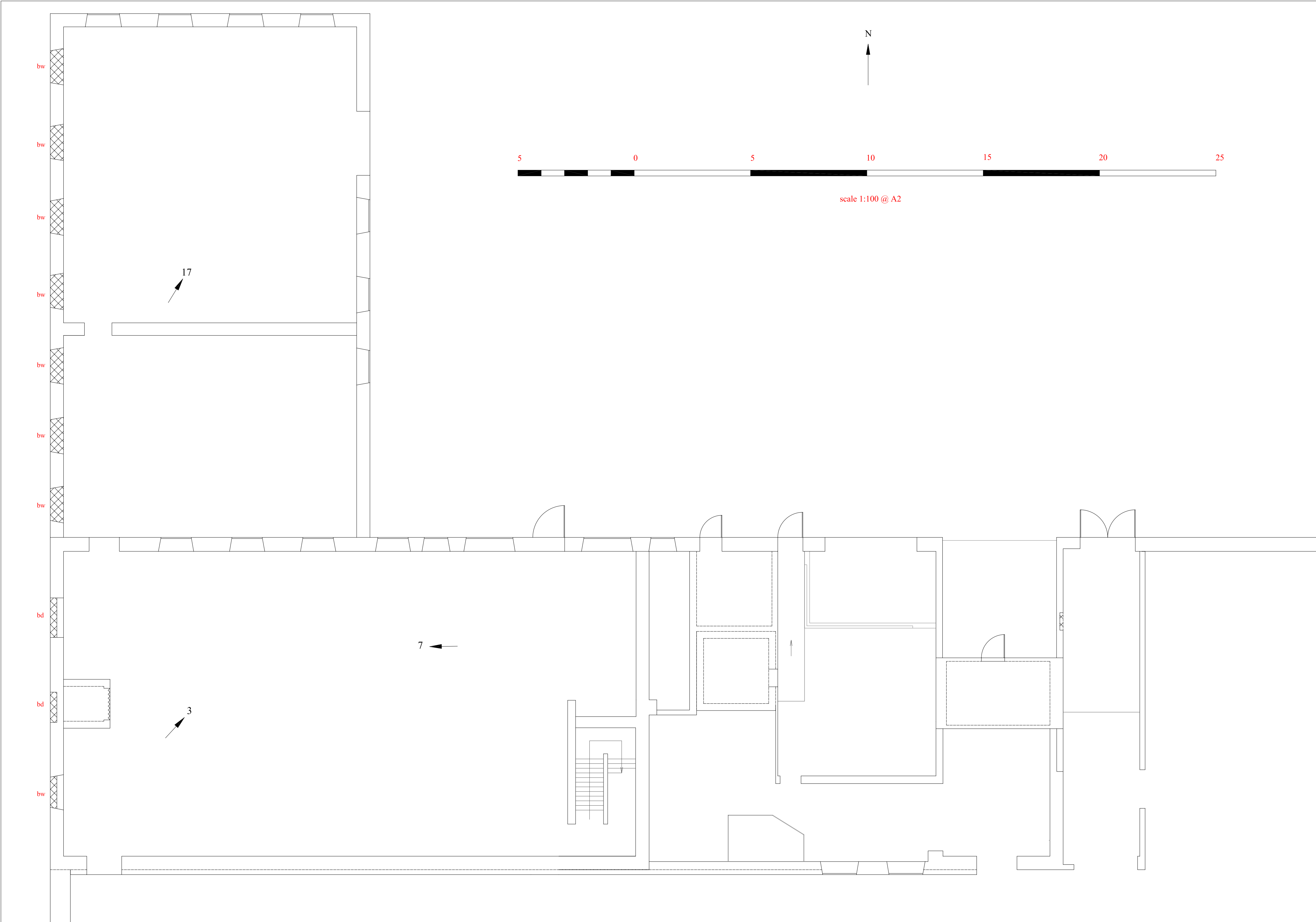


Figure 11. First Floor Photograph Location Plan

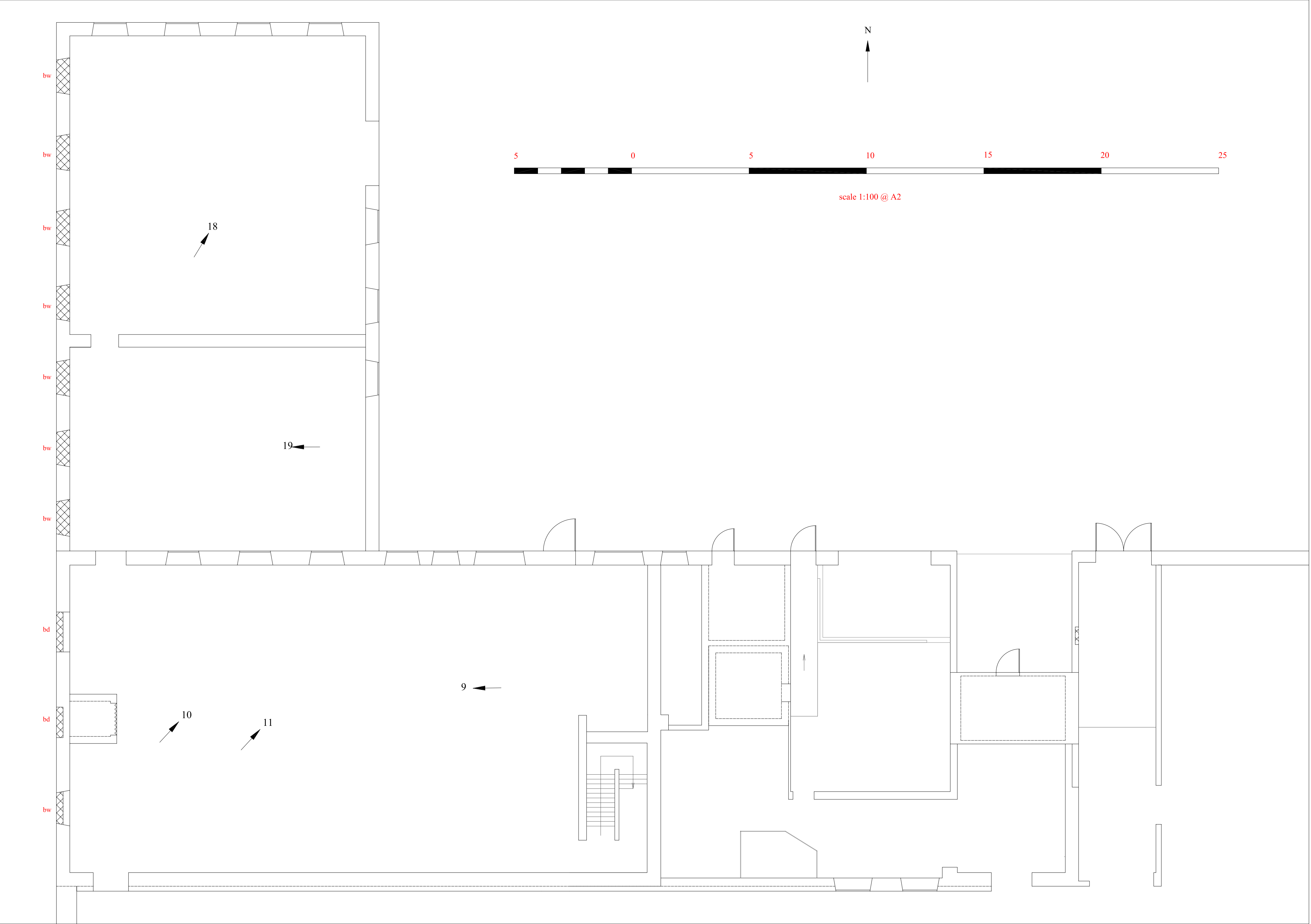


Figure 12. Second Floor Photograph Location Plan

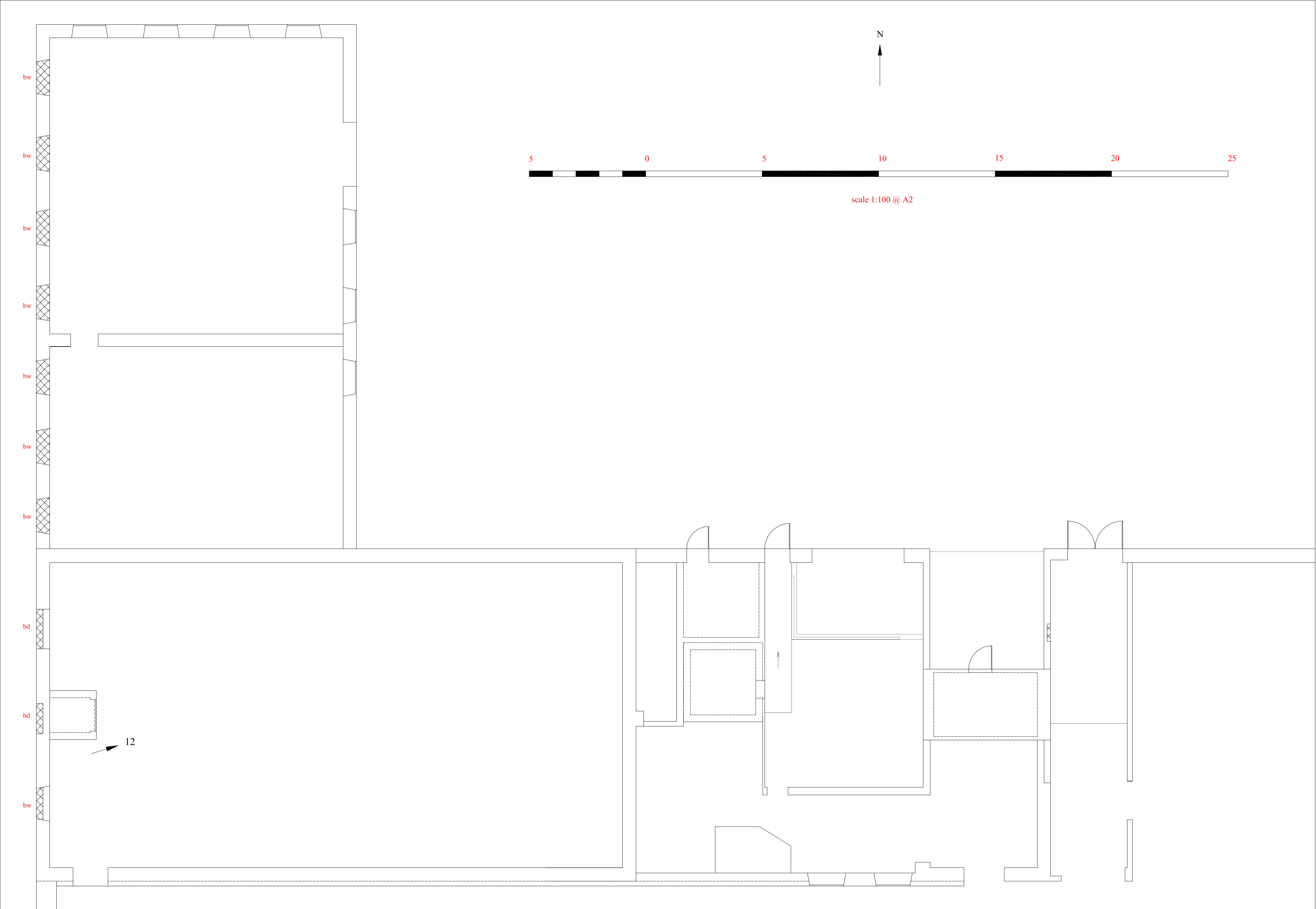


Figure 13. Attic Photograph Location Plan

APPENDIX 3 PLATES

Plate 1: View of eastern front from Albert Mill

Plate 2: North elevation of original 3-storey building showing ground floor level

Plate 3: West elevation of original 3-storey building and extension

Plate 4: South elevation of original 3-storey building from roadside

Plate 5: Shadow of former roof line on upper east elevation of original 3-storey building

Plate 6: Looking towards lift shaft on west wall of ground floor in original 3-storey building

Plate 7: First floor in original 3-storey building

Plate 8: First floor in post 1910 extension

Plate 9: View across second floor of original 3-storey building

Plate 10: View looking north-east into second floor post 1910 extension from second floor in original 3-storey building

Plate 11: Detail of column capitals within second floor of original 3-storey building

Plate 12: Attic in original 3-storey building

Plate 13: East elevation of post 1910 extension

Plate 14: North elevation – post 1910 north extension to original 3-storey building

Plate 15: North elevation of ground floor in original 3-storey building as seen within post 1910 extension

Plate 16: Garage in north bays of post 1910 extension

Plate 17: First floor of post 1910 extension

Plate 18: Tops of former tall windows along north wall of second floor in original

3-storey building retained when walls knocked through to post 1910 extension

Plate 19: Roof trusses on second floor of post 1910 extension (example of king post truss)

Plate 20: Boiler house in north elevation

Plate 21: Engine house north elevation

Plate 22: Interior of modern boiler house

Plate 23: Ground floor corridor leading to weaving shed south of boiler and engine houses

Plate 24: Engine house east elevation

Plate 25: Corridor between engine house and north-east corner of weaving shed

Plate 26: Detail of flywheels and horizontal driveshaft's attached to upper south wall in corridor

Plate 27: View across weaving shed looking north-east

Plate 28: Mill looking north-west

Plate 29: View of south elevation looking north across weaving shed roof to south front of original 3-storey building (lower levels obscured by weaving shed roof)

Plate 30: Shadow of former roof line on west elevation of office building



Plate 1

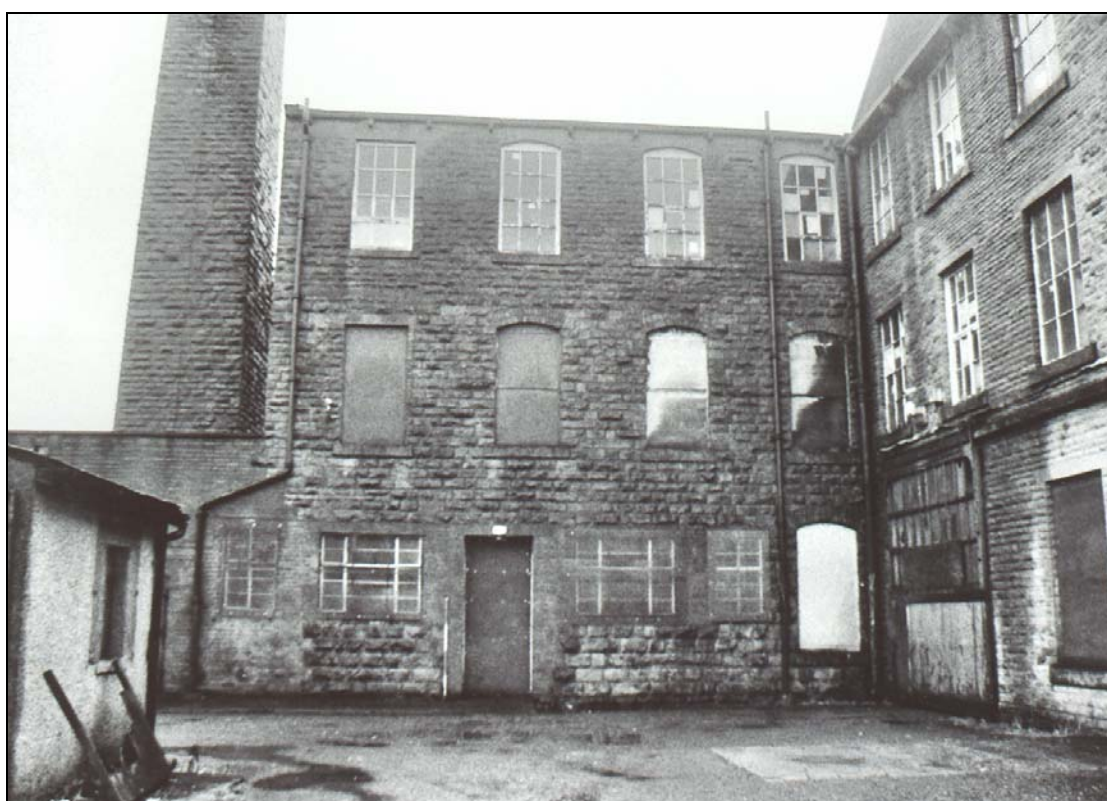


Plate 2



Plate 3



Plate 4

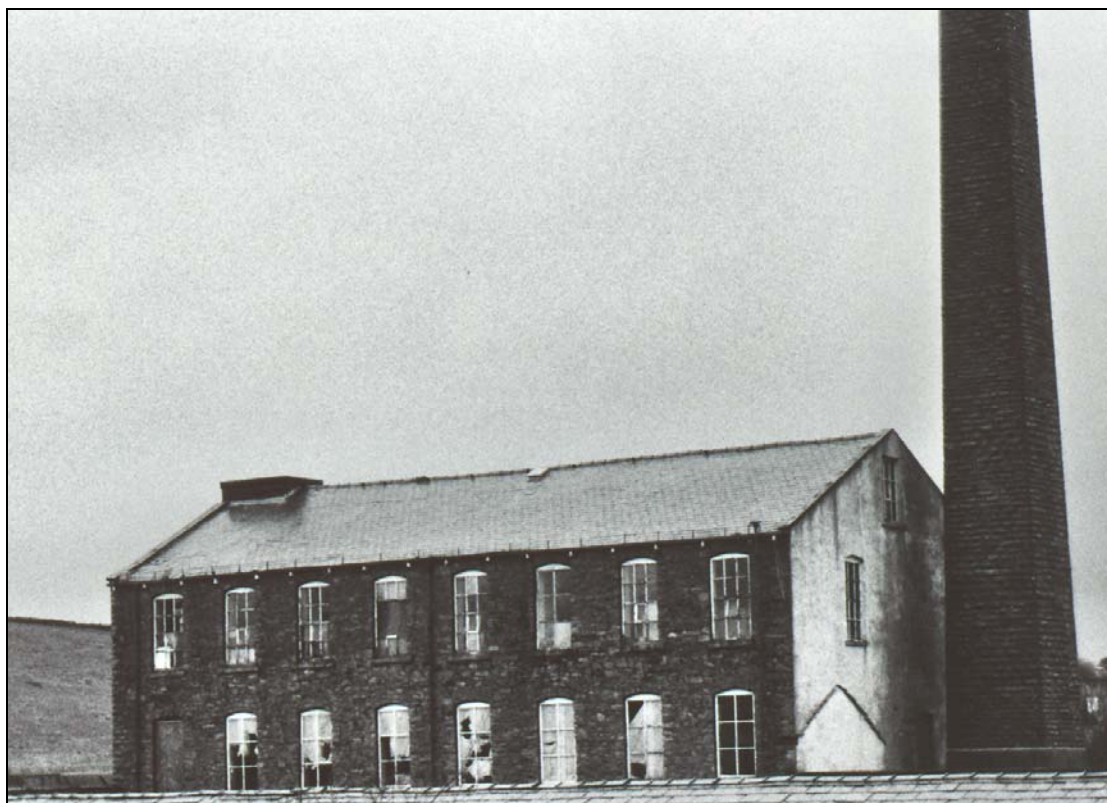


Plate 5

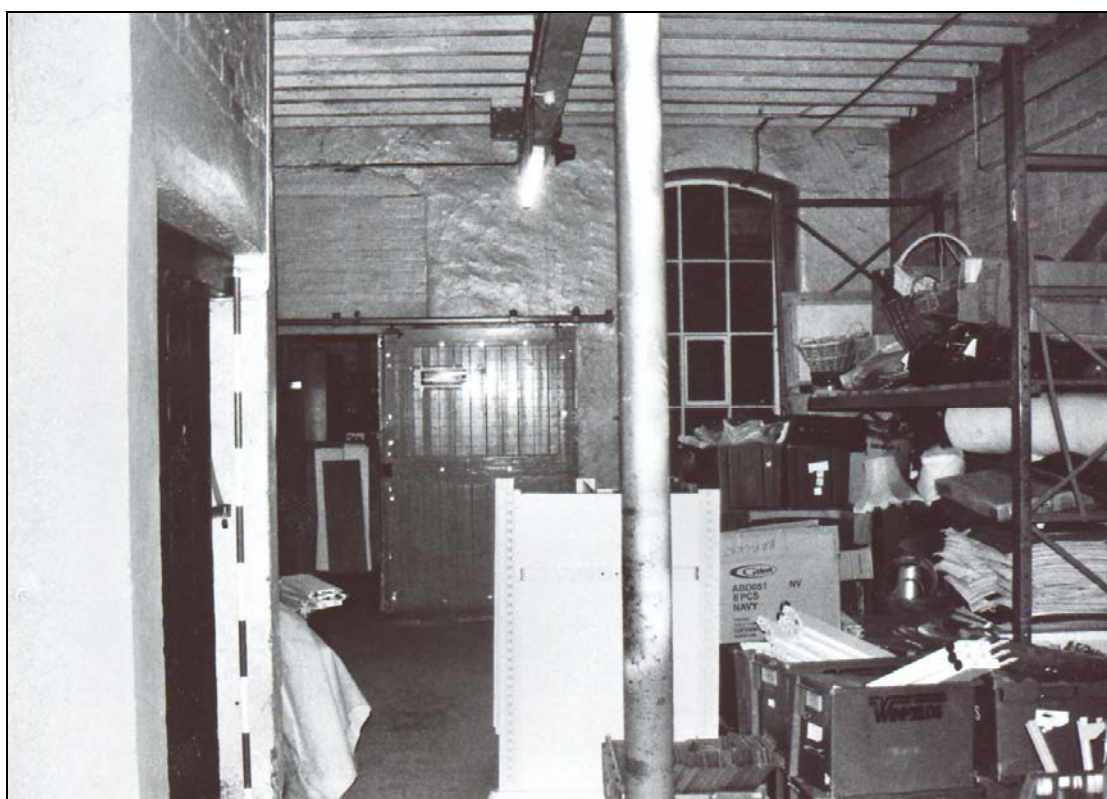


Plate 6



Plate 7



Plate 8



Plate 9

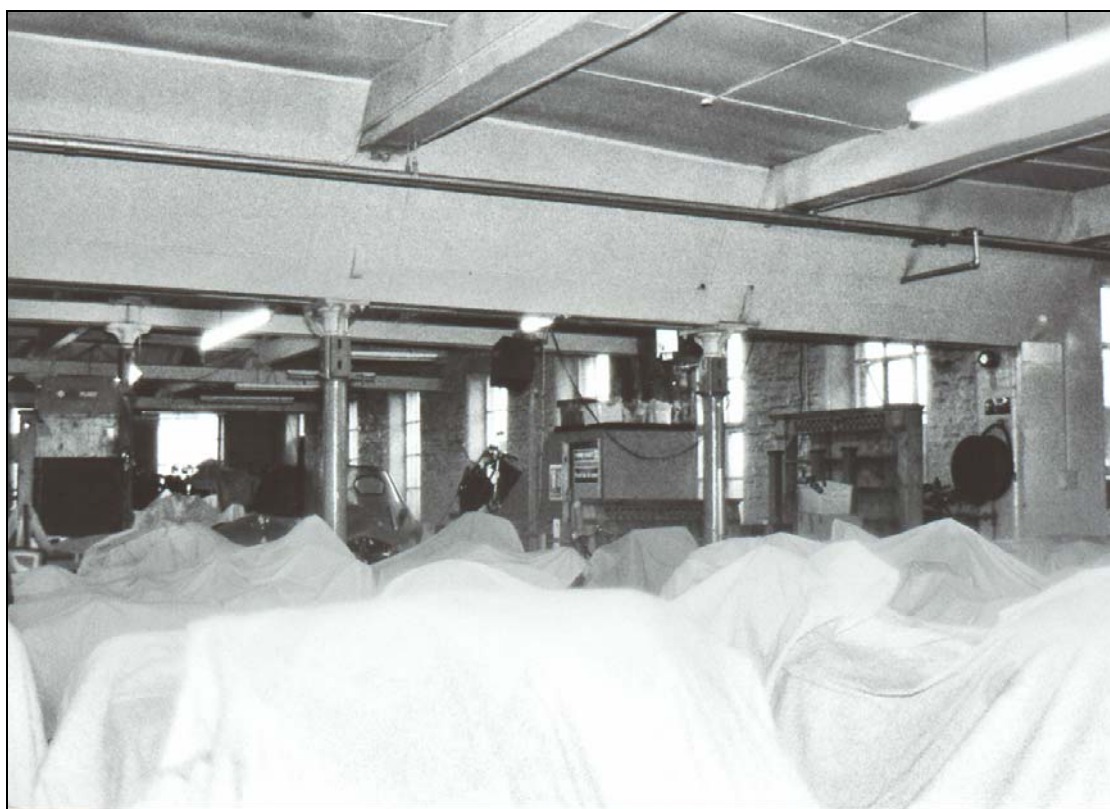


Plate 10

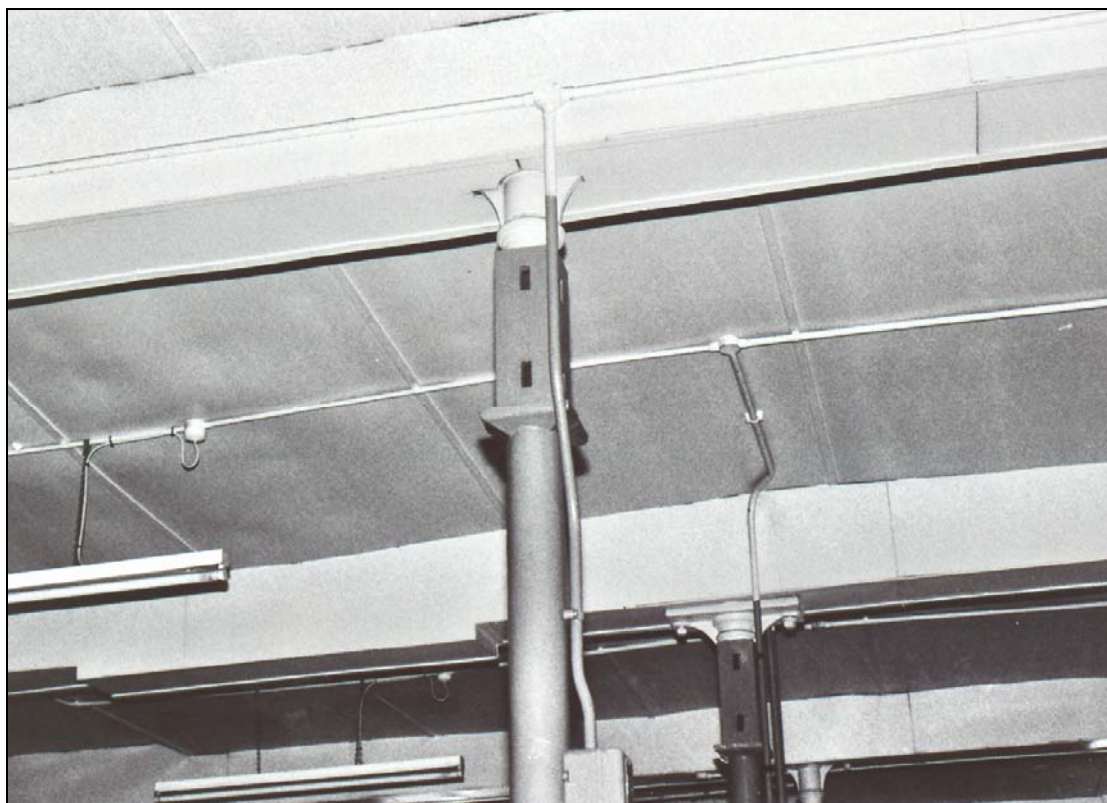


Plate 11



Plate 12



Plate 13



Plate 14:

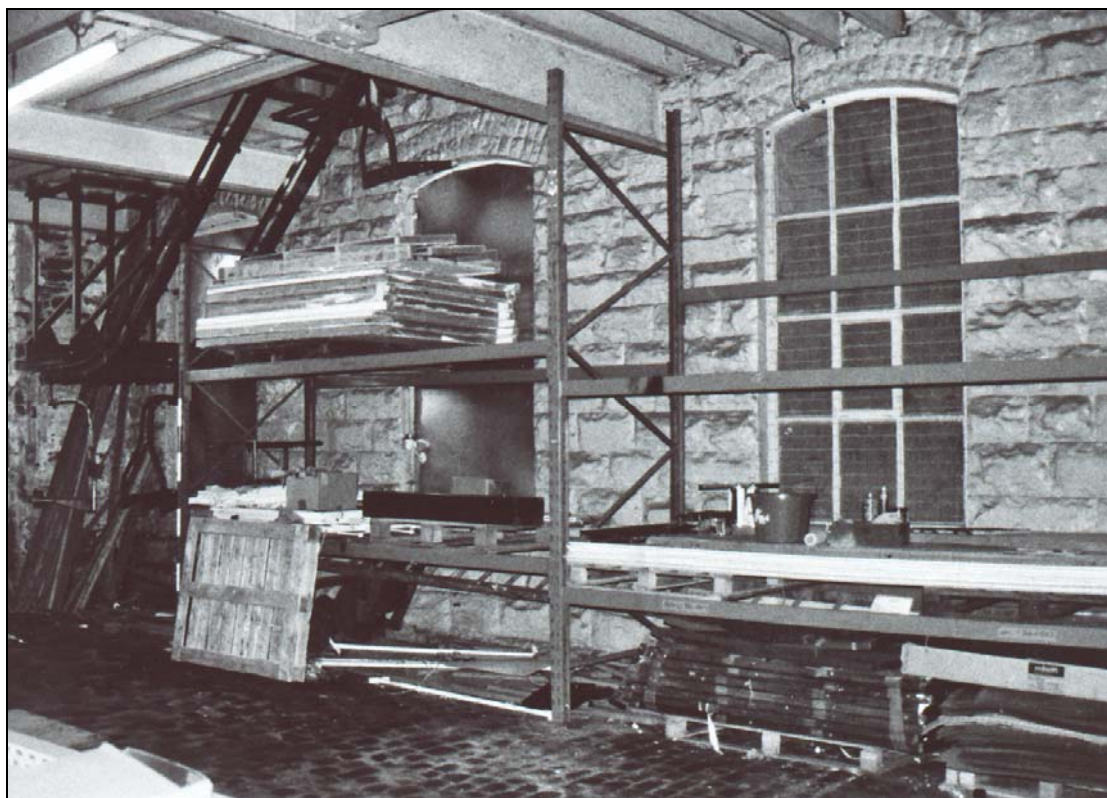


Plate 15



Plate 16



Plate 17



Plate 18



Plate 19



Plate 20



Plate 21



Plate 22



Plate 23

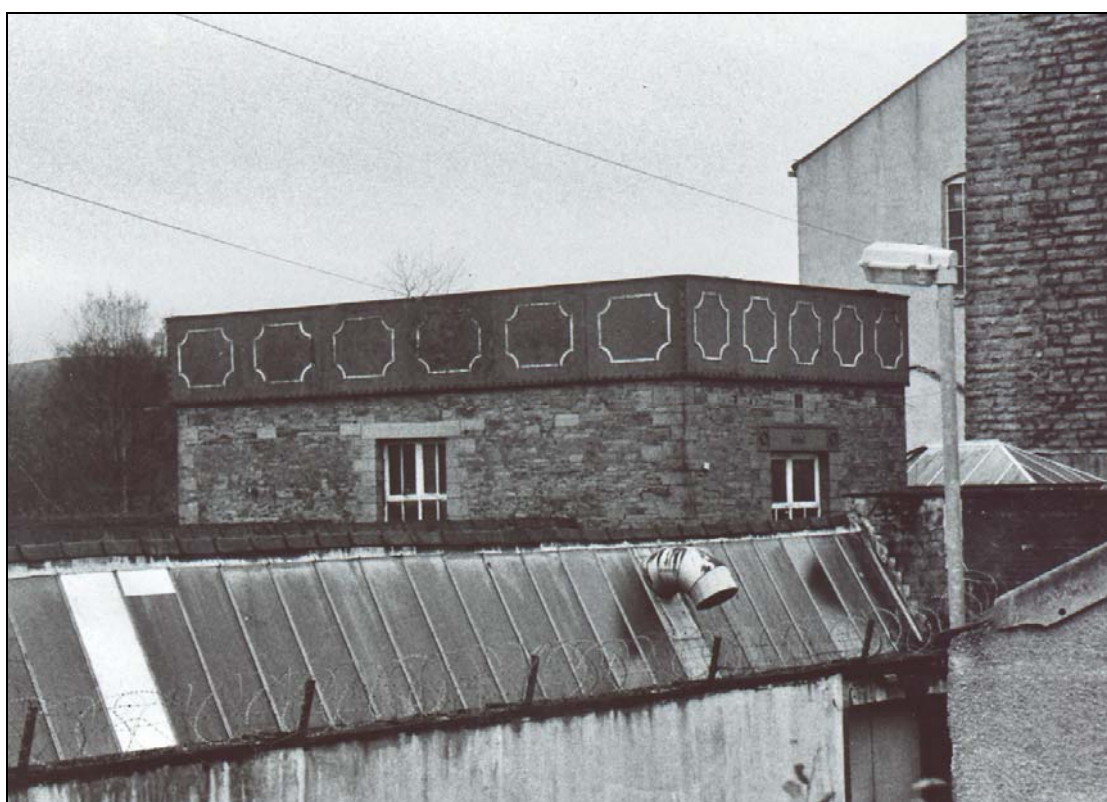


Plate 24



Plate 25



Plate 26



Plate 27

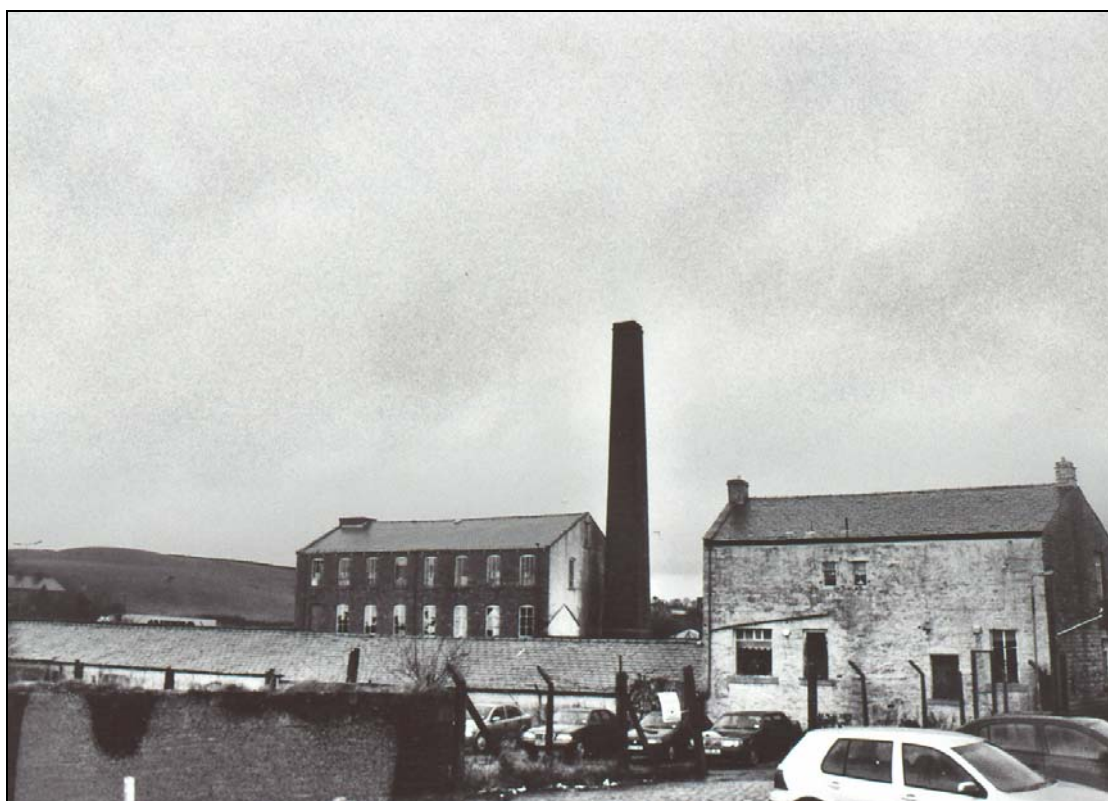


Plate 28



Plate 29



Plate 30