NEW ISLINGTON MILL, ANCOATS, MANCHESTER

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The New Islington Client Group

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SUMMARY

In April 2004, Oxford Archaeology North (OA North) was commissioned by Mr Richard Hattan of Urban Splash Ltd, acting on behalf of The New Islington Client Group, to carry out an archaeological evaluation in advance of the proposed development of land at New Islington, Ancoats, Manchester (centred on SJ 8533 9866).

Documentary research has indicated that a textile mill occupied the site by 1794, which, following on from the results of a desk-based assessment (UMAU 2002), had been recommended by the Assistant County Archaeologist for Greater Manchester for archaeological evaluation in advance of development. The evaluation comprised the excavation of five targeted trial trenches, and was undertaken by OA North during April and May 2004.

There are few archive sources pertaining to the construction and operation of the mill, although those available have demonstrated the origins of the mill to be associated with the early period of factory-based textile manufacture in the area. Whilst it is possible that the mill was originally water-powered, it seems likely that steam-power was employed at an early date, and therefore the site represents an important stage in the transition of Ancoats from a semi-rural settlement to a key industrial area. Cartographic analysis has indicated that the mill was a comparatively large complex, which underwent considerable expansion during the 19th century. Moreover, it would also appear that the mill, unusually, was concerned with the spinning and weaving of cotton during the late 18th century, and may also have been used for textile printing during the first half of the 19th century.

The evaluation trenching established the presence of structural remains of considerable archaeological significance across the site, particularly within the south-eastern part of the study area. Outline phasing of the remains has been identified, but only in principle, as the structures had to be differentiated from one another by construction techniques as opposed to direct stratigraphic relationships in most cases. This has been facilitated with reference to cartographic sources for the area.

Some of the archaeological remains were exposed immediately beneath the topsoil horizon, and are likely to be disturbed during any earth-moving works associated with the proposed development. Should it prove impossible to devise an engineering solution that avoids a negative impact upon these remains, it is likely that further archaeological investigation will be required. In particular, this should be focused upon the south-eastern part of the proposed development area, and targeted towards furnishing evidence of the power systems within the mill. Similarly, an archaeological watching brief during any topsoil stripping within the study area may also be required.

ACKNOWLEDGEMENTS

Oxford Archaeology North would like to express its thanks to Richard Hattan of Urban Splash Ltd for supporting the work on behalf of The New Islington Client Group, and to Norman Redhead, the Assistant County Archaeologist for Greater Manchester for his support and advice throughout the course of the project. Thanks are also due to Gary Robinson, Terry Driffield, and Stuart Newby of Volker Stevin, and Stephen Coultard of Martin Stockley Associates for logistical support during the course of the works and for expressing an interest in the site. Michael Goggin of Volker Stevin is also thanked for his expertise with the mechanical excavator.

The archaeological evaluation was carried out by Chris Healey, Lisa Keys, Jon Onraet, and Austin Ainsworth, and the survey was completed by Karl Taylor and Chris Wild. The report was written by Chris Healey, the finds were examined by Ian Miller, and Emma Carter prepared the drawings. Ian Miller edited the report, and was responsible for project management.

The project was funded entirely by The New Islington Client Group.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 During April and May 2004, Oxford Archaeology North (OA North) undertook a programme of archaeological evaluation of a site in New Islington, Ancoats, Manchester (centred on SJ 8533 9866), on behalf of The New Islington Client Group. The site was occupied formerly by an historic cotton mill, and currently lies within an area that is the focus of a major new development, which is being delivered by a partnership between Urban Splash Ltd, English Partnerships, New East Manchester, and Manchester City Council.

1.1.2 The archaeological evaluation was required to inform the planning process in advance of the redevelopment of the site. In particular, it was intended to ascertain the level of preservation and significance of the archaeological remains relating to this early textile mill.

1.2 LOCATION, GEOLOGY AND TOPOGRAPHY

1.2.1 The site is situated within Ancoats (centred on NGR SJ 8533 9866), on the north-east side of Manchester city centre (Fig 1). It is bounded by New Islington, St Vincent Street, Woodward Place and Woodward Street, and lies at height of *c*45m OD.

1.2.2 The solid geology comprises Carboniferous sedimentary material and a series of Permo-Triassic rocks, consisting mainly of New Red Sandstone. The overlying drift incorporates Pleistocene boulder clays of glacial origin, and sands, gravels, and clays of fluviatile/lacustrine origin (Hall *et al* 1995, 8).

1.2.3 Topographically, the Manchester Conurbation as a region is within an undulating lowland basin, which is bounded by the Pennine uplands to the east and to the north. The region comprises the Mersey river valley, which is dominated by its heavily meandering river within a broad flood plain (Countryside Commission 1998, 125). The topography of the study area, however, reflects the shallow valley of Shooters Brook, a rivulet that flows westwards from Newton Heath, through Ancoats and into the river Medlock (Ashworth 1987, 22). Shooters Brook was culverted during the early 19th century, and the topography of the valley has since been masked considerably by urban expansion.

1.3 HISTORICAL BACKGROUND

1.3.1 ***Introduction:*** the site lies within the Ancoats area of Manchester, which was one of the key industrial areas in Britain. By the beginning of the 13th century, Ancoats was known as *Elnecot*, derived from the Old English *ana cots* which means 'lonely cottage' (Cooper 2002, 13). Ancoats retained a semi-rural aspect until the late 18th century, but by 1800 the area had been transformed into an effective industrial suburb.

1.3.2 This transformation began in the 1770s, when land owned by the Leigh family was sold to Thomas Bound, a builder, who then sold it on to others for development. William Green's *Map of Manchester and Salford*, surveyed between 1787 and 1794, shows the focus for initial development to have been at the corner of Great Ancoats Street and Oldham Road, and depicts the main elements of the existing street plan laid out on former fields of the area. Building speculation then drove further expansion, with plots of land within a grid-iron pattern of streets being sold for development. The principle driving force of development was the national demand for textiles, particularly cotton, and the introduction of steam-powered spinning mills (Williams and Farnie 1992, 3).

1.3.3 Several water-powered mills had, however, already been erected along Shooters Brook, situated to the south of Union (now Redhill) Street. The proposed line of the Rochdale Canal ran between Shooters Brook and the new focus of development, offering the potential of cheap and reliable transport for goods and materials. The completion of the canal in 1804 coincided broadly with the introduction of efficient steam engines capable of producing rotative power. A small number of enterprising firms seized the opportunity presented by this combination of factors, resulting in the creation of a new breed of mill building in Ancoats. The net result was the creation of 'the World's first industrial suburb'; an edge-of-town industrial estate with associated housing, community facilities (churches, pubs and charitable refuges) and related businesses.

1.3.4 New Islington Mill appears to have been one of the earliest stream-powered mills to have been established within Ancoats, although it has been suggested that it originated as a water-powered spinning factory that was in operation by the late 1780s (Nevell 2003, 43). This suggestion was based on a survey of Arkwright patented water-frame mills in Britain, undertaken by Patrick Colquhoun in 1788. An assessment of this survey (Chapman 1981) concluded that five of the mills were located in Manchester, and whilst New Islington Mill is not identified specifically, it has been proposed as a candidate.

1.3.5 An historical overview of the mill has been compiled largely from cartographic sources, although some valuable information has also been obtained from contemporary commercial trades directories. Attention has been paid to procuring information pertaining to the steam engines that may have been fitted within the mill. A particularly valuable source in this respect is the Boulton and Watt Archive, which is held in the Birmingham Central Library and contains comprehensive details of most of their engines that were fitted to mills during the late 18th and early 19th centuries. An examination of the index to this archive has revealed it to contain a portfolio of 12 engine drawings relating to an unspecified mill in Ancoats (3147/5/182). The portfolio was drawn up in April 1799 at the request of J Lees, who is recorded in contemporary trades directories as a cotton manufacturer at New Islington (*1.3.11 below*). Initially, Lees specified his requirement for a 16 horse power engine, although a subsequent enquiry in August 1799 specified a 20 horse power engine, implying that a Boulton and Watt engine had not been fitted by this date.

1.3.6 ***Cartographic Evidence:*** the earliest detailed map of the area is that produced by William Green between 1787-94, and published in 1794. New Islington Mill does not appear on this map. The first cartographic depiction of New Islington Mill is upon *A Plan of Manchester and Salford*, published by Bancks and Thornton in 1800, where it is shown to comprise a range of buildings along the north side of New Islington, with a narrower range running parallel to the rear (Fig 2). The same configuration of buildings is depicted on Ashton's *Plan of Manchester and Salford*, published in 1804. A subsequent map of the area, published in 1808, depicts the rear range to have been expanded to the east, and over Shooters Brook. This configuration is confirmed by the detail shown on *Plans of All the Spinning Factories Within the Township of Manchester*, which has been dated to *c*1822. This plan identifies the main block of the mill as comprising two factories, each of five stories, with an engine house at the east end, which was adjoined by a house and kitchen. This is also the first cartographic source to identify the occupants of the mill, who are named as '*Johnson and Brooks*'.

1.3.7 Thornton's *Map of Manchester and its Environs* (Fig 3), published in 1824, shows that extensions had been added to the west end of both the front and rear ranges of the mill. This map also shows that a reservoir, seemingly fed by Shooters Brook, had been constructed adjacent to the east end of the front range. These additions appear more clearly on the *Map of Manchester and Salford*, produced by Bancks and Co in 1831 (Fig 4). This map also indicates that the eastern corner of the front range of the mill had been extended, possibly in order to incorporate a new engine and boiler house. The main entrance to the mill at this time appears to have been from Pott Street, and situated at the opposite end of the complex from the new structural addition.

1.3.8 The reservoir was evidently a short-lived structure as it is shown on the Ordnance Survey 6": 1 mile map of the area, surveyed in 1848-49 and published in 1851, to have been subsumed by an eastwards expansion of the main mill building (Fig 5). Other additions to the front range included the construction of walls that seemingly fronted a small courtyard in the north-west corner of the complex. This map also indicates considerable modification to the rear range, the south-eastern part of which is shown to have been expanded to adjoin the putative engine house in the centre of the mill complex (*1.3.7 above*). It also shows an entrance to the site from Boon's Row, and a square structure to have been erected between the front and rear ranges, at the south-eastern end of the mill complex. This structure is not labelled, but could represent a chimney.

1.3.9 The 1851 map appears to depict the mill complex in its most extensive form; the subsequent Ordnance Survey map, surveyed in 1888-91, shows the site to have contracted slightly with the removal of elements of the buildings, particularly at the western end of both ranges (Fig 6). The eastern part of the rear range is depicted as comprising two equally-sized units, hinting that there may have been some modification or change of function to the mill block. There also appears to have been some changes to the putative engine house in the centre of the mill complex, which no longer adjoins the rear range.

1.3.10 The mill is shown on the 1905 Ordnance Survey map to have been converted for use as an engineering works. The map depicts the centre and western end of the two ranges to have been replaced by a single large structure. Subsequent Ordnance Survey maps show the site to have remained unchanged until the 1969 edition, which depicts an extension to the east over former housing. More recently, the entire site was demolished and, after landscaping, was used as a recreational area.

1.3.11 ***Commercial Trades Directories:*** the first relevant reference is within a directory published in 1794, which lists John Lees as a '*cotton manufacturer*' at New Islington (Scholes 1794, 81). John Lees is similarly listed in a directory published some three years later (Scholes 1797, 77), but is not mentioned in association with New Islington in subsequent editions. The next pertinent reference is within Wardle and Bentham's *Commercial Directory of Manchester*, published in 1815, where the firm of Gallimore, Johnson and Brooks are listed as cotton spinners in New Islington. The premises are not specified, although it is considered likely that the Johnson and Brooks are the same as those named on the map of *c*1822 (*1.3.6 above*). The firm of Gallimore, Johnson and Brooks is mentioned in an earlier trades directory (Pigot 1813), but their address is given as 6 Peel Street, suggesting that they did not occupy New Islington Mill until after this date.

1.3.12 Johnson and Brooks are first listed as a partnership in a commercial trades directory published in 1817, where they are described as '*spinners, manufacturers and printers*' (Pigot and Dean 1817). The inclusion of the terms '*manufacturers*' and '*printers*' are particularly interesting as these imply the partnership to have been engaged in power-loom weaving and printing in addition to cotton spinning. The power loom was invented by Edmund Cartwright in 1785, and the first factory to employ these new machines in Manchester was erected at Knott Mills in Manchester *c*1790 (Baines 1835, 229-31). However, this factory did not succeed, and the use of power-looms for weaving was not introduced widely until the 1820s. The construction of large, purpose-built integrated spinning and weaving mills, moreover, is not thought to have commenced in general terms until the early 1830s (Williams and Farnie 1992, 74). Indeed, the first such mill was reported to have been Compstall Mill, near Stockport, which was erected during the 1830s for spinning, weaving and cloth printing using water power in combination with steam power (Thelwall 1972).

1.3.13 The details within a trades directory of 1822 provides further information on Johnson and Brooks' involvement in the weaving and printing trades. This lists the firm as cotton spinners at New Islington, but gives the address for manufacturing and printing as 9 Cannon Street Buildings (Pigot and Dean 1822, 88). However, a subsequent directory (Pigot 1830) lists Johnson and Brooks as being spinners and manufacturers based entirely at New Islington, implying that their Cannon Street operations had been relocated to New Islington Mill. Interestingly, this coincides broadly with the expansion of the mill complex and the construction of the reservoir as shown on contemporary maps (*1.3.7 above*).

1.3.14 Johnson and Brooks appear as spinners and manufacturers at New Islington in subsequent directories, although the firm is not listed in the directory for 1838 or later editions, suggesting that they had vacated New Islington Mill by this date. The use of the mill at this date is uncertain; there are no cotton spinning firms at New Islington listed, although a John Welch is named as a textile manufacturer and calico printer on Pott Street (Pigot 1838, 86). The exact location of Welch's premises is not specified, although the information provided is broadly consistent with the site of New Islington Mill. However, Welch's enterprise does not appear to have been successful, as he is not listed in subsequent directories.

1.3.15 By 1852, New Islington Mill appears to have been occupied by the firm of Scott and Holden, who are listed as '*spinners and manufacturers*'; there is no reference to this firm having been engaged in textile printing (Slater 1852). It seems possible that Scott and Holden were responsible for the enlargement of the site and the removal of the reservoir at the eastern end of the mill complex, as shown on the Ordnance Survey map of 1851 (Fig 5). However, this firm was not associated with New Islington Mill for an extended period, as the mill is recorded to have been occupied by William Sharp in 1858. Curiously, Sharp is listed as a '*cotton spinner, grocer and sugar refinr (New Islington Mill)*' (Kelly and Co 1858, 1362).

1.3.16 It is unclear precisely when textile production ceased at New Islington Mill, although it is not referred to in any of the trades directories published during the 1890s. It is thus possible that the mill closed as a consequence of the great depression in trade during the 1890s, and the apparent contraction of the site implied in its depiction on the 1893 Ordnance Survey map (Fig 6) is a reflection of dereliction.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 In response to a request from Mr Richard Hattan of Urban Splash Ltd, acting on behalf of The New Islington Client Group, OA North submitted a project design for an archaeological evaluation at New Islington, Ancoats (*Appendix 1*). Following the acceptance of the project design by the Assistant County Archaeologist for Greater Manchester, OA North was commissioned to undertake the work.

2.1.2 The fieldwork was undertaken during April and May 2004, and comprised the excavation of five evaluation trenches (Fig 7). All work was consistent with the relevant standards and procedures provided by the Institute of Field Archaeologists.

2.2 EVALUATION TRENCHING

2.2.1 The uppermost levels were excavated by a machine fitted with a toothless ditching bucket. The same machine was then used to define carefully the extent of any surviving walls, foundations and other remains, after which all excavations were undertaken manually.

2.2.2 All information was recorded stratigraphically with accompanying documentation (plans, sections and both colour slide and black and white print photographs, both of individual contexts and overall site shots from standard view points). Photography was undertaken with 35mm cameras on archivable black-and-white print film as well as colour transparency, all frames including a visible, graduated metric scale. Digital photography was extensively used throughout the course of the fieldwork for presentation purposes. Photographic records were also maintained on special photographic *pro-forma* sheets.

2.3 FINDS

2.3.1 ***Artefacts:*** all finds recovered were bagged and recorded by context number, processed and stored according to current standard practice based on guidelines set by the Institute of Field Archaeologists. The finds have been analysed by an OA North in-house specialist. The finds are discussed in *Section 3.3*, and a summary finds catalogue is presented in *Appendix 3*.

2.3.2 ***Environmental Samples:*** samples were not collected for palaeoenvironmental analysis as it was not deemed appropriate.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and in accordance with the current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited in the Manchester Museum within six months of completion of the project.

3. EVALUATION RESULTS

3.1 INTRODUCTION

3.1.1 In total, five targeted evaluation trenches were excavated across the study area to provide an assessment of the archaeological potential and character of the site. In particular, the evaluation aimed to establish the level of survival of external walls and internal features, and to elucidate further information of the engine and boiler houses.

3.2 TRENCHING RESULTS

3.2.1 ***Trench 1:*** the trench was placed within the approximate centre of the former mill complex, and was aligned approximately north-west/south-east (Fig 7), with the intention of investigating the level of survival of internal features and the original east wall of the mill. The trench was excavated for a distance of 24.50m, and to a maximum depth of 3.00m. Despite the depth of the trench, however, the natural subsoil was not exposed.

3.2.2 The earliest structural remains encountered within the trench were revealed within the south-eastern part of the trench (Plate 1). These remains comprised walls ***04*** and ***06***, and large brick structures ***05*** and ***11*** (Fig 8). The uppermost surface of walls ***04*** and ***06*** were exposed at depths of 0.28m and 0.42m below modern ground surface respectively. Brick structures ***05*** and ***11*** were revealed at a lower level, lying at a depth of 1.4m below the modern ground surface (Plate 2).

3.2.3 Walls ***04*** and ***06*** were aligned broadly north-east/south-west, and set 5.80m apart. Both walls were 0.57m wide and comprised hand-made bricks, bonded with mid-grey lime mortar, suggesting a late 18th or early 19th century date. The width of these walls implied that they had been load-bearing, rather than representing internal partitions.

3.2.4 The two large, seemingly associated brick structures (***05*** and ***11***) were exposed at depths of 1.35m and 1.45m respectively, and were again constructed of hand-made bricks and bonded with a lime mortar. Structure ***11*** appeared to be the larger of the two, with a maximum width of 1.17m, whilst structure ***05*** measured 0.83m wide; the full dimensions of these structures were not ascertained as they extended beyond the limit of excavation. Both structures had metal rods, or restraining brackets, projecting vertically from their surface (Plate 2), indicating that they were elements of the foundations for a steam engine.

3.2.5 Foundation ***05*** had three exposed metal rods arranged in a roughly linear alignment. The central rod had a square section (Plate 3), but a cylindrical thread on the end, indicative of a late 18th or early 19th century date. The exposed part of foundation structure ***11*** also had three restraining brackets, which formed a triangular arrangement with two cylindrical rods and a square-sectioned rod with a cylindrical thread. Foundation ***05*** had a recess on its south face, whereas foundation ***11*** had a recess on its north face (Fig 8).

3.2.6 Situated between wall ***06*** and wall ***10*** (*3.2.7 below*) were two brick piers (***07*** and ***08***), set 1.57m apart. Each pier measured 2.11m by 0.75m, and were exposed at a depth of 0.30m below the modern ground surface (Plate 4). These structures were associated with a series of similar features that was revealed within Trench 2 (*3.2.13 below*).

3.2.7 Wall ***10*** was exposed at the north-western end of the trench, at a depth of 1.4m below the modern ground surface. The wall was aligned parallel to walls ***04*** and ***06***, and measured 0.47m wide. Wall ***10*** was similarly built of hand-made bricks, although the bonding material comprised a dark-grey cement, suggesting that it represented a different phase of construction to either ***04*** of ***06***. No archaeological features were identified beyond wall ***10*** to the north-west.

3.2.8 Wall ***10*** was partially overlain by two large freestone blocks (***09***). These blocks were clearly not *in situ*, and were likely to have been associated with that revealed within Trench 2 (*3.2.15 below*).

3.2.9 At the base of the south-eastern end of the trench, and at a depth of 2.17m below the ground surface, was a flagstone surface (***01***). Surface ***01*** appeared to be associated with adjoining walls ***02*** and ***03***, which were aligned north-west/south-east, and were situated immediately to the south, against the edge of the trench (Plate 5). The junction of the walls was marked by a vertical iron drainpipe, which extended to the full height of the wall from a point below surface ***01***. Walls ***02*** and ***03*** comprised machine-pressed bricks that were bonded with a hard cement mortar, and were thus thought to relate to a later date than wall ***10***. The uppermost surface of walls ***02*** and ***03*** were exposed immediately beneath the topsoil.

3.2.10 A deposit of loose rubble (***54***) overlay all structures and deposits within Trench 1. This was composed largely of bricks, but also contained fuel ash, clinker and fragments of slate. Deposit ***54*** clearly represented the recent demolition of the surviving buildings on the site during the late 19th/20th century. A small assemblage of ceramic vessels, leather, and glass fragments, to which a late 19th/early 20th century date has been ascribed (*3.3 below*), was recovered from rubble ***54***.

3.2.11 The rubble was sealed by a layer of topsoil (***56***), up to 0.28m thick, which had probably been imported to the site when the area was converted recently to a recreational area.

3.2.12 ***Trench 2:*** the trench was placed across the approximate centre of the former mill complex, and was aligned north-east/south-west at a right angle to Trench 1 (Fig 7). The trench was excavated for a distance of 31.5m and to a maximum depth of 2.70m (Plate 6), and aimed to examine the survival of the former engine and boiler houses that were thought to have occupied this part of the site.

3.2.13 A series of rectangular brick piers, set at regular intervals, were exposed along the south-western half of the trench (Plate 7). This series of brick piers was clearly associated with piers ***07*** and ***08***, exposed within Trench 1 (*3.2.6 above*)

and lying partially within Trench 2. Each of the piers comprised hand-made bricks and were bonded by a harder mortar than had been used in the construction of walls ***04*** and ***06*** and structures ***05*** and ***11*** (Trench 1). The piers were all well-preserved, and were exposed at an average depth of 1.52m below the modern ground surface.

3.2.14 The brick piers varied in size from 1.27m by 0.36m to 2.11m by 0.9m, and occurred in eight opposing pairs (***12*** and ***13***; ***14*** and ***15***; ***7*** and ***8***; ***18*** and ***19***; ***20*** and ***21***; ***24*** and ***25***; ***26*** and ***27***; ***28*** and ***29***). The positions of the brick piers are depicted in Figure 8.

3.2.15 A single, large freestone block (***30***) was revealed to be resting *in situ* across the top of brick piers ***27*** and ***29***, within the central part of the trench. The block measured 1.20m long by 0.60m high, and incorporated a single iron bar that passed through vertically (Plate 8).

3.2.16 Located at the base of the north-eastern brick piers (***13*** - ***18***) were two areas of flagstone floor (***22*** and ***23***), aligned north-east/south-west along the edges of the trench (Plate 8). The area between the two areas of flagstones was filled with rubble, although this did not appear to represent an intrusive feature.

3.2.17 In all probability, it would seem likely that the brick piers and the large freestone blocks represented the vestiges of the mill's power system. Freestone block ***30*** was almost certainly part of a mounting for a steam engine, and is likely to have been associated with the two similar blocks (***09***) that were exposed within Trench 1 (*3.2.8 above*). It is possible that the rubble-filled area between flagstones ***22*** and ***23*** represented a flywheel pit associated with the steam engine, although this could not be confirmed due to health and safety constraints.

3.2.18 Situated to the north-east of the power system features was a substantial wall (***32***), composed of machine-pressed bricks and aligned north-west/south-east across the trench. Wall ***32*** was 0.47m wide, and was exposed at a depth of 0.64m below the modern ground surface.

3.2.19 Adjacent to the north-east of wall ***32*** was series of brick structures (***33***, ***34***, ***35*** and ***36***), seemingly of a contemporary date (Plate 9). The central component was a crude surface (***35***), composed of whole bricks and fragments bonded in a clay matrix. It was encompassed by brick structures (***33***, ***34*** and ***36***). Structure ***33*** comprised a single course of bricks, and measured 0.11m wide. Structures ***34*** and ***36*** represented the remnants of walls, and were both composed of hand-made bricks. Wall ***36*** was directly to the east of surface ***35***, measuring 0.24m wide and 1.18m long, with a dog-leg continuing eastwards a further 0.75m. It was bonded to wall ***34*** to its north (Fig 8).

3.2.20 Immediately to the north-east of wall ***36*** were two brick walls (***38*** and ***40***), aligned north-west/south-east, and situated either side of a section of a vaulted flue (***39***). Wall ***38***, situated to the south-west of flue ***39***, was 0.53m wide, whilst wall ***40*** was only 0.23m wide. Both walls comprised hand-made bricks, and were exposed at a depth of 0.9m below the modern ground surface. These

walls appeared to act as retaining structures for the flue, although the increased width of wall ***38*** suggested that it was also load-bearing.

3.2.21 Flue ***39*** was 1.18m wide and had a maximum height of 1.53m. It was composed of refractory bricks, including the vertical side walls and the vaulted roof (Plate 10). The inner face of all the bricks were sooted, confirming its use as a flue. The flue was aligned north-west/south-east, although it bifurcated within the trench to form two flues. The main flue continued to the north-west beyond the excavated area, whilst an arm extended at a right angle to the north-east. The north-eastern part of the trench, however, had been subject to considerable disturbance, which had resulted in the obliteration of the flue. The south-western extent of flue ***39*** was investigated within Trench 5 (*3.2.38 below*).

3.2.22 The most recent feature within Trench 2 was a 1.20m wide reinforced concrete surface (***31***), which was exposed immediately beneath topsoil ***56***. This was presumably associated with the engineering works that had occupied the site during the 20th century.

3.2.23 A deposit of loose rubble (***54***) overlay all structures and deposits within Trench 2. This was composed largely of bricks, but also contained fuel ash, clinker and fragments of slate. Deposit ***54*** clearly represented the demolition of the mill during the late 19th/20th century. A small assemblage of ceramic, leather, and glass objects, to which a late 19th/early 20th century date has been ascribed (*3.3 below*), was recovered from rubble ***54***.

3.2.24 ***Trench 3*****:** the trench was placed within the northern part of the study area, and was aligned north-west/south-east. It was excavated for a distance of 10.66m and to a maximum depth of 1.80m, and aimed to investigate the western side of the northern mill block.

3.2.25 Brick wall ***44***, revealed in the north-eastern corner of the trench at a depth of 0.78m below the existing ground level, survived to a maximum height of 0.20m. The wall was aligned north-west/south-east, and was composed of hand-made bricks. A return to the north-east was revealed at the south-eastern end of the wall, forming a right-angle. This was similarly composed of hand-made bricks and survived to two courses in height.

3.2.26 Wall ***44*** was butted by a cobbled surface (***45***), which extended to the south for a distance of 2.80m (Plate 11). The southern edge of cobbles ***45*** merged with a deposit (***46***) of compacted brick rubble set into a mortar matrix, forming a crude surface.

3.2.27 The remnants of another wall (***48***) were revealed against the southern edge of surface ***46***. Wall ***48*** comprised a single course of hand-made bricks, aligned north-east/south-west. Immediately to the north-west was a flat-bottomed, U-shaped gully, which had a maximum width of 0.3m. This appeared to represent a drainage feature, and was probably associated with surface ***46***.

3.2.28 As with the other trenches, all structures and deposits encountered within Trench 3 were overlain by a deposit of loose rubble (***54***), seemingly

representing the demolition of the mill during the late 19th/20th century. A small group of ceramic, leather and glass objects was recovered from rubble ***54***, to which a late 19th/early 20th century date has been ascribed (*3.3 below*).

3.2.29 ***Trench 4:*** this trench was placed within the western part of the study area, and was aligned broadly north-west/south-east. It was excavated for a distance of 12.95m and to a maximum depth of 3.30m, and aimed to investigate the western side of the main mill block.

3.2.30 Several elements of a single wall (***49*** - ***52***) and part of a parallel wall (***53***) were exposed within the trench at a depth of approximately 1.3m below the modern ground surface. No other archaeological remains were encountered within the trench, which was dominated by a considerable depth of rubble overlying natural subsoil.

3.2.31 The natural subsoil, a dark reddish-brown clay (***55***), was exposed at a depth of 2.70m below the current ground level. This was the only area within the entire site where the subsoil was revealed during the course of the evaluation.

3.2.32 Four components of a single brick wall were revealed against the south-west-facing section of the trench, and were numbered ***49***, ***50, 52*** and ***51*** respectively from north-west to south-east. These all appeared to have been constructed of hand-made bricks and bonded with a lime mortar, although health and safety constraints precluded a close inspection; all remains were recorded remotely using a reflectorless total station.

3.2.33 Wall ***49*** was situated some 4.00m from the north end of the trench, and measured 1.50m long, and 0.69m high. Wall ***50*** was a exposed 1.80m to the south of wall ***49***, and measured 2.50m long by and 1.46m high. Wall ***51*** was exposed at the south-eastern end of the trench, and was bonded to wall ***52*** at its north-western extent. Wall ***52*** was situated between walls ***51*** and ***50***, but was set back by one course of bricks. It measured 1.10m long and survived to a height of 1.20m. The top of wall ***52*** was flush with the surviving highest courses of ***51*** and ***50***, which were all situated at a depth of 1.34m below the modern ground surface.

3.2.34 These walls were almost certainly elements of a single wall, which formed a cellar within the main mill building. It seems likely that wall component ***52*** represented a cellar light.

3.2.35 Another wall (***53***) was identified against the opposite trench section. Wall ***53*** was aligned parallel to walls ***49*** - ***52***, and was set 1.78m to the south. It was of a similar construction to walls ***49*** - ***52***, and is likely to have been of a contemporary build.

3.2.36 The walls were stratigraphically earlier than a deposit of brick rubble (***54***), which filled most of the trench and overlay the natural subsoil. A small assemblage of ceramic vessels and glass fragments, to which a late 19th/early 20th centuries date has been ascribed (*3.3 below*), was recovered from rubble ***54***.

3.2.37 ***Trench 5:*** the trench was excavated along the line of flue ***39***, which was partially revealed within Trench 2 (*3.2.21 above*). The trench was aligned broadly north-west/south-east, and was excavated for a distance of 8.60m (Plate 12).

3.2.38 Flue ***39*** continued along the entire length of the excavated trench, rising slightly to the south-east, presumably on its approach to a chimney. The foundations of the chimney were not exposed during the course of the evaluation, but are likely to survive beyond the south-eastern extent of the trench. A hinged iron plate was revealed to have been built into the flue on the north-east-facing side of the vaulted roof, probably representing an access point.

3.2.39 The flue was supported on either side by retaining brick walls ***38*** and ***40*** (on its west and east sides respectively). Wall ***40*** was bonded to parts of the flue, with one section of refractory bricks laid flat against the curving flue wall, possibly representing an access point from the unexcavated east side of wall ***40*** to the interior of the flue.

3.2.40 The opening of this trench revealed an engine base, ***41***, on the north-west corner where it adjoined Trench 2. This engine base had had a gouge taken out of it to create an aperture between the central area to the brick structure, ***35***, immediately to its north.

3.2.41 The engine base, ***41***, was rectangular in plan, with a rectangular sunken central area forming an open-top box shape (Plate 13). The central area was 0.40m lower than the side walls. Four threaded, cylindrical iron restraining bolts were situated in a square towards the south of the sunken central area, just above what appeared to be a sump. The north side had been cut away in the north-west corner obliquely and quite deliberately to create a rough channel or aperture. This pointed north-west from the centre of the sunken area towards brick structure ***35***.

3.3 FINDS

3.3.1 ***Quantification:*** in total, 58 fragments of artefacts were recovered from the evaluation. The bulk of the assemblage comprised ceramic vessel fragments (18 sherds) and also glass (34 fragments). The remainder of the assemblage comprised leather objects (five fragments) and a single ceramic object; other classes of material, such as animal bones, clay tobacco pipe, ironwork and ceramic building material were absent from the assemblage. Catalogues of the artefacts have been included in *Appendix 3* in Context Number order. All finds were treated in accordance with standard OA North practice.

3.3.2 In broad terms, the finds were in good condition suggesting little serious disturbance and, in corroboration, some of the fragments were quite large, with several pieces of a single vessel, broken in antiquity, found in close association. However, the entire assemblage was recovered from the demolition rubble (***54***) within the various trenches, and may therefore be considered as unstratified.

3.3.3 ***Pottery:*** the pottery assemblage was entirely of a late 19th or early 20th century date, and was dominated by stoneware bottles, of which 11 vessels were represented. The majority of these were complete, and many had the manufacturers name printed or stamped on the vessel body. Manufacturers represented included '*Richard Nichols*', '*J Pratt and Son*', '*W Dales Junr*', and '*R Nuttall*'. Other stoneware forms represented included a small jar.

3.3.4 The assemblage also included a single small crucible, recovered from Trench 1. No traces of industrial residue were visible adhered to the internal surface of the crucible, thereby precluding any identification of the industrial function with which it was associated.

3.3.5 The remainder of the pottery assemblage comprised low counts of industrial slipwares (two fragments), transfer-printed wares (one fragment), tea wares (one fragment), and a single sherd of a red-bodied earthenware, probably part of a flower pot.

3.3.6 ***Glass:*** the fragments of glass recovered from the evaluation trenches may be divided into two main categories: vessels and manufacturing waste. The group of glass vessels (12 fragments) for the most part comprised mineral water bottles, some of which were complete. The group of glass manufacturing waste included 20 fragments of amorphous lumps of molten glass, which probably represented cullet, the distorted base and stem of a blue wine glass, presumably a production waster, and a fragment of a pontil rod.

3.3.7 ***Leather:*** the group of leather objects appeared to comprise exclusively shoes. These cannot be dated with precision, although they are likely to be of 20th century origin.

3.3.8 ***Conclusions:*** in general terms, the artefact assemblage may be seen as being consistent with a textile manufacturing site. However, it does not offer any potential to inform the development of the site, although it is of some local interest.

3.3.9 The manufacturer's trade marks that appear on some of the stoneware bottles may be traced in contemporary commercial trades directories to provide relative dating. '*J Pratt & Son*', for instance, are listed in a trade directory of 1879 as ginger beer makers based at 58 Leigh Street, Manchester (Slater 1879, 308), and the first appearance of William Dales Junr is in a directory of 1892, where he is listed as a '*botanic beer manufacturer*' based at 54 Mitchell Street and Pollard Street (Slater 1892). It is of note that all of the manufacturers named were based within Ancoats, providing an interesting example of production and consumption in a single industrial district.

3.3.10 The relative abundance of glass manufacturing debris is of particular interest, and reflects the location of the site close to the former Molineaux and Webb Manchester Flint Glass Works, which was situated on Kirkby Street, Ancoats. It would seem most likely that the glass fragments recovered from the evaluation originated from this works, and indicate that the general area has been subjected to considerable disturbance. This was perhaps a result of the redevelopment associated with the construction of the Cardroom Estate.

4. DISCUSSION

4.1 RESULTS OF ARCHAEOLOGICAL EVALUATION

4.1.1 The programme of evaluation trenching has revealed that considerable sub-surface remains of New Islington Mill survive across the proposed development area. This was particularly the case within the southern part of the site, where significant *in situ* structures were encountered immediately beneath the topsoil. Several phases in the development of the mill complex have been identified, and these may be related to cartographic evidence. The phases identified are outlined below, although it should be noted that this has been based on the physical evidence encountered during the evaluation, which has examined only a small percentage of the whole mill complex.

4.1.2 The documentary research has hinted that the mill may have been water-powered at its inception, which would provide an explanation for its location adjacent to Shooters Brook. Indeed, the extension of the rear mill range over Shooters Brook, as shown on the map of 1800, adds weight to the possibility that this part of the mill complex was water-powered. However, the evaluation did not produce any physical evidence for the use of water-power, and this must therefore remain conjectural.

4.1.3 *Phase 1:* it is probable that structures ***05*** and ***11*** (Trench 1) pertain to the original steam engine of *c*1800, whilst walls ***04*** and ***06*** are likely to represent the vestiges of the associated engine house. This is supported by the detail provided on the plan of *c*1822 (*1.3.6 above*), which identifies the structure at the east end of the mill as an engine house. The engine would almost certainly have been a single cylinder condensing beam engine, although the manufacturer is unknown. Boulton and Watt of Birmingham supplied most of the larger examples of this period, and the correspondence between this firm and J Lees in 1799 (*1.3.5 above*) hint that one of their engines may have been installed at New Islington Mill. Analysis of the relevant documents within the Boulton and Watt Archive would clarify this issue, and should be a priority of any future research of the site. The Manchester firm of Bateman and Sherratt are possible alternative contenders for providing the power system, who are listed as early as 1788 as steam engine makers. Their engines comprised two Newcomen cylinders that drove an overhead rocking shaft by racks on the piston rods which engaged a large gearwheel on the shaft. Rotary motion was derived from this rocking shaft by cranks and connecting rod (Rolt 1963, 132). However, Bateman and Sherratt soon adopted the separate condenser, thereby infringing the Watt patent.

4.1.4 It is probable that the engine was situated transversely with the flywheel close to centre line of the front range of the mill complex, where the upright shaft providing power to each floor was usually situated. The provision of power to the rear range during the early 19th century remains unknown, although the use of a water wheel is a distinct possibility.

4.1.5 Other known mills of the period usually had the engine house situated within the main building (Williams and Farnie 1992, 74), and New Islington would

appear to be consistent with this layout. It was similarly common practice for the boiler house and chimney to have been part of the main building (*ibid*), although no firm evidence for either of these structures was produced from the evaluation.

4.1.6 *Phase 2:* the evaluation results would appear to confirm that the extension to the eastern corner of the front range represented a new engine house, as the series of structures encountered within Trench 2 were probably associated with a second steam engine. It seems likely that this would have been supplementary to the original engine rather than a direct replacement; the results obtained from Trench 1 imply that the early engine house within this part of the site continued in use until the final days of the textile mill. An accurate date for the inception of the second engine cannot be ascribed from the physical evidence, although it may have been associated with the expansion of this part of the mill complex which is shown on Bancks and Co's map of 1831 and inferred from entries in contemporary trades directories (*1.3.13 above*). Wall ***10*** (Trench 1) may also be part of this phase, possibly representing the south-eastern wall of a boiler house. The construction of full height cross walls to separate boiler and engine houses from the main body of the mill as a fire precaution is a typical mid-19th century design feature.

4.1.7 The vestiges of walls ***44*** and ***48***, exposed within Trench 3, appear to represent exterior walls of the rear range on either side of an entrance to the mill complex from Boons Row. The first cartographic depiction of this entrance is upon Bancks and Co's map of 1831. Similarly, it would seem likely that cobbles ***45*** represent the surface of the entrance.

4.1.8 *Phase 3:* comparison of Bancks and Co's map with the Ordnance Survey map of 1851 indicates further expansion within the south-eastern part of the site (*1.3.8 above*). Of particular note is the first depiction of the square structure, which may represent a chimney. The flue encountered within Trench 5 adds weight to this interpretation as it is in a direct line. This would suggest the flue to have been constructed between 1831 and 1851.

4.1.9 The bifurcation of the flue noted within Trench 2 suggests that it served two engines. This hints that a second engine had been installed within the expanded rear range, as shown on the Ordnance Survey map of 1851. It is perhaps more than coincidental that the construction of the flue and the chimney required the in-filling of the reservoir (as the line of the flue passes through the reservoir), and may point to the replacement of water-power by steam-power.

4.1.10 Surface ***01*** and walls ***02*** and ***03*** were noted to be of a late phase in the site's development relative to the other remains encountered within Trench 1. Comparison of the evaluation results with historic mapping indicate that these structures lie within the south-easterly extension of the mill which first appears upon the Ordnance Survey map of 1851. It may therefore be suggested that these structures represent internal features of a mid-19th century date.

4.1.11 The walls encountered within Trench 4 would similarly appear to be of a mid-19th century date, and may be allied to the construction of walls that

seemingly fronted a small courtyard in the north-west corner of the complex, as shown on the Ordnance Survey map of 1851 (*1.3.8 above*).

4.1.12 *Later Activity:* the rubble (***54***) in each of the trenches had been deposited during the late 19th/early 20th century, seemingly representing a single phase of demolition. This may have been associated with the conversion of the mill to an engineering works during the late 19th/early 20th century.

4.2 SIGNIFICANCE OF THE REMAINS

4.2.1 The Greater Manchester Textile Mill Survey highlighted the fact that in 1991 only 11 cotton spinning mills dating wholly or in part from 1800 to 1825 survived in Manchester and Salford, together representing less than 20% of Manchester's early cotton spinning industry (Williams and Farnie 1992, 53). In this respect, the surviving sub-surface remains of New Islington Mill may be seen to be of considerable significance in terms of informing an understanding of this key period in development of textile mills. The significance is increased by the potentially early inception date of the steam engine. Indeed, New Islington Mill may have been amongst the first in Ancoats to have been powered by a condensing beam engine that incorporated rotary motion, and thus represents the genesis of the steam-powered cotton mill in the area.

4.2.2 The documentary research has indicated that New Islington Mill was associated with the spinning, weaving and, possibly, the printing of cotton. The combination of these different facets of the textile industry within a single factory is very unusual.

4.2.3 Williams and Farnie (1992, 53) considered early 19th century mills to measure between 25m and 56m long, with the internal widths ranging from 11.5m to 15.3m. The dimensions of the New Islington Mill, as shown on Bancks and Co's map combined with evidence produced from the evaluation, indicate the main mill building, excluding the engine house, measured some 42m long with an internal width of 15.25m. This suggests that the mill was one of the larger ones in the area. Similarly, the rear range of the mill complex measured some 52.5m by approximately 9m, suggesting that this part of the complex was not dedicated to spinning, but to an ancillary function.

4.2.4 The incorporation of a reservoir at New Islington Mill is intriguing, and warrants some consideration. It is tempting to suggest that the reservoir, which appears from cartographic evidence to have been constructed in *c*1823, was intended to supply the engine boilers. Conversely, the reservoir may have been associated directly with printing processes, which required large quantities of pure water.

5. IMPACT AND RECOMMENDATIONS

5.1 IMPACT

5.1.1 The results of the evaluation demonstrate that significant and well-preserved archaeological remains survive across the site, some of which are situated immediately beneath the topsoil. It would therefore seem probable that any earth-moving activity associated with the proposed development would have a severe negative impact.

5.1.2 The archaeological impact of the proposed development could be mitigated by piling on nodal points for the support of ground beams. This would require the careful formulation of a piling plan, designed to avoid the destruction of sub-surface remains.

5.2 RECOMMENDATIONS

5.2.1 Should it prove impossible to devise an engineering solution that avoids an impact upon sub-surface archaeological remains, it is likely that further archaeological work will be required. The scope and extent of any such work would have to be finalised with the Assistant County Archaeologist for Greater Manchester, although it is likely that any such work would be focused upon the southern part of the proposed development area. In particular, this may be targeted to elucidate the details of the power systems within New Islington Mill, and to establish if the mill had been water-powered at its inception.

5.2.2 The archaeological potential of the study area has been divided into three zones, as depicted on Figure 9, and is based on the significance of the features exposed during the evaluation. In the event of a requirement for any substantial earth-moving works within the area of maximum archaeological potential, it is recommended that further archaeological excavation will be required. Similarly, it is recommended that any disturbance of the area deemed to be of medium archaeological potential is subjected to an intensive watching brief, with a view to the rapid excavation of significant remains should they be encountered. A standard watching brief may be the appropriate course of mitigation for the remaining portion of the site, which is deemed to be of a lower archaeological potential but may nevertheless contain important archaeological structures.

5.2.3 It is further recommended that a watching brief be undertaken during any topsoil stripping within the southern part of the study area in order to record any structural remains that may survive *in situ* immediately below the modern ground surface.

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ILLUSTRATIONS

LIST OF FIGURES

LIST OF PLATES

0 500 1000
metres

Figure 1: New Islington location map

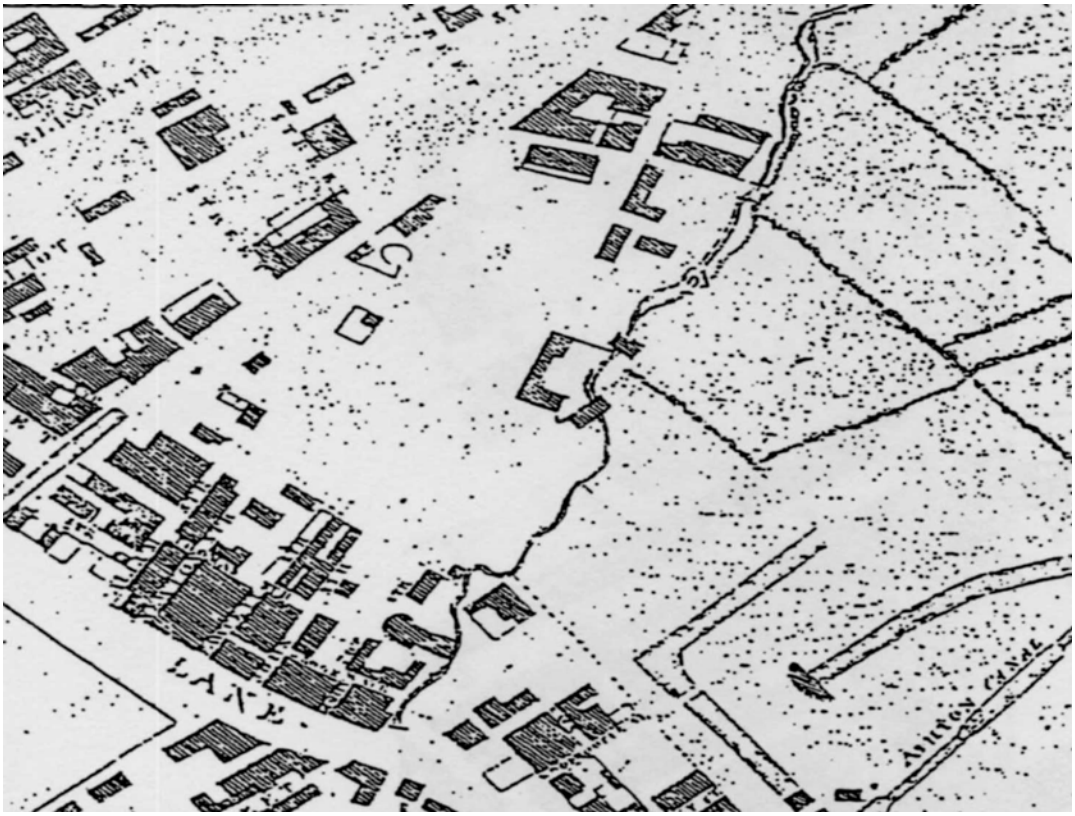


Figure 2: Extract of '*A Plan of Manchester and Salford*', 1800, showing New Islington Mill (top centre) on the western bank of Shooters Brook.

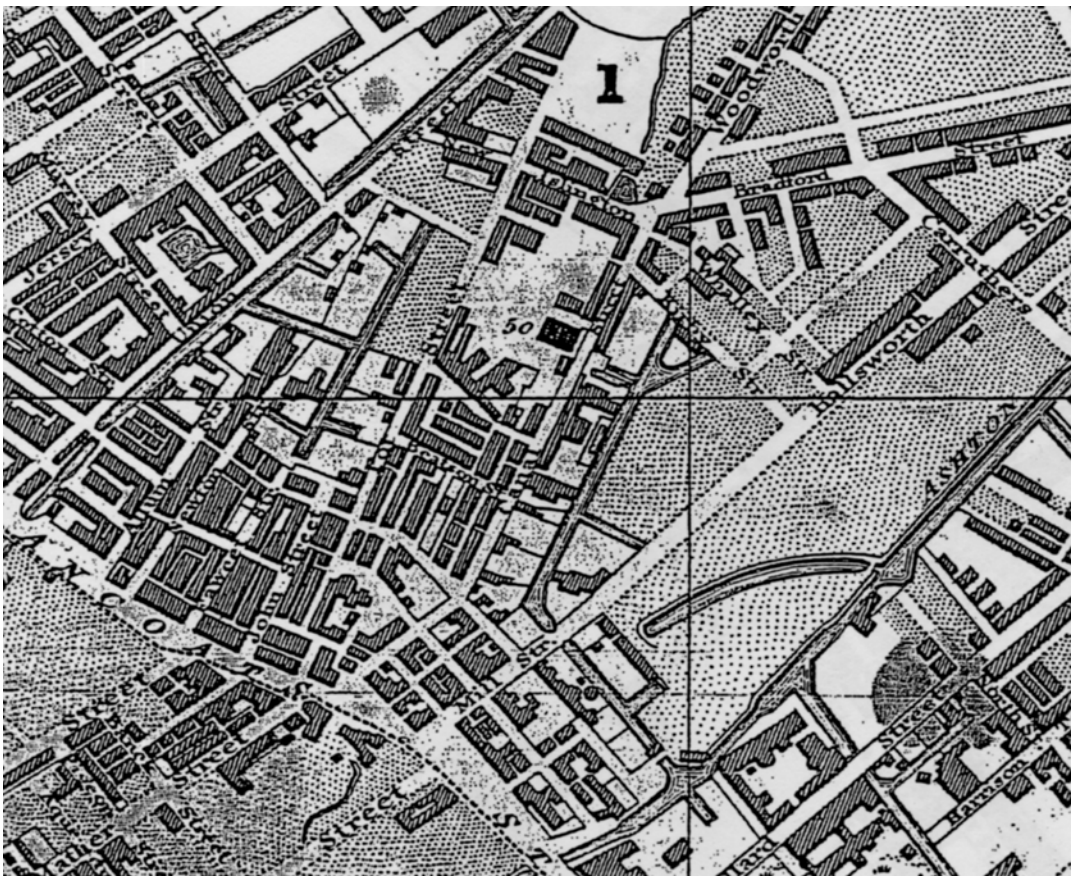


Figure 3: Extract of Thornton's '*Map of Manchester and its Environs*', 1824

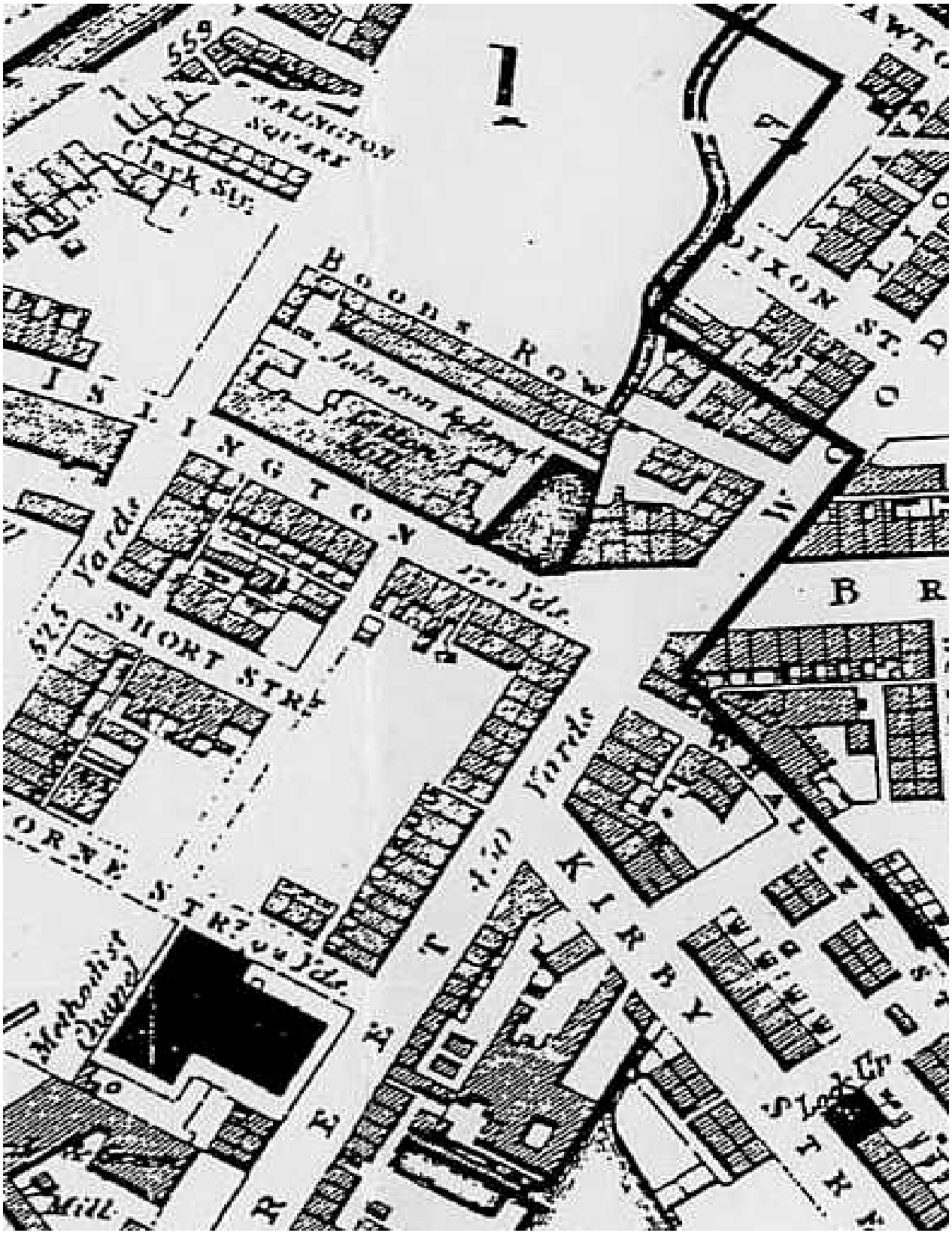


Figure 4: Extract of Bancks and Co's '*Map of Manchester and Salford*' 1831, showing the extension to the eastern corner of the front range of the mill

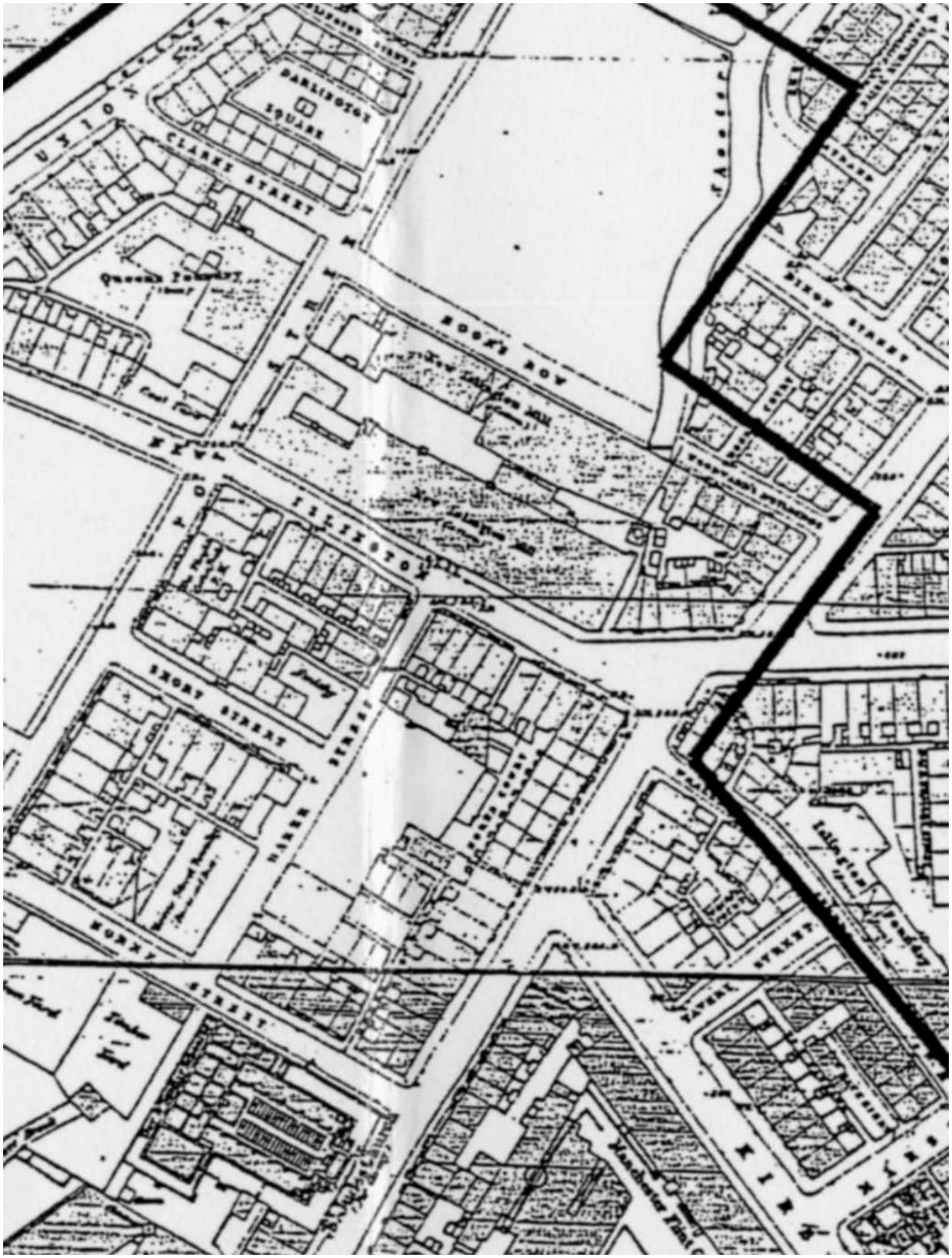


Figure 5: Extract of Ordnance Survey 6": 1 mile map, Manchester sheet 24, 1851

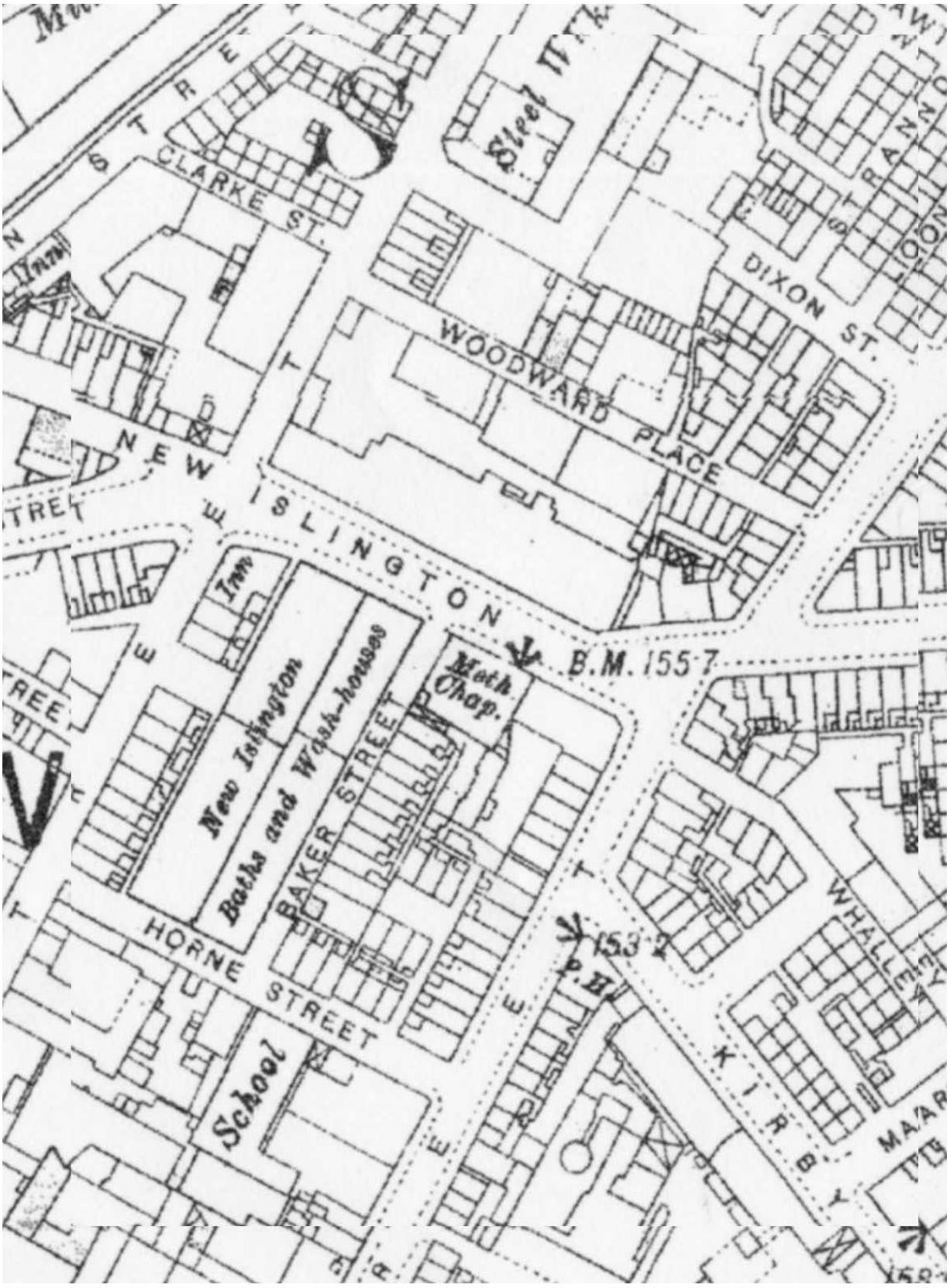


Figure 6: Extract of Ordnance Survey 1:2500, Lancashire sheets CIV.7, 1893

Figure 7 : Evaluation trench location map, superimposed on Bancks and Co's map of 1831

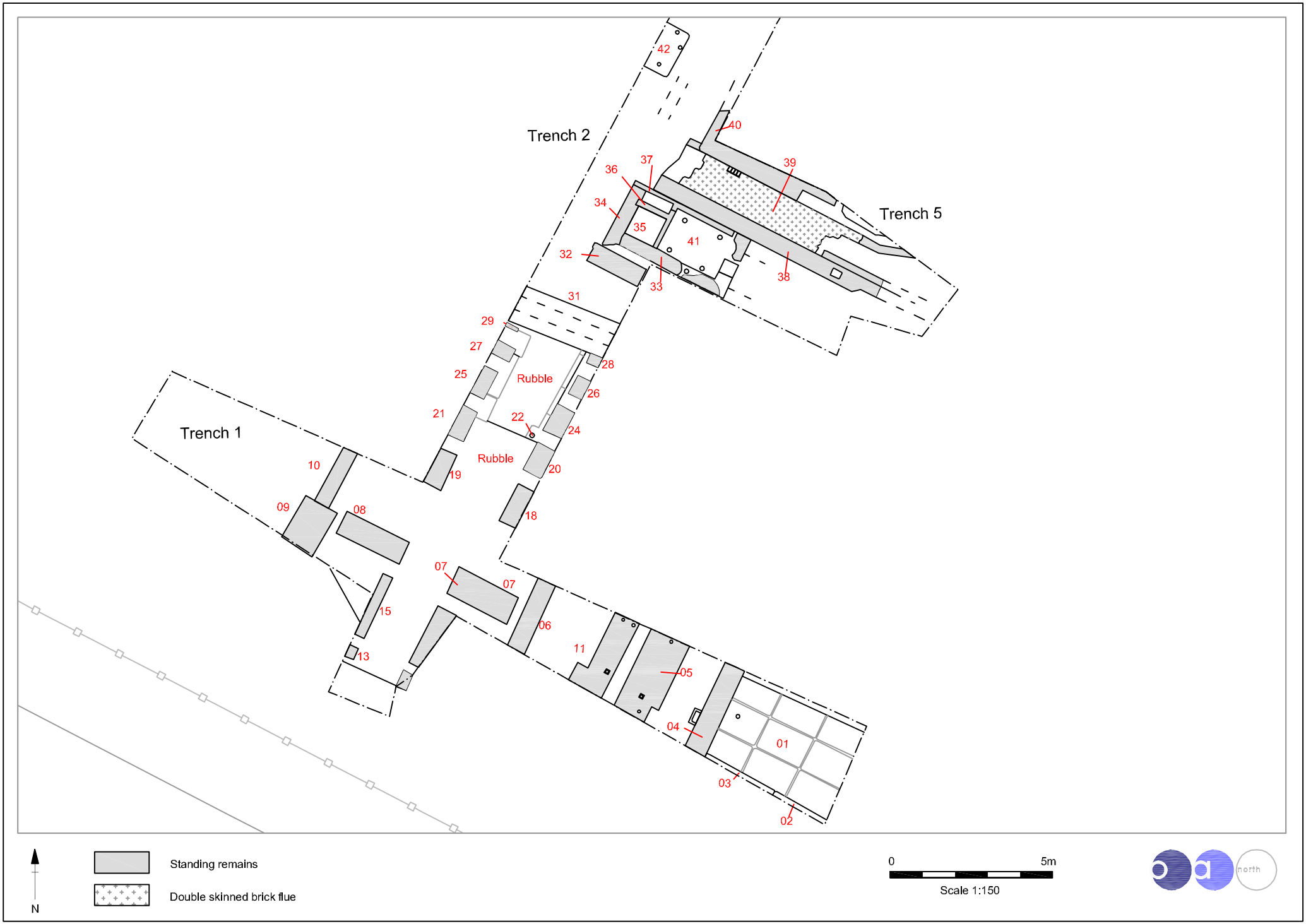


Figure 8: Detail of trenches 1, 2 and 5

Figure 9: Zoning of the archaeological potential within the study area, superimposed on the Ordnance Survey map of 1851

Plate 1: Structural remains encountered within the south-eastern part of Trench 1. Wall **04** *lies in the foreground and wall* **06** *to the rear, with the foundations (***05** *and* **11***) for a steam engine situated in between.*

Plate 2: Brick structures **05** *and* **11** *and engine restraining rods within Trench 1*

Plate 3: Engine restraining rod within central part of foundation structure **05**

Plate 4: Looking south-east across brick pier **07** *within Trench 1*

Plate 5: Flagstones **01** *and walls* **02** *and* **03** *at the south-eastern end of Trench 1*

Plate 6: Looking north-east along Trench 2 during excavation

Plate 7: Part of a series of brick piers encountered within Trench 2

Plate 8: Engine mounting block **30**, *Trench 2*

Plate 9: Brick structures **33**, **34**, **35** *and* **36**

Plate 10: Flue **38** *within Trench 2*

Plate 11: Looking north-west along Trench 3, showing cobbles **45**

Plate 12: Looking south-east along Trench 5, showing flue **39**

Plate 13: Machine base **41** *within Trench 5*

APPENDIX 1: PROJECT DESIGN

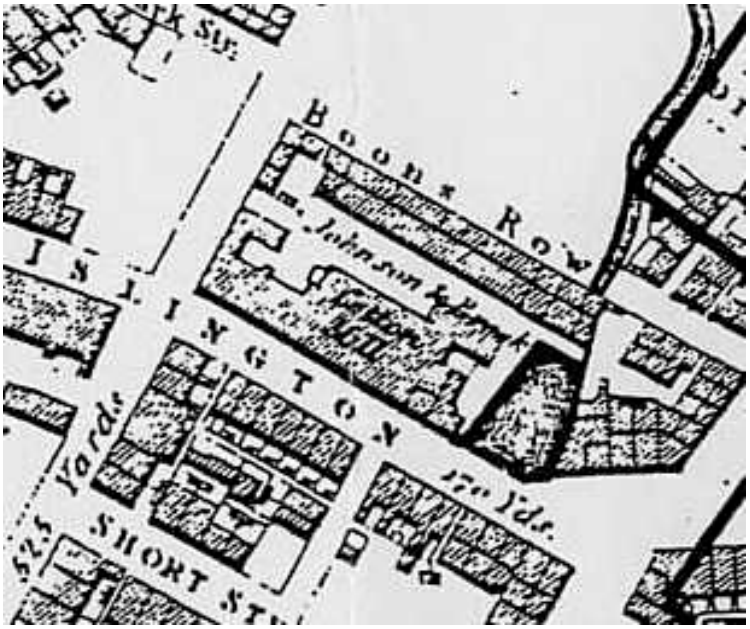
Oxford Archaeology North

April 2004

NEW ISLINGTON MILL,

NEW ISLINGTON,

MANCHESTER



Extract from Bancks and Co's Map of Manchester and Salford, 1831

ARCHAEOLOGICAL EVALUATION PROJECT DESIGN

Proposals

The following project design is offered in response to a request from Mr Richard Hattan, of Urban Splash Ltd, acting on behalf of the New Islington Client Group, for the archaeological investigation of New Islington Mill in advance of the proposed development of land at New Islington, Ancoats, Manchester.

1. BACKGROUND

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 This project design is for one element of a programme of archaeological work that is required as part of the New Islington development within the Ancoats area of Manchester, and has been formulated to meet the requirements of a specification produced by Norman Redhead, the Assistant County Archaeologist for Greater Manchester. The development is being delivered by a partnership between Urban Splash Ltd, English Partnerships, New East Manchester and Manchester City Council, and concerns the redevelopment of land between the Rochdale and Ashton Canals, on the north-east side of Manchester city centre.

1.1.2 Outline planning permission has been received for the Strategic Framework, which proposes the construction of 1400 new homes, a primary school, a health centre, and a new waterway. The development involves substantial earth-moving works, which may have a negative impact on the sub-surface archaeological resource, namely the remains of several historic cotton mills and a glass works. One such mill is New Islington Mill, an early steam-powered cotton-spinning and weaving factory.

1.2 HISTORICAL BACKGROUND

1.2.1 New Islington Mill (centred at NGR SJ 8533 9866) appears on a map of the area published in 1800, where it is shown to comprise a range of buildings along the north side of the New Islington area of Ancoats with a narrower range running parallel to the rear. A subsequent map of the area, published in 1822, shows the mill to have been extended eastwards over Shooters Brook, and identifies the main block as comprising two factories, each of five stories, with an engine house at the east end. The mill is shown on Bancks and Co's map of 1831, which shows it to have been occupied by the firm of Johnson and Brook. This firm is listed in trade directories of that date as cotton spinners and manufacturers, suggesting that the mill may have been used for cotton spinning and weaving.

1.2.2 It is thought that New Islington Mill was steam-powered from its inception, with Shooters Brook providing water for the engine and boilers. The factory would thus be a very early example of a steam-powered mill. A reservoir was used in the 1820s and 1830s to regularise the water supply, although this was subsequently built over as the mill expanded. During the late 19th/early 20th century, the mill was converted for use as an engineering works, before being demolished and, after landscaping, the site used as a football pitch.

1.3 OXFORD ARCHAEOLOGY

1.3.1 Oxford Archaeology has over 30 years of experience in professional archaeology, and can provide a professional and cost effective service. We are the largest employer of archaeologists in the country (we currently have more than 200 members of staff) and can thus deploy considerable resources with extensive experience to deal with any archaeological obligations you or

your clients may have. We have offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North), and Oxford Archaeology (OA) respectively, enabling us to provide a truly nationwide service. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA is an Institute of Field Archaeologists Registered Organisation (No 17), and is thus bound by the IFA's Code of Conduct and required to apply the IFA's quality standards.

1.3.2 Given the geographical location of Manchester, it is intended to co-ordinate the project from our northern office in Lancaster, though the project team will use the most appropriate resources from both offices. Between our two offices our company has unrivalled experience of working on post-medieval sites, and is recognised as one of the leading archaeological units in the country with regard to dealing with Industrial Period projects.

1.3.3 OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, and has particular experience of industrial archaeology in the North West having undertaken in recent years excavation, survey, building recording and post-excavation projects in both urban and rural environments; *inter alia* (locally to Manchester) the survey, excavation, recording, analysis, consolidation, publication and consultancy relating to the 'Hotties' continuous glass tank furnace at St Helens (Krupa and Heawood 2002); the excavation of the former Calprina textile works in Stalybridge (OA North 2002a); the excavation and survey of the Macintosh Mill in Manchester (OA North 2002b); and a continuing programme of archaeological investigation at the Torrs complex of textile factories in New Mills, Derbyshire. OA North is also currently engaged in a comprehensive programme of detailed survey and excavation of the Murray's Mills complex of cotton-spinning mills in Ancoats.

2. AIMS AND OBJECTIVES

2.1 ACADEMIC AIMS

2.1.1 The main research aim of the investigation, given the commercial nature of the development, will be to characterise the level of preservation and significance of the archaeological remains relating to this early textile mill, and to provide a good understanding of their potential.

2.2 OBJECTIVES

2.2.1 The objectives of the project may be summarised as follows:

- to expose and determine the presence, character, and level of survival of and external walls of the mill and establish any evidence for phasing;
- to confirm that the mill was steam-powered from its inception;

- to expose and determine the presence, character, and level of survival of the engine and associated boiler houses;
- to confirm that the mill was used as a spinning and weaving factory;
- to expose and determine the presence, character, and level of survival of the reservoir;
- to inform a decision as to whether further excavation will be required in advance of development ground works.

3. METHOD STATEMENT

3.1 The following work programme is submitted in line with the aims and objectives summarised above, and in accordance with the project brief supplied by the Greater Manchester Assistant County Archaeologist.

3.2 **FIELDWORK**

3.2.1 ***Evaluation Trenching***: it is proposed that the site be investigated initially via four trenches, one of 40m length, one of 25m length, and two of 10m length. The 40m long trench will be placed across the two long blocks of the mill, and will investigate the survival of the external walls, evidence of internal phasing, and the engine and boiler houses. The 25m long trench will be placed at right angles to the first trench, and will aim to investigate the level of survival of internal features and the original east wall of the mill. The first 10m long trench will be placed parallel to the 25m long trench, and will aim to investigate the west side of the main mill block. The second 10m long trench will also be placed parallel to the 25m long trench, and will aim to investigate the west side of the northern mill block. The proposed positions of the trenches are shown in Figure 1.

3.2.2 Following the excavation of these trenches, a further 20m of trenching will be placed across the site in order to form a good understanding of the site's archaeological character and potential. The precise locations of this additional trenching will depend upon the results of the initial trenches, and following discussions with the Assistant County Archaeologist.

3.2.3 Excavation of the uppermost levels of modern overburden/demolition material will be undertaken by a machine fitted with a toothless ditching bucket to the top of the first significant archaeological level. The work will be supervised by a suitably experienced archaeologist. Spoil from the excavation will stored adjacent to the trench, and will be backfilled upon completion of the archaeological works.

3.2.4 Machine excavation will then be used to define carefully the extent of any surviving walls, foundations, and other remains. Thereafter, structural remains will be cleaned manually to define their extent, nature, form and, where possible, date. It should be noted that no archaeological deposits will

be entirely removed from the site. If the excavation is to proceed below a depth of 1.2m, then the trenches will be widened sufficiently to allow the sides to be stepped in.

3.2.5 All information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by the Centre for Archaeology Service of English Heritage. Results of the evaluation will be recorded on *pro-forma* context sheets, and will be accompanied with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.2.6 A full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the evaluation will be generated. Photography will be undertaken using 35mm cameras on archivable black and white print film as well as colour transparency, and all frames will include a visible, graduated metric scale. Extensive use of digital photography will also be undertaken throughout the course of the fieldwork for presentation purposes. Photographs records will be maintained on special photographic *pro-forma* sheets.

3.2.7 The precise location of the evaluation trenches, and the position of all archaeological structures encountered, will be surveyed by EDM tacheometry using a total station linked to a pen computer data logger. This process will generate scaled plans within AutoCAD 14, which will then be subject to manual survey enhancement. The drawings will be generated at an accuracy appropriate for 1:20 scale, but can be output at any scale required. Sections will be manually drafted as appropriate at a scale of 1:10. All information will be tied in to Ordnance Datum.

3.2.8 Human remains are not expected to be present, but if they are found they will, if possible, be left *in situ* covered and protected. If removal is necessary, then the relevant Home Office permission will be sought, and the removal of such remains will be carried out with due care and sensitivity as required by the *Burials Act 1857*.

3.2.9 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996.

3.2.10 ***Finds policy:*** finds recovery and sampling programmes will be in accordance with best practice (following current Institute of Field Archaeologists guidelines) and subject to expert advice in order to minimise deterioration. OA has close contact with Ancient Monuments Laboratory staff at the University of Durham and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation.

3.2.11 Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities

is maintained by OA North with the Department of Archaeology, the University of Durham. Samples will also be collected for technological, pedological and chronological analysis as appropriate.

3.3 HEALTH AND SAFETY

3.3.1 OA North provides a Health and Safety Statement for all projects and maintains a Safety Policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (3rd Edition, 1997). OA North will liase with the Client/main contractor to ensure all current and relevant health and safety regulations are met.

3.3.2 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

3.3.3 Normal OA North working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for OA North staff to be asked to work weekends or bank holidays and should the Client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary.

3.4 OTHER MATTERS

3.4.1 Access to the site will be arranged via the Client/main contractor.

3.4.2 The Client/main contractor will be responsible for the provision of a secure enclosed area for the archaeological work to take place within.

3.4.3 The Client/main contractor is asked to provide OA North with information relating to the position of live services on the site. OA North will use a cable detecting tool in advance of any machine excavation.

3.5 POST-EXCAVATION AND REPORT PRODUCTION

3.5.1 ***Archive:*** the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects, 2nd edition, 1991*) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.

3.5.2 The paper and finds archive for the archaeological work undertaken at the site will be deposited with the Manchester Museum, as this is the nearest museum which meets Museums' and Galleries' Commission criteria for the long term storage of archaeological material (MGC 1992). This archive can be provided

in the English Heritage Centre for Archaeology format, both as a printed document and on computer disks as ASCii files (as appropriate). The archive will be deposited with the Manchester Museum within six months of the completion of the fieldwork.

3.5.3 Except for items subject to the Treasure Act, all artefacts found during the course of the project will be donated to the receiving museum.

3.5.4 A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the Greater Manchester Sites and Monuments Record. A copy of the index to the archive will also be available for deposition in the National Archaeological Record in London.

3.5.5 ***Report:*** four copies of a bound and collated final report will be submitted to the Client within six weeks of the completion of the fieldwork. Further copies will be sent to the Manchester Planning Department, the Assistant County Archaeologist, the Greater Manchester Sites and Monuments Record, and Manchester Museum. The final report will include a copy of this project design, and indications of any agreed departure from that design. It will include an historical and archaeological background to the study area, an outline methodology of the investigation, and present, summarise, assess, and interpret the results of the programme of archaeological works detailed above. It will also include an assessment of any finds recovered from the evaluation trenching. In addition, recommendations for any further mitigation works and details of the final deposition of the project archive will also be made.

3.5.6 A summary of the results produced from the archaeological investigation will be published in the CBA North West magazine.

3.5.7 ***Confidentiality:*** the final report is designed as a document for the specific use of the Client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4. WORK TIMETABLE

4.1 A one week period is required to excavate, record and backfill the evaluation trenches.

4.2 A report will be submitted within six weeks of the completion of the fieldwork.

4.3 OA North can execute projects at very short notice once an agreement has been signed with the Client.

5. STAFFING PROPOSALS

5.1 The project will be under the overall charge of **Ian Miller BA** (OA North Project Manager) to whom all correspondence should be addressed. Ian has considerable experience and particular research interests in Industrial Archaeology and, amongst numerous other projects, was involved in the excavation recording, analysis and publication of the Netherhall blast furnace site in Maryport, Cumbria, the excavation, recording and publication of work at Carlton Bank alum works in North Yorkshire, and the excavation of Macintosh Mill in Manchester. Ian is currently managing the programme of detailed survey and excavation at the Murray's Mills complex of cotton spinning mills in Manchester.

5.2 The evaluation will be undertaken by **Sean McPhillips BA** (OA North Project Supervisor). Sean is an highly experienced field archaeologist, who has a particular interest in Industrial Archaeology, and especially that of Manchester. Sean recently directed the archaeological investigation of a complex of textile mills at the Torrs in New Mills, and played a key role in the excavations at the Calprina textile works, Stalybridge, and Macintosh Mill, Manchester. Sean also directed the evaluation and excavation of the Percival, Vickers and Co Ltd flint glass works in Manchester. Sean will be assisted by at least two technicians.

5.3 Assessment of any finds from the excavation will be undertaken by OA North's in-house finds specialist **Christine Howard-Davis BA** (OA North Finds Manager). Christine has extensive knowledge of all finds of all periods from archaeological sites in northern England, and is a recognised expert in the study of post-medieval artefacts.

6. MONITORING

6.1 Monitoring meetings will be established with the Client and the archaeological curator at the outset of the project. Monitoring of the project will be undertaken by the Greater Manchester Assistant County Archaeologist, who will be afforded access to the site at all times.

APPENDIX 2: CONTEXT LIST

Context No	Trench	Description
1	1	Floor composed of Yorkstone flags within south-eastern part of trench
2	1	Wall composed of machine-pressed bricks, south-eastern part of trench
3	1	Wall composed of machine-pressed bricks, south-eastern part of trench
4	1	North/south aligned wall composed of hand-made bricks
5	1	Brick structure representing foundation bed for steam engine
6	1	North/south aligned wall composed of hand-made bricks
7	1	Brick pier composed of hand-made bricks, north-west of wall ***106***
8	1	Probable brick pier composed of hand-made bricks, north-west of pier ***107***
9	1	Two large freestone blocks, probably engine mounting beds. Not *in situ*
10	1	North/south aligned wall composed of hand-made bricks
11	1	Brick structure representing foundation bed for steam engine, adjacent to ***105***
12	2	Brick pier composed of hand-made bricks, western part of trench, south side
13	2	Brick pier composed of hand-made bricks, western part of trench, north side
14	2	Brick pier composed of hand-made bricks, western part of trench, south side
15	2	Brick pier composed of hand-made bricks, western part of trench, north side
16	2	Brick pier composed of hand-made bricks, the same as context ***7*** (i.e. the junction with trench 1)
17	2	Brick pier composed of hand-made bricks, the same as context ***8***
18	2	Brick pier composed of hand-made bricks, centre of trench, south side
19	2	Brick pier composed of hand-made bricks, centre of trench, north side
20	2	Brick pier composed of hand-made bricks, centre of trench, south side
21	2	Brick pier composed of hand-made bricks, centre of trench, north side
22	2	Floor composed of Yorkstone flags, south side
23	2	Floor composed of Yorkstone flags, north side

Context No	Trench	Description
24	2	Brick pier composed of hand-made bricks, centre of trench, north side
25	2	Brick pier composed of hand-made bricks, centre of trench, south side
26	2	Brick pier composed of hand-made bricks, centre of trench, north side
27	2	Brick pier composed of hand-made bricks, centre of trench, south side
28	2	Brick pier composed of hand-made bricks, centre of trench, north side
29	2	Brick pier composed of hand-made bricks, centre of trench, south side
30	2	Brick structure sat directly above and forming a structure with ***27*** and ***29***
31	2	Floor composed of reinforced concrete and brick across middle of Trench 2
32	2	North/south aligned wall composed of machine pressed bricks
33	2	North/south aligned wall composed of hand-made bricks, east of ***32***
34	2	East-west aligned wall composed of hand-made bricks, east of ***33***
35	2	Surface composed of hand-made bricks between ***34*** and ***36***
36	2	East/west aligned wall composed of hand-made bricks
37	2	North/south aligned wall footing composed of hand-made bricks, west of ***38***
38	2/5	North/south aligned wall composed of hand-made bricks, west of ***39***
39	2/5	Flue composed of hand-made bricks, aligned north-south in Trench 5 but turning eastwards along Trench 2
40	2/5	North/south aligned wall composed of hand-made bricks aligned north-south, east of ***39***
41	2/5	Large cut freestone block, probably engine mounting bed, south of ***35***
42	2	Large probable brick pier composed of hand-made brick fragments, in the east end of Trench 2
43	2/5	Wall composed of machine pressed bricks added to ***38***
44	3	Brick wall in north-east corner of Trench 3
45	3	Floor composed of cobbles with hand-made brick repair to south of ***44***
46	3	Possible floor composed of crushed mortar and brick rubble to south of ***45***
47	3	Deposit of clay potentially representing backfill of a rectangular cut to south-west of ***46***
48	3	Culvert composed of hand-made bricks aligned north-west/south-east

Context No	Trench	Description
49	4	Wall composed of hand-made bricks aligned north-west/south-east
50	4	Wall composed of hand-made bricks aligned north-west/south-east
51	4	Wall composed of hand-made bricks aligned north-west/south-east
52	4	Wall composed of hand-made bricks aligned north-west/south-east
53	4	Wall composed of hand-made bricks aligned north-west/south-east
54	1-5	Brick rubble overlying all walls within the trenches
55	1-5	Subsoil
56	1-5	Topsoil and turf deposit overlying entire site
57	5	Small section of wall composed of hand-made bricks aligned north-south

APPENDIX 3: FINDS CATALOGUE

Context	Material	Category	Quantity	Description	Date
54 (Tr 1)	Ceramic	Vessels	6	Two complete stoneware bottles (no stamps) and small fragment of a third, fragment of late industrial slipware bowl, one small stoneware jar, one crucible	Late 19th/20th century
54 (Tr 1)	Glass	Vessels	3	Mineral water bottles, one stamped '*N Berry*' and manufactured by Cannington Shaw and Co, St Helens, one '*P Dowd*', and one '*W Hancock*'	Late 19th/20th century
54 (Tr 1)	Glass	Pontil rod	1	Pontil rod used in glass manufacture	Late 19th/20th century
54 (Tr 1)	Glass	Production waste	1	Stem and distorted base of blue wine glass 'waster'	Late 19th/20th century
54 (Tr 1)	Leather	Object	1	Fragment of ?leather shoe	19th/20th century
54 (Tr 2)	Ceramic	Vessel	4	One fragment of industrial slipware, one fragment of tea ware, two fragments of stoneware bottles	Late 19th/20th century
54 (Tr 2)	Ceramic	Object	1	One ceramic object, possibly electrical insulator	20th century
54 (Tr 2)	Glass	Vessels	6	Three cod mineral water bottles, one marble-stopper water bottle, one green lemonade bottle, two milk bottles and small jar	Late 19th/20th century
54 (Tr 2)	Leather	Shoe	3	Fragments of leather shoes	Late 19th/20th century
54 (Tr 3)	Ceramic	Vessels	3	Two stoneware bottles with trade marks ('*Richard Nicols*' and '*J Pratt and Son*') and fragment of transfer-printed ware bowl	Late 19th/20th century
54 (Tr 3)	Glass	?Vessel	1	Small fragment of glass	19th/20th century
54 (Tr 3)	Leather	Shoe	1	Ladies leather shoe	20th century
54 (Tr 4)	Ceramic	Vessels	5	Four stoneware bottles with trade marks ('*Townsends*', '*W Dales Junr*', and two '*R Nuttall*', and fragment of flower pot	Late 19th/20th century
54 (Tr 4)	Glass	Vessels	2	Water bottles with trade marks ('*P Dowd*' and '*Fletcher and Holt*')	Late 19th/20th century
54 (Tr 4)	Glass	Industrial debris	20	Fragments of glass manufacturing debris	19th/20th century

APPENDIX 4: COMPLETED PROJECT SUMMARY FORM

PROJECT NAME: New Islington Mill

PROJECT LOCATION County: Greater Manchester NGR: SJ 8533 9866
District: Manchester
Parish: Ancoats

TYPE OF PROJECT: Trial Trenching

RESPONSIBLE ORGANISATION: Oxford Archaeology North PROJECT CODE: L9275

PROJECT OFFICER(S): Chris Healey, Ian Miller

COMMISSIONED/FUNDED BY: The New Islington Client Group

REASON(S) FOR WORK: Development

DATE PROJECT STARTED: April 2004 DATE FINISHED: June 2004

SUMMARY OF RESULTS: (Industrial Period)

The report presents the results of an archaeological evaluation, combined with historical research, at the site of New Islington Mill, Woodward Place, Ancoats, Manchester. The mill was erected in the late 18th century, as part of the initial phase of development in Ancoats. There is tentative evidence to suggest that it was originally a water-powered factory, although it has seemingly been converted to steam-power by the early 19th century. Entries in contemporary trades directories have indicated that the mill was concerned with textile spinning and weaving, with some reference to textile printing. A plan of the site from *c*1822 noted the mill to have comprised two parallel ranges of buildings. The main block of the mill is labelled as comprising two factories, each of five stories, with an engine house at the east end, which was adjoined by a house and kitchen. A map published in 1824 shows a reservoir to have been constructed immediately adjacent to the mill complex, although this is shown on subsequent maps to have been subsumed by an expansion of the mill during the mid-19th century. The mill appears to have ceased production during the late 19th century, and the buildings were converted for use as an engineering works. The site was demolished recently and, after landscaping, was used as a recreational area.

In total, five evaluation trenches were placed across the site. These revealed well-preserved archaeological features to survive *in situ*, particularly within the south-eastern part of the study area, where structural remains were encountered immediately beneath the topsoil. Several phases in the development of the mill complex were identified, and have been related to cartographic evidence. The results of the evaluation provided evidence for the original engine house and its mid-19th century successor, associated boiler house and flue.

REPORT REFERENCE: OA North 2004-05/256

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