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SUMMARY

Stonebond Properties (Manchester) Limited submitted a planning application for the redevelopment of land at Tack Lea Works, Greenbooth Road, Norden, Rochdale (centred at NGR: SD 385787 414709). The proposals include the construction of 49 affordable dwellings following demolition of existing buildings and new access from Edenfield Road at 'Site Formerly of Tack Lea Works and Shepperd Mill, Greenbooth Road, Norden Rochdale'. The proposed development will necessitate earth-moving works that have potential to damage or remove any surviving below-ground archaeological remains.

Stonebond Properties (Manchester) Limited commissioned Lanpro to produce an Enhanced Project Design for the site in March 2024 (Taylor 2024), which concluded that the site had high potential to contain buried remains of Woodhouse Mills and Shepherd Mills, including power transmission features, weirs, reservoirs, sluices, tanks, and other features. In consultation with Greater Manchester Archaeological Advisory Service (GMAAS), the Project Design provided a detailed methodology for undertaking a programme of archaeological trial trenching and Historic England Level 1 building survey of the remaining upstanding buildings on the site.

Lanpro, on behalf of Stonebond Properties (Manchester) Limited, commissioned Salford Archaeology to conduct the archaeological evaluation between 11th and 22nd March 2024, comprising the excavation of eleven trial trenches targeting the remains of Woodhouse Mills and Shepherd Mills. The evaluation confirmed the presence of two stone-lined tanks and a boiler bed associated with Woodhouse Mill.

Following consultation with GMAAS, further excavation was required in the form of three open area trenches to offset the harm of the development on the buried archaeological resource. Mitigation was undertaken between 8th and 12th April 2024, uncovering the well-preserved remains of a further two dye tanks, together with a substantial brick-built engine bed. The remains uncovered are of low (local) significance.

1 INTRODUCTION

1.1 Circumstances of the Project

1.1.1 Stonebond Properties (Manchester) Limited submitted an outline planning application in September 2020 (ref. 20/01170/OUT) to Rochdale Borough Council for 49 affordable dwellings following demolition of existing buildings and new access from Edenfield Road at 'Site Formerly of Tack Lea Works and Shepperd Mill, Greenbooth Road, Norden Rochdale' (NGR: SD 385787 414709).

1.1.2 Greater Manchester Archaeological Advisory Service (GMAAS) were consulted by Rochdale Borough Council and provided advice on archaeological matters on 8th March 2021 and 2nd August 2023. On both occasions they stated that, the lack of an Archaeological Desk-based Assessment (DBA) means that the archaeological interests are undefined. GMAAS recommended a planning condition that included the Written Scheme of Investigation (WSI), Level 1 building photographic survey and targeted evaluation trenching.

1.1.3 The application was granted on 3rd July 2023 subject to Condition 8, which outlines the requirements for archaeological works:

No development (other than the clearance of trees or shrubs) shall take place until the implementation of a programme of archaeological works to be undertaken in accordance with a Written Scheme of Investigation (WSI) has been secured and which has been prepared by the appointed archaeological contractor and submitted to and approved in writing by the Local Planning Authority. The development shall not be occupied until the site investigation has been completed in accordance with the approved WSI. The WSI shall cover the following:

a) A phased programme and methodology of site investigation and recording to include:

- targeted field evaluation trenching*
- (depending upon the evaluation results) a strip map and record exercise*
- targeted open area excavation.*

b) A programme for post investigation assessment to include:

- *analysis of the site investigation records and finds.*
- *production of a final report on the significance of the archaeological and historical interest represented.*
- c) *Provision for publication and dissemination of the analysis and report on the site investigation.*
- d) *Provision for archive deposition of the report, finds and records of the site investigation.*

- 1.1.4 Lanpro was commissioned by Stonebond Properties (Manchester) Limited to undertake an Enhanced Project Design (formally a Written Scheme of Investigation) in March 2024 (Lanpro 2024). This document identified that the site had high potential to contain the archaeological remains of the 19th-century Woodhouse Mills and Shepherd Mills, including power transmission features, weirs, reservoirs, sluices, tanks, and other features.
- 1.1.5 Lanpro, on behalf of Stonebond Properties (Manchester) Limited, commissioned Salford Archaeology to conduct the Level 1 building recording and archaeological evaluation between 11th and 22nd March 2024, comprising the excavation of eleven trial trenches targeting the remains of Woodhouse Mills and Shepherd Mills.
- 1.1.6 The evaluation confirmed the presence of two stone-built tanks, internal brick walls, internal flagstone surfaces, and the partial remains of a brick-built boiler bed associated with Woodhouse Mills complex. The poorly preserved remains of external walls and reservoir walls of the Shepherd Mills were also recorded.
- 1.1.7 Following consultation with GMAAS, further excavation was required in the form of three open area trenches to offset the harm of the development on the buried archaeological resource. Mitigation was undertaken between 8th and 12th April 2024, uncovering the well-preserved remains of a further two stone-lined tanks, along with a substantial brick-built engine bed, and further internal brick walls associated with the Woodhouse Mills complex. The remains uncovered are of low / local significance.

2 AIMS AND OBJECTIVES

2.1.1 The aims and objectives of the evaluation were listed in the enhanced Project Design produced by Lanpro (2024), which stated that:

The overall aim of the archaeological investigation was to obtain sufficient information to establish the presence/absence, character, extent, state of preservation and date of any archaeological deposits within the area of the proposed development. This would allow reasoned and informed recommendations to be made regarding any requirements for mitigation, the scope of which would be detailed in a subsequent PD in agreement with GMAAS.

2.2 Objectives

2.2.1 The academic aims of the project were:

- To determine the location, extent, date, character, condition and significance of any archaeological remains within the development site;
- To excavate and record identified archaeological features and deposits to a level appropriate to their extent and significance;
- To assess vulnerability/sensitivity of any exposed remains;
- To assess the impact of previous land use on the site;
- To assess the potential for survival of environmental evidence;
- To inform a strategy to avoid or mitigate impacts of the proposed development on surviving archaeological remains;
- To undertake sufficient post-excavation assessment to confidently interpret identified archaeological features;
- To report the results of the evaluation and place them in their local, regional or national context and to make this record available

2.3 Research Potential

2.3.1 The programme of archaeological investigation had the potential to contribute to the research agendas identified in the North West Regional Research Framework (researchframeworks.org/nwrf/). This included:

Ind60 - How can we make sense of the relative significance of historic industrial *processes and building types perceived as poorly understood and recorded?*

2.3.2 These research aims and objectives were revised as necessary both during and after fieldwork. The findings of the fieldwork with regards to dating, phasing, and evidence of different uses of the site is key to informing these aims.

2.3.3 Following the evaluation, the investigation also had the potential to contribute towards research agenda:

Ind55: What is the evidence for the development of power production?

3 LOCATION, GEOLOGY AND TOPOGRAPHY

3.1 Location

- 3.1.1 The proposed development area (herein referred to as the 'Site', centred at NGR: SD 385787 414709) lies within Norden which is located approximately 4km to the north-west of Rochdale town centre, Greater Manchester. The Site is bounded by woodland to the north, residential development to the east, and Edenfield Road and Greenbooth Road to the south and west (Figure 1). The Site comprises approximately 2.77ha of demolished mill buildings, areas of hardstanding, roads, and woodland.

3.2 Geology

- 3.2.1 The underlying solid geology of the Site is Rough Rock - Sandstone of the Rossendale Formation formed between 320 and 319 million years ago during the Carboniferous period (BGS 2024). This is overlain by superficial deposits of Devensian Till – Diamicton formed between 116 and 11.8 thousand years ago during the Quaternary period. (*ibid*).

3.3 Topography

- 3.3.1 The Site slopes from north to south from c.190m above Ordnance Datum (aOD) to c.165m aOD. The site of the former mills is reasonably level at c.165m aOD.

4 HISTORICAL BACKGROUND

4.1.1 The following is based on information provided in a historical assessment in the Enhanced Project Design produced by Lanpro (Lanpro 2024), along with other sources listed in the bibliography.

4.2 Prehistoric, Roman and early medieval periods

4.2.1 There are no records of prehistoric, Roman, or early medieval activity within the Site or the 1km search area.

4.3 Late medieval period (1066 – 1540)

4.3.1 There are no records of medieval activity within the Site. However, six records of activity originating in the late medieval period are recorded within the 1km search area. These include Bank House Farmhouse and farmstead (GMHER 2442.1.0), Sheffield Settlement (GMHER 2450.2.0), Woltsenholme Hall (GMHER 2745.1.0), Greenbooth Mill (GMHER 2747.1.0) and Bagslate Moor Settlement (GMHER 5208.1.0), Farm at Woodhouse – East cottage and attached Cottages (GMHER 5437.1.0).

4.4 Post-medieval (1540 – 1750) and Industrial period (1750 – 1930)

4.4.1 The woollen industry defined the post-medieval development of Rochdale, and its success prompted the growth of the town. The manufacture of woollen textiles developed rapidly from c. 1500 as a domestic-based industry. Textiles were generally manufactured in domestic-based workshops or weavers' cottages as part of the putting-out system, whereby merchants employed textile workers and supplied them with raw materials. Domestic-based textile manufacture and mining were increasingly undertaken as a supplementary income to farming in the area.

4.4.2 By the 1780s, the national demand for textiles, particularly cotton, had begun to rise, resulting in a dramatic increase in mill building that transformed the Greater Manchester region into a centre for factory-based textile manufacturing (Baines, 1835). Initially, the mills were water-powered, but by the end of the 18th century, mills were being converted to steam. In Rochdale, the woollen trade was the staple industry. This applied chiefly to the town of

Rochdale, and in a smaller degree of Littleborough and Todmorden. By the middle of the 1800s, 80 percent of England's flannel was produced in Rochdale (Lanpro 2024).

- 4.4.3 By the 19th century, cotton-based textile production had replaced the manufacture of woollen products as the main industry in Rochdale. Mills and related industries, such as dying and bleaching, also expanded. Within the Site boundary Woodhouse Mills (GMHER 5203.1.0) is recorded, along with five mill sites, Rainshaw Mill (GMHER 5200.1.0), Baitings Mill (GMHER 5201.1.0), Martins Mill (GMHER 5205.1.0), Coal Bank Mill (GMHER 11000.1.0) and Black Pots Mill (GMHER 11046.1.0), within the 1km study area.

4.5 Development of the Site

- 4.5.1 The Site lies within Norden, Rochdale. Norden does not appear on 18th-century mapping, although Wolstenholme is captured on Yates's map of 1786 (Plate 1), which lies a short distance to the north-east of the Site. Ribbon development had taken place along the main lanes that connected to Rochdale to the surrounding settlements. This included Edenfield Road, which led to 'Wolstenholme'. Several watermills (or / and engines) had been erected along the various brooks and watercourses surrounding Wolstenholme, particularly Naden Brook that ran through the Site. A watermill may have fallen within the Site by the late 18th century however the map is produced at too small a scale to accurately determine. Furthermore, later maps show that the course of Naden Brook was altered to feed multiple reservoirs that were established within the Site.



Plate 1 Yates' map of Lancashire 1786, showing the approximate Site area

4.5.2 The next available map is Hennet and Bingley's plan of Lancashire, 1830 (Plate 2). Again, the map is produced at too small a scale to accurately pinpoint the Site location. However, buildings and a watermill are shown on the map and could represent Shepherd Mill. A fulling mill, commonly called Shepherd Mill, Spotland was advertised for sale in 1835, together with a mill dam, kiln, drying house, cottages and dwelling houses near Woodhouse Lane and closes lands and grounds known as Little Field, Mill Croft and Pitt-Hole, together with further plots of land (Manchester Courier, 12th September 1835). The property was owned by Elizabeth Barlow.



Plate 2 Hennet and Bingley's map of 1830, showing the approximate Site location

4.5.3 Woodhouse Mills is shown on the 1845 Township of Spotland map as 'Woodhouse Lane Mill', which occupied the western part of the Site (not illustrated; Lanpro 2024). The complex included the main factory building, with at least two smaller buildings and multiple reservoirs. Buildings on the Site were labelled '487', being owned by a 'Mr Milne' with Samual Knight as the Lessee. The adjacent plot '488' was the same, as were the adjacent plots to the north of the road. Shepherd Mill is not labelled on the plan but may have been the small L-shaped building in the east of the Site.

- 4.5.4 The HER entry for Woodhouse Mill (HER 5203.1.0) described the main building as being 'of 3 storeys and stone built with 16x3 bays'. There are 'Reservoirs and 'Filter Tanks' shown on historic maps, together with a weighing machine.
- 4.5.5 The Ordnance Survey of 1851 (Figure 3) shows that reservoirs and water management systems had been expanded at the mill site, particularly in the south-east of the Site, together with two buildings associated with Shepherds Mill. The reservoirs in the east of the Site were fed by Naden Brook and Woodhouse Lane Brook. The plan labelled Woodhouse Mill as a bleaching works. A sandstone quarry lay within the north-west part of the Site.
- 4.5.6 A newspaper advertisement describes Woodhouse Mill as a bleachworks occupied by Mr John Knight in 1874. The premises was described as containing bleaching plant, horses, carts and gears (Rochdale Times, 26th December 1874).
- 4.5.7 The next map that captured the Site is the Ordnance Survey map of 1893 (Figure 4). The footprint of the main Woodhouse Mill building had altered slightly, whilst several smaller buildings had been erected to the east. The mill is labelled on the plan as 'woollen'. Shepherds Mill had also been expanded slightly but was annotated as being 'disused'.
- 4.5.8 A new engine was installed at the mill in the same year that the map was published. The engine had been installed by J & W McNaught of Rochdale and was described in the local newspaper as '*a horizontal compound tandem, calculated to work from 150 to 200 indicated horse power*' (Rochdale Observer, 22nd April 1894). The article states that the "*flywheel is 15 feet weighs about 12 tons*". The article also notes that considerable alterations were necessary to make a connection with the old gearing, and these were also undertaken by Messrs McNaught. The engine was installed by Messrs T. Ashworth and Sons.
- 4.5.9 Woodhouse Mill falls under Bagsdale, Norden and Cheesden (near Rochdale) in Worrall's Cotton Spinners Directory of 1891 (p185). The mill is listed beneath the heading 'bleachers and dyers' and was occupied by Kelsall and Kemp (fullers and finishers). Kelsall and Kemp were also listed as fullers and finishers (Worrall 1891, p187). The company was registered on 13th March 1890, to

acquire the business of flannel manufacturers of the firm of the same name (Lanpro 2024).

- 4.5.10 An article in the Manchester Evening News (Lanpro 2024; Manchester Evening News 2006) outlines the history of Kelsall and Kemp with Henry Kelsall (born in Mottram in 1874) setting up business in Rochdale in 1815, buying wool, putting it out for spinning and weaving and selling the cloth. The firm bought their first mill in 1835 along with three other town centre mills until, in 1875, they bought Woodhouse Mill. Woodhouse Mill was purchased despite the price of wool dropping between 1860 and 1870 and the trade diminishing. Woodhouse Mill was a former cotton bleaching mill that the firm used as a finishing mill and dyehouse (Lanpro 2024; Manchester Evening News 2006).
- 4.5.11 Robert Slack, the grandson of Henry Kelsall, and his Aunt Emily Lydia Kemp, took charge of the business. In 1890, a private company, Kelsall and Kemp Ltd was formed.
- 4.5.12 The Ordnance Survey map of 1910 (Figure 5) shows that the mill had been expanded further, with a square block erected to the north-west of the main mill building. Filter tanks had been installed in the north-east of the Site. The plan labels Woodhouse Mill as undertaking dyeing and finishing, whilst Shepherds Mill was working as a bleaching and finishing factory.
- 4.5.13 A fire broke out in the drying rooms in 1907 costing £1200 worth of damage. (Heywood Advertiser, 16th August 1907). The drying room was a single-storeyed building that adjoined the main mill building. The article states that ‘a private road passes between the two, and the finishing room of the principal buildings is carried over the road to the upper portion of the drying room, thus connecting them. For drying purposes, the room is kept at 200 degrees...’ (ibid).
- 4.5.14 The firm of Kelsall and Kemp Ltd expanded rapidly in the years prior to the First World War and supplied cloth to the British and French governments during the war (Lanpro 2024).
- 4.5.15 The map of 1927 (Figure 7) shows that the building to the north-west of the main mill building at Woodhouse Mill had been extended to the north. A building that ran parallel to the reservoirs in the south-east of the Site had also

been expanded into a larger rectangular building with adjoining smaller buildings.

- 4.5.16 Britain from above has three aerial images that include full and part views of Woodhouse Mills and Shepherd Mills taken in 1926 (EPW016702, EPW016703, EPW016704, Historic England 2024), which show the mills at their greatest extent of development, correlating with historic mapping (*ibid*).
- 4.5.17 The main building comprises a three-storey east to west aligned building with pitched roof, along with a long north to south aligned double pile structure with hipped roof. Together, these form an L-shape, within which is a single-storey shed. This collection of buildings is predominately of stone and likely date to the earliest phase of the mill, except for some alterations (Figure 3).
- 4.5.18 Several single-storey sheds in the north-west of the Site, which correlate with the 1929 Ordnance Survey map (Figure 6). There are no chimneys within the Site, and it is probable that power generation took place to the south of the complex (*ibid*).
- 4.5.19 Shepherd Mill is also visible within the photographs, which shows a double-pile two or three storey structure along with reservoirs and potentially a single-storey building in the south-west corner of the Site (*ibid*).
- 4.5.20 Kelsall and Kemp Ltd continued to occupy Woodhouse Mill during the Second World War, sending out postal orders from the company's comfort fund to the men that had left the mill to serve in the Forces (Rochdale Observer, 12th November 1941). Kelsall and Kemp Ltd continued operations after the war, advertising for mechanics and finishing and dyeing operatives in 1951 (Rochdale Observer, 15th December 1951).
- 4.5.21 The firm continued to operate throughout the 20th century including setting up operations in Tasmania, West Wales and Australia. In 1968 the firm merged with West Riding Worsted and Wollen Mills and control of the company moved out of Rochdale. The business gradually declined until Crawford Mills was closed in 1974 (Lanpro 2024; Manchester Evening News, 2006). Woodhouse Mill was still referred to as Kelsalls mill in 1974 (Heywood Advertiser, 5th December 1974).
- 4.5.22 Woodhouse Mill sold *Casey's camping equipment* during the early 1980s (Rochdale Observer, 14th June 1980). The premises had been purchased by

Messrs Tack Lea Works by 1983, when a planning application was submitted in order to change an existing garage into a boiler house, erect an 80 ft chimney and oil storage tank adjacent to the boiler house (Rochdale Observer, 11th June 1983).

4.5.23 Most of the mill was extant until at least 2000 (Lanpro 2024). Buildings were gradually demolished until 2023 when the last remaining buildings were removed.

4.5.24 The University of Salford's 2017 Buildings at Risk (BAR) assessment included Woodhouse Mills (University of Salford 2017). At the time, it was listed as one of the extant, vacant/under-used mills (total floor space 346sqm with vacant floor space 100 sqm). It was determined to be at risk and in fair condition as well (*ibid*). The complex is described in the mill's BAR sheet, which was visited on March 15, 2017:

Marked on the map (1) as a bleach works and as a dye works on map (2). The main building is of 3 storeys and stone built, with 16x3 bays. Hipped slate roof and corner pilasters. Rectangular windows with stone lintels and sills. This building is surrounded by various late C19 and C20 buildings, most notably a long stone-built gable roofed shed. There are some stone built terraced houses nearby, poss. worker's housing. There are 2 separate brick chimneys, the first is late C19/early C20, circular and brick-built, and the other is early to mid C19, square and brick built, otherwise no power features survive. Now all the above buildings have been divided up into small individual units occupied by various tenants (3). <HER Information>.

Most of this complex has been demolished and all that remains is one original late 19th century single storey, stone building fronting Greenbooth Street and a single storey stone building, possibly an office block. All others are later 20th century in date. At least three planning applications have been found relating to this former complex, with the aim to redevelop for residential purposes however the most recent one was in 2010 (10/D53056) and the land remains undeveloped. Below ground archaeological potential- high <RR>.

4.6 Background on bleaching and dyeing

- 4.6.1 Bleaching removed impurities from cloth prior to dyeing and printing and turned the cloth completely white. Traditionally, this process was a lengthy one, taking several months to complete. The first stage of this process was called 'bucking', which referred to boiling the cloth in alkaline lye made from wood ashes. During the 18th century, this took place in what was known as a 'kier' (Plate 3). The cloth was then washed thoroughly in troughs of water and steeped in buttermilk. The final stage of the process to suspend the cloth in open air, exposing it to sunlight over a long period of time, which whitened the cloth. Much land was needed to expose the cloth to sunlight, giving a commercial purpose to the infertile moorland in much of Lancashire (Miller 2012, 11-12).
- 4.6.2 Towards the end of the 18th century, it was becoming clear that a new, more efficient, approach was needed for bleaching cloth. In 1798, Charles Tennant introduced a bleach powder to the textile industry. The powder was made by impregnating dry-slaked lime with chlorine gas, which was said to be powerful enough for 7lb. of the powder to bleach 500 pieces of cloth (one piece being 28 yards long and 40 inches wide) (Penny Magazine 1843, 291). Industrialisation encouraged the mechanisation of the bleaching process, with steam and waterpower being used to drive machines such as dash wheels and washing machines. These innovations in the bleaching allowed the process to be brought indoors during the 19th century, leading many printworks to develop their own bleaching departments.

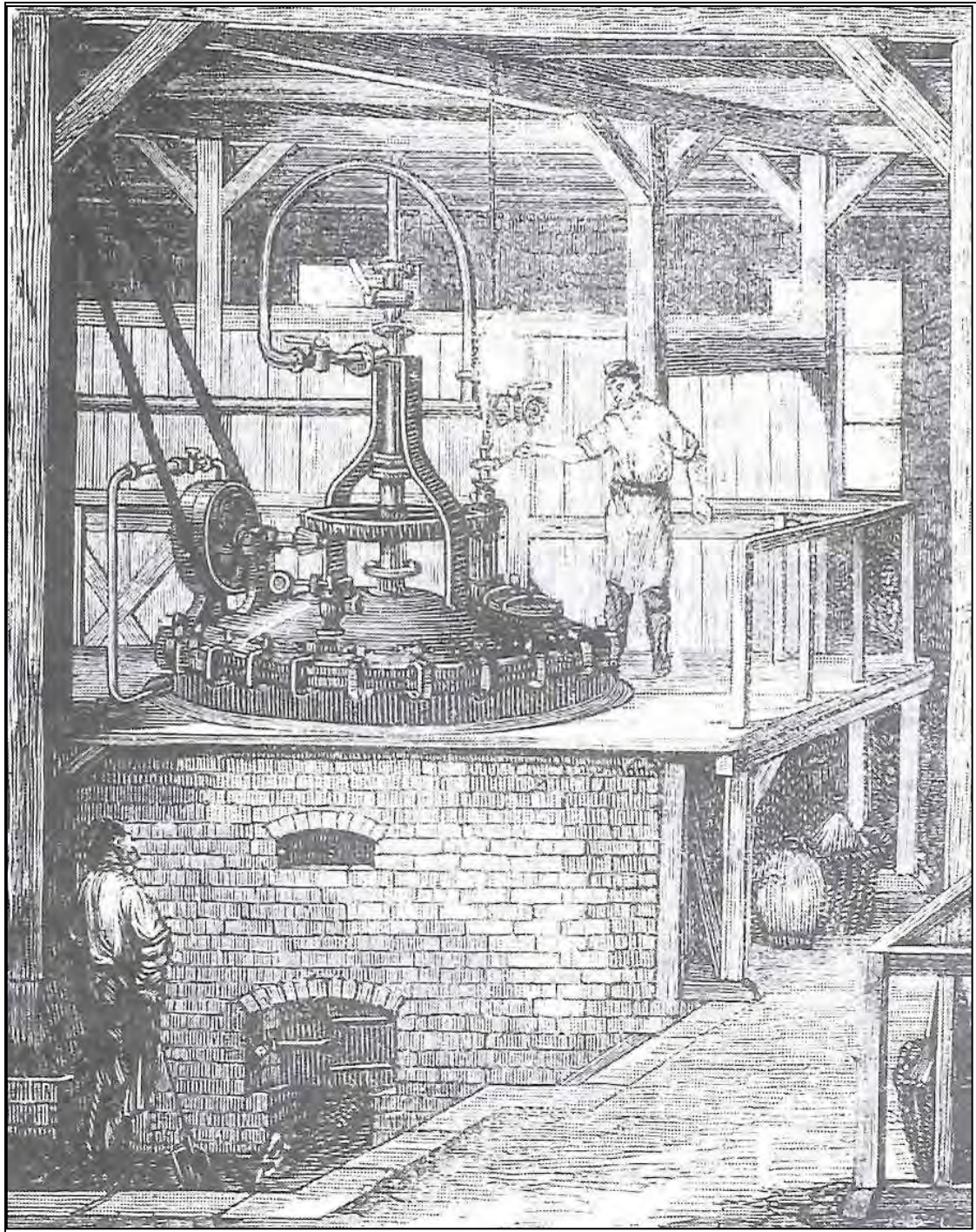


Plate 3 Large scale bleaching kler

- 4.6.3 By 1828, the dash wheels, which had been used to wash cloth, were replaced with washing machines invented by David Bentley, which washed lengthy pieces of cloth after the bleaching process. The cotton cloth was brought for bleaching in a grey state and several pieces of cloth were sewn together in preparation for bleaching, each 'piece' of cloth often being around 28 yards long and 40 inches wide (Penny Magazine 1843, 290). After the cloth had been

bleached, the pieces were again sewn together with more pieces, creating a single piece of cloth reaching approximately 14,000 yards long (*ibid*). The lengthy cloth would then be placed in a washing machine or 'wash engine', which wound the cloth in a spiral, with the water in the machines being renewed throughout the process. Washing machines were used in various stages of the process to keep the cloth clean and prepared for the next stages (Miller 2012, 15-16; Plate 4).

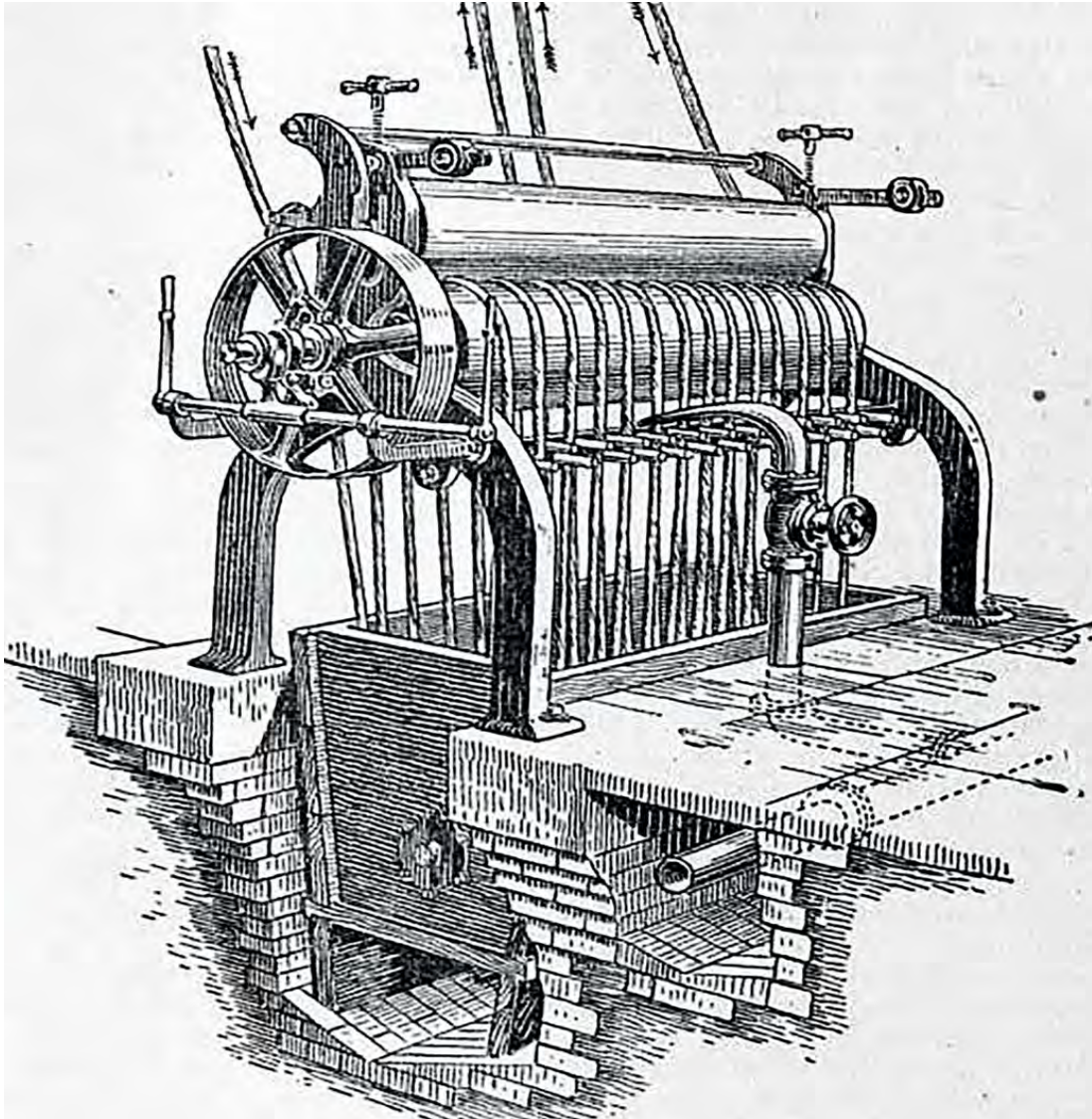


Plate 4 Roller washing machine

- 4.6.4 *Singe house* – Once the cloth had arrived at the printworks, the first step would be to create a smooth surface on the grey cloth by removing any stray fibres or any fraying which may have occurred during weaving. This took place in a singe house by running the cloth over red-hot plates (Plate 5).

- 4.6.5 *Grey sour cisterns* (Plate 6)– The next step was the ‘grey-wash’. The cloth would be transferred to the bleach croft for this process and then mixed with souring liquor to break down any oils or grease.

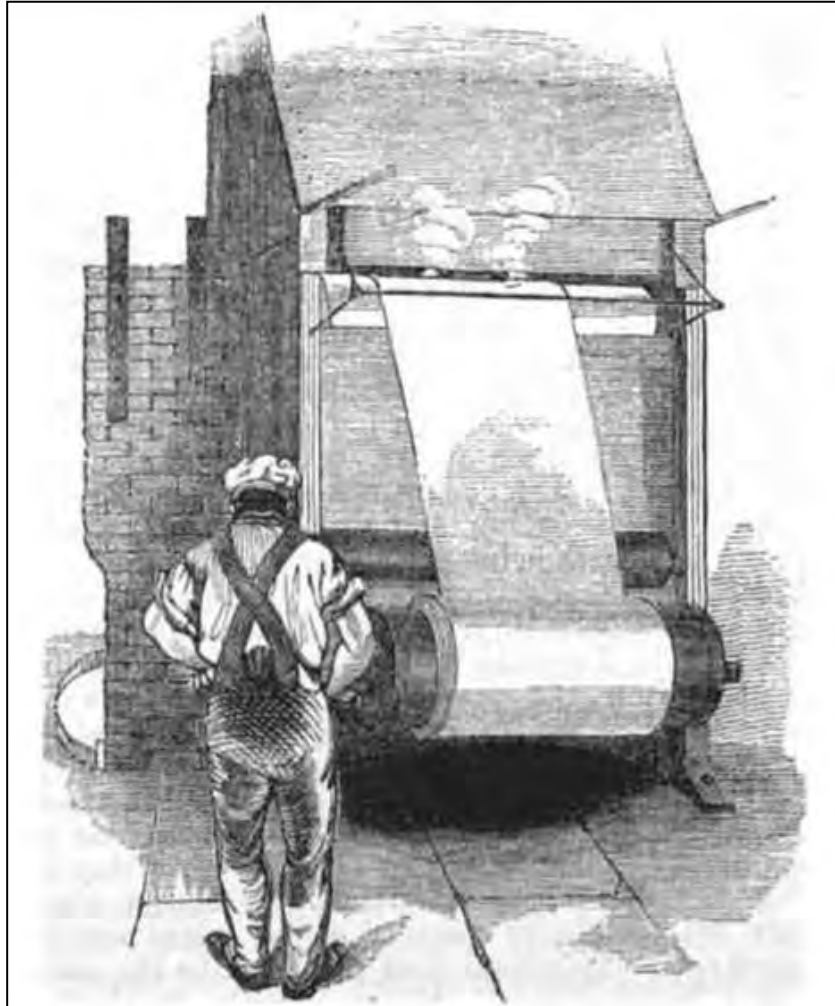


Plate 5 The singeing process, Penny Magazine 1843, 290

- 4.6.6 *Boiling kier* – Not all of the waxy coating of the fibres of the cloth could be removed using just a washing machine. The cloth would be placed into a kier with boiling water and a lime solution. This would be stirred for several hours at a temperature of at least 100°C. After the cloth had been soaked in the grey sour cistern, the cloth would go to another kier for boiling in soda ash.
- 4.6.7 *Chemic cisterns* – The cloth was then saturated in a clear solution of chloride of lime, or bleaching powder, which bleached the cloth.

- 4.6.8 *White sour cisterns* – The cloth was then passed through a dilute solution of sulphuric acid, known as ‘white sour’. This was followed immediately by a final washing in clean water, which rendered the cloth perfectly pure.
- 4.6.9 *Squeezing rollers* - The cloth was then washed and squeezed dry through rollers.
- 4.6.10 *White pile cisterns* – After drying, the cloth was stored in ‘white pile’ cisterns, ready for printing or dyeing.

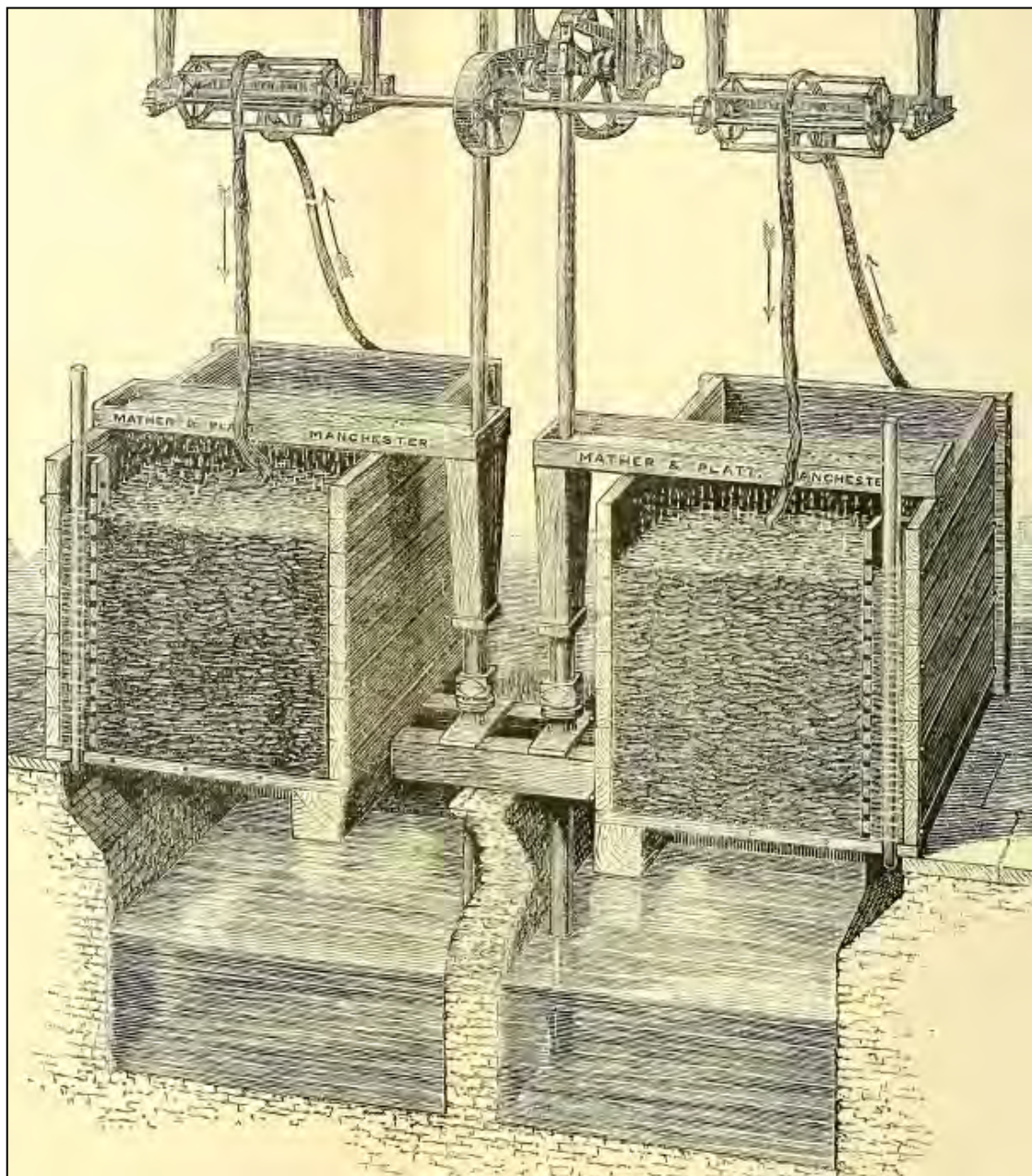


Plate 6 Bleaching and souring cisterns depicted in 'The Printing of Cotton Fabrics' (Sansone 1887)

- 4.6.11 *Dyeing* – Two agents were needed for the dyeing process: the colouring matter and the mordant. Mordant is an alum, occurring naturally as sulphate mineral alunite. Traditionally, the alum was imported then used to ‘fix’ the dye within the cloth. However, during the seventeenth century, it was discovered that alum could be manufactured chemically using certain type of shale. This brought a boost to the industry in northeast Yorkshire, where shale occurred naturally alongside aluminium salts and pyrites, which were required to create alum (*ibid*).
- 4.6.12 The colouring matter used to dye the cloth prior to the 19th century was often sourced from plants. The plants most commonly used included indigo, madder and logwood, however, colourants were also derived from cochineal insects and tropical sea snails (Nieto-Galan 2001, 23-25). The process of converting the natural colouring matter into dyes was complex and often the dyes did not adhere to the cloth easily. This prompted the use of chemically produced dyes, which brought added benefits, including lower costs and a new, more varied, range of colours (Miller 2012, 18).
- 4.6.13 The first synthetic dye was invented, accidentally, by William Henry Perkins in 1856. Reacting aniline with potassium dichromate produced a rich purple dye that could be extracted by adding alcohol. Perkins started his own company producing the dye, known as ‘mauve aniline’, which further boosted the textile industry. By 1859, synthetic dyes had become incredibly fashionable, demonstrated by Queen Victoria’s mauve dress worn at the International Exhibition of 1862 (*ibid*).
- 4.6.14 As the textile industry advanced, chemical engineering found new techniques of applying dye to cloth. One particularly popular technique was to print mordants onto the cloth before the dye was added, allowing the dye to adhere to the printed area. A technique known as ‘resist dyeing’ involved printing a wax onto the cloth before immersing it in dye. The dye would not adhere to the waxy areas, creating plain patterns on the coloured cloth. In 1802, Peel revolutionised this process by introducing a way of printing the wax using mechanical rollers. Discharge printing was similar in that it included printing a

bleaching agent onto an already dyed fabric, which removed the colour, again, creating a plain pattern on a coloured cloth (*ibid*).

- 4.6.15 The machinery used in the dyeing process included a large cistern, or beck, below a large roller. The cloth would be attached to the roller and rotated in and out of the beck, which contained hot water and the dye. Once the cloth had been dyed, it was washed again to remove any colourant residues (*ibid*).
- 4.6.16 Together, bleaching, dyeing and printing had a profound impact on the textile industry in the North West. This boom in Lancashire's textile industry impacted Manchester's economy, social structure, and architecture (Phelps *et al* 2018, 11). The printworks companies lasted over a century, being a common sight on many rivers across the region. By the mid-20th century, the cotton industry's demise led to the closure of many printworks sites. The buildings that make up the printworks were difficult to adapt for other uses, and subsequently many sites were demolished.

5 METHODOLOGY

5.1.1 The principal aim of the archaeological evaluation was to establish the presence or absence of any buried remains of archaeological interest within the Site and, where present, characterise the level of preservation and significance providing a good understanding of their potential. This was achieved by the excavation of 11 trial trenches.

5.1.2 Trenches were relocated as necessitated by ground conditions and health and safety circumstances, in consultation with GMAAS (see Figures 8 and 9; Table 1)

No.	Length (m) maximum	Width (m) maximum	Maximum Depth (m)
Trench 1	20.00	2.80	2.60
Trench 2	13.40	2.80	1.36
Trench 3	13.70	3.00	1.90
Trench 4	17.80	3.10	2.20
Trench 5	30.00	2.30	1.40
Trench 6	21.70	2.60	1.05
Trench 7	15.00	3.20	2.60
Trench 8	30.20	3.00	2.65
Trench 9	20.10	2.70	2.40
Trench 10	10.40	3.80	2.40
Trench 11	9.60	2.30	3.20

Table 1: Trench Details.

5.1.3 The methodology was set out in a Project Design (PD) produced by Lanpro (2024) and is reproduced below.

5.2 Trial trenching

- 5.2.1 Any hardstanding will be removed under archaeological supervision by a mechanical excavator fitted with hydraulic breaker.
- 5.2.2 Topsoil across the trenches will be stripped using a mechanical excavator fitted with a 2m wide toothless grading bucket, down to the first archaeological horizon or natural sub-soil.
- 5.2.3 Spoil from mechanical excavation will be scanned by eye and by metal detector to aid the recovery of artefacts, and topsoil and subsoil will be stored separately.
- 5.2.4 All excavation by mechanical excavator will be undertaken under direct archaeological supervision, by a suitably experienced and qualified archaeologist, with one archaeologist responsible for monitoring each excavator. Mechanical excavation will cease at either undisturbed natural deposits or when archaeological deposits are identified.
- 5.2.5 All archaeological features and deposits revealed will be cleaned and excavated in an archaeologically controlled and stratigraphic manner, in order to establish their extent, form, date, function and relationship to other features.
- 5.2.6 All structures, deposits and finds will be recorded according to accepted professional standards. Individual descriptions of all archaeological strata and features exposed or excavated will be entered onto prepared pro-forma recording sheets. Sample recording sheets, sample registers, finds recording sheets, access catalogues, and photo record cards will also be used.
- 5.2.7 Any excavation, by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be demonstrably worthy of preservation in situ.
- 5.2.8 There will be a presumption of the need to cause the minimum disturbance to the site consistent with adequate evaluation. Significant archaeological features (e.g. solid or bonded structural remains, building slots or postholes), will be preserved intact even if fills are sampled. For linear features, minimum 1m wide slots should be excavated across their width. For discrete features, such as pits, 50% of their fills will be sampled.
- 5.2.9 Should the excavation of the trenches reach 1m in depth (or limit of safe working depth) without natural geology being encountered, a machine dug

sondage will be excavated in order to establish the depth of natural geology. Where depth of excavation is required to be greater than 1m, suitable stepping will be employed.

- 5.2.10 All identified finds and artefacts will be collected and retained, bagged and labelled according to their context. Finds of significant interest will be given a 'small finds' number, and information on their location in three dimensions will be entered on a separate pro-forma sheet. No finds will be discarded without assessment by an appropriate finds specialist.
- 5.2.11 A full written, drawn and photographic record will be made of all features revealed during the course of the archaeological evaluation. The location and extent of archaeological features will be recorded by GPS. Plans will be completed at a scale of 1:20 (as appropriate), with section drawings at a scale of 1:10. All plans will be tied in with the Ordnance Survey National Grid with levels given to above OD.
- 5.2.12 A photographic record of the project will be maintained. This will illustrate the detail and context of the principal features and finds discovered. The photographic record will also include working shots to illustrate more generally the progress of the programme of archaeological works. All photography will follow the Historic England guidance for digital image capture (Historic England 2015b). All images will have accompanying metadata specifying; photo ID, capture device, converting software, colour space, bit depth, resolution, date of capture, photographer, caption, and any alterations made to the image.
- 5.2.13 Following excavation and recording of any archaeological remains, the evaluation trenches will be backfilled with the previously excavated spoil.

5.3 Finds

- 5.3.1 Finds will be exposed, lifted, cleaned, conserved, marked, bagged and stored in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2 (1990) and the ClfA guidelines Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (2020b).

- 5.3.2 If required, conservation will be undertaken by approved conservators in line with the First Aid for Finds guidelines (Watkinson and Neal 1998). Significant iron objects, a selection of nonferrous
- 5.3.3 artefacts (including all coins), and a sample of any industrial debris relating to metallurgy should be X-radiographed before assessment.
- 5.3.4 Any finds of gold and silver will be moved to a safe place. Where removal cannot be undertaken immediately, suitable security measures will be taken to protect the artefacts from theft or damage. All finds of gold and silver, and associated objects, will be reported to the coroner according to the procedures relating to the Treasure Act 1996 (and the act's amendment of 2003).

5.4 **Unexpectedly significant or complex discoveries**

- 5.4.1 Should unexpectedly extensive, complex or significant remains be uncovered that warrant, in the professional judgment of the archaeologist on site, more detailed recording than is appropriate within the terms of the PD, the scope of the PD will be reviewed.
- 5.4.2 In the event of a review of the PD being required, Lanpro will contact the client and GMAAS with the relevant information to enable them to resolve the matter. This is likely to require an onsite meeting between the relevant stakeholders to review the archaeological remains on-site and identify a way forward. Any variations to this PD will be put in writing and agreed by the relevant stakeholders including GMAAS and the client.

5.5 **Plant and equipment**

- 5.5.1 The appointed archaeological contractor will be responsible for the provision of all required plant and welfare, providing necessary health and safety equipment for the fieldwork operators during the trial trenching.

5.6 **Post-Fieldwork**

- 5.6.1 Upon completion of the evaluation fieldwork, the artefacts, soil samples and stratigraphic information will be assessed for their potential and significance for further analysis if required and the relevant parties notified accordingly. A report on the fieldwork will be produced within 4-6 weeks following completion.

5.6.2 **Finds**

- 5.6.3 Finds will be cleaned, conserved, marked, bagged and stored in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2 (1990) and the ClfA guidelines Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (2020b).
- 5.6.4 In accordance with appropriate procedures, significant iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before issue of the final report.
- 5.6.5 All material will be packed and stored in optimum conditions, as described in First Aid for Finds (Watkinson and Neal 1998). Any waterlogged organic materials will be dealt with in line with the English Heritage guidance documents, Waterlogged Organic Artefacts. Guidelines on their Recovery, Analysis and Conservation (2018) and Waterlogged Wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood (2010).
- 5.6.6 The preservation state, density and significance of material retrieved will be assessed, following the English Heritage guidelines Environmental Archaeology: A guide to the theory and practice of methods from sampling and recovery to post-excavation (2011).
- 5.6.7 Any finds for dating will be submitted to specialists promptly, so as to ensure that results are available to aid development of a project design for the analysis stage, if required.
- 5.6.8 **Environmental Sample Processing**
- 5.6.9 The processing of any palaeoenvironmental samples will be undertaken in line with the requirements of the English Heritage publications Archaeological Science at PPG16 Interventions: Best Practice Guidance for Curators and Commissioning Archaeologists (2006b) Environmental Archaeology: A guide to the theory and practice of methods from sampling and recovery to post-excavation (2011).
- 5.6.10 The samples will be processed, and ecofacts collected and assessed with regard to the potential for detailed analysis of pollen, charred plant macrofossils, land molluscs, faunal remains (including small mammals and fish) and soil micromorphology. Samples suitable for radiocarbon, or other

dating methods, will also be identified. The environmental assessment will be reported within the overall post-excavation assessment report for all phases of investigation and include proposals for full analysis if required. Unprocessed sub-samples will be stored in conditions specified by the appropriate specialists. Samples for dating will be submitted to specialists promptly, so as to ensure that results are available to aid development of the project design for any further analysis stage if required.

5.6.11 **Conservation**

5.6.12 If required, conservation will be undertaken by approved conservators in line with the First Aid for Finds guidelines (Watkinson and Neal 1998). Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues in or on pottery, and mineral-preserved organic material).

5.6.13 **Report**

5.6.14 As a minimum the evaluation report shall contain the following information:

- A title page, with the name of the project, the name of the author(s) of the report, the title of the report and date of the report;
- A non-technical summary of the scope, methodology and results of the work;
- Introduction which includes site code/project number, dates when the fieldwork took place and grid reference;
- Description of the topography and geology of the site;
- Description of the archaeological background to the site;
- Description of the aims, methodology and extent of fieldwork completed;
- Factual assessments of stratigraphic, artefactual and environmental evidence;
- An assessment of the archaeological potential of the stratigraphic, artefactual and environmental records;
- Proposed programme for further analysis and reporting if required, including the identification of specialists;
- Conclusions;

- Plans and sections to include site and trench location plans displaying NGR co-ordinates;
- List of plans and sections;
- Details of archive location and destination (with the museum accession number), together with a catalogue of what is contained in that archive;
- Copy of the OASIS entry form and any entry updates;
- Appendices as appropriate; and
- References and bibliography of all sources used.

5.6.15 A draft copy of the evaluation report will be provided to the GMAAS in PDF format for comment.

5.6.16 Following approval, copies of the final reports will be produced and submitted to the Greater Manchester HER in a PDF/A format.

5.7 Mitigation

5.7.1 Following the results obtained from the evaluation, and in consultation with GMAAS, it was determined that further archaeological mitigation was required. This comprised the excavation of three open areas. Area A targeted the area between Trenches 2 and 3. Area B extended Trench 5 to the north-east and the south-west; and Area C extended Trench 6 to the south-west.

6 ARCHAEOLOGICAL SEQUENCE

6.1 Archaeological Evaluation

6.2 Introduction

6.2.1 The following section describes the deposits and archaeological features recorded on the Site, which were attributed to six broad phases.

6.3 Trench 1 (see Figures 3-8)

6.3.1 Trench 1 targeted the potential location of an engine house and covered the footprint of the proposed development. The former building in this part of the Site was first captured on the 1929 Ordnance Survey map (Figure 6) and had previously consisted of a sandstone quarry (Figure 3).

6.3.2 Trench 1 was excavated in the north-west of the Site, aligned north-west to south-east, and measured a maximum of 20m long, 2.8m wide and 2.6m deep (Plate 7).

6.3.3 Trench 1 could not be fully excavated due to the presence of a large earthen bund that surrounded the Site. Health and safety constraints prevented the trench from being excavated deeper than 2.6m.



Plate 7 General shot of Trench 1, looking south-east. Scale = 1 x 2m.

- 6.3.4 The remnants of machine-made brick walls were partly visible in the north-east and south-west facing sections of the trench (Plate 7). The wall stubs seemed to have been bonded with hard grey mortar. The walls were not recorded due to health and safety constraints. The walls likely represented the foundations of an extension to the building in the north-west of the Site first shown on the 1929 plan (Figure 6).
- 6.3.5 A layer of mid-yellowish-brown fragmented sandstone / silty-clay (102) was excavated throughout Trench 1. The layer measured between 0.5m to 2.2m thick. The layer likely represented made ground associated with the demolition of the building.
- 6.3.6 Made ground (102) was overlain by a dark greyish black silt with stone and brick inclusions (101). The layer was likely associated with the clearance of the Site during the early 21st century.
- 6.3.7 A modern concrete surface [100] capped the demolition rubble (101) measuring 0.14m thick.
- 6.4 Trench 2 (Figures 3-8)**
- 6.4.1 Trench 2 targeted a square addition on the north side of the building that occupied the north-west of the Site first shown on the 1910 (Figures 5) that had the potential to contain remains associated with the adoption of electricity, such as the electric drive machinery (Lanpro 2024).
- 6.4.2 The trench was located to the south-west of Trench 1, aligned north-east to south-west, and measured a maximum of 13.4m long, 2.8m wide and 1.36m deep (Plate 8).
- 6.4.3 Trench 2 had to be moved slightly north-east due to its proximity to an upstanding building.



Plate 8 General shot of Trench 2, looking north-east. Scale = 1 x 2m.

- 6.4.4 The earliest structures observed in Trench 2 comprised walls [203], [205], and [207]. These structures likely represented remains of a building first shown on the 1910 plan (see Figure 5).
- 6.4.5 The remains of a wall [203] that was aligned north/north-east to south/south-west was excavated in the south-west end of the trench. The wall measured an observed length of 2.88m, continuing beyond the limit of excavation. The wall was 0.47m wide and survived up to c 1m high (Plate 9). The wall was constructed of red wire-cut bricks laid in English Garden Wall bond and bonded

with a hard, dark grey, ashy mortar. The wall likely formed the west external wall of the building (see Figure 5).



Plate 9 Shot of Wall [203] in Trench 2, looking south-west. Scale = 1 x 2m.

- 6.4.6 The remains of an L-shaped wall [205] were partially excavated in the south-east trench edge. The wall was aligned north / north-east to south / south-west and measured an excavated length of 1.64m, continuing beyond the limit of excavation (Plate 10). The wall was 0.23m wide and survived up to 0.67m high. The wall returned to the east/south-east and had an exposed length of 0.4m. The wall was 0.23m wide and survived up to 0.07m, continuing beyond the limit of excavation. Wall [205] was constructed of wire-cut red bricks laid in English Garden Wall bond and bonded with a hard, dark blackish grey, ashy mortar. This wall likely represented an internal wall of the north-west building, first shown on 1910 Ordnance Survey map (Figure 5).
- 6.4.7 Poured concrete formed a surface [206] between walls [203] and [205], which measured 3.4m by 1.8m wide and was 0.09m thick (see Plate 10). The surface continued past the limit of excavation. A large square shaped concrete moulded rise was within the concrete surface. The concrete floor surface was likely a later addition, potentially post-dating the 1930s.



Plate 10 Shot of Walls [205] (with ceramic pipe running alongside it) and [204], sand deposit (202) around a plastic pipe, and concrete surface [206] in Trench 2, looking south. Scale = 1 x 2m.

- 6.4.8 Wal [207] was aligned west/north-west to east/south-east and measured an observed maximum of 2.93m long, 0.65m wide and 0.68m high (Plate 11). Wall [207] was constructed of wire-cut red bricks laid in alternative header and stretcher bond and bonded with a hard, dark blackish grey, ashy mortar.



Plate 11 Shot of Wall [207] in Trench 2, looking east. Scale = 1 x 2m.

- 6.4.9 Further additions were made to the Woodhouse Mills complex in the early 20th century first shown on the 1929 Ordnance Survey map (Figure 6). Wall [204] ran parallel to wall [205]. The wall was built above concrete surface [206] and measured an exposed length of 1.73m, continuing beyond the limit of excavation. The wall was 0.23m wide and survived up to 0.88m high. The fabric of wall consisted of frogged red bricks laid in stretcher bond and bonded with a modern cement mortar (see Plate 10, above).
- 6.4.10 A modern plastic pipe had been inserted along the western face of wall [207] within a 1.58m long, 0.49m wide and 0.25m thick deposit of modern reddish-brown builders' sand (202) (Plate 10). The pipe and sand had likely been inserted after the room had gone out of use, probably during the late 20th century.
- 6.4.11 The remains of an L-shaped wall [208] were exposed in the north-east end of the trench, to the north-east of wall [207] (Plate 12). Wall [208] measured 1.55m long and 0.22m wide along its north-west to south-east alignment before it returned to the north-east to south-west measuring 1.04m long and 0.22m wide. The wall survived up to 0.19m high. The wall was constructed of modern,

frogged red bricks laid in stretcher bond and bonded with a modern cement mortar.



Plate 12 Shot of Wall [208] (right of concrete) in Trench 2, looking north-west. Scale = 1 x 2m.

- 6.4.12 All of the archaeological remains in Trench 2 were overlain by a dark greyish brown silty clay with frequent stone, concrete and brick rubble inclusions (201) that was likely generated during the demolition of the mill building. The demolition debris (201) had a maximum thickness of 1.12m.
- 6.4.13 Modern concrete [200] capped the demolition rubble measuring 0.23m thick and formed the modern ground surface.

6.5 Trench 3 (Figures 3-8)

- 6.5.1 Trench 3 was located to the south-east of Trench 2 and was positioned over the potential location of the original engine house in the block that was first shown on the Ordnance Survey map of 1910 (Figure 5; Lanpro 2024).
- 6.5.2 Trench 3 measured a maximum of 13.7m long, 3m wide and 1.9m deep (Plate 13). The southern end of the trench could not be excavated due to a false floor covering a c 2.5m drop.



Plate 13 General shot of Trench 3, looking north-east. Scale = 1 x 2m.

- 6.5.3 The earliest remains in Trench 3 were likely associated with the initial phase of construction of the north-west mill building that was first captured on the Ordnance Survey plan of 1910 (Figure 5). This included the remains of a potential stone-lined tank [305] and the remnants of a partially exposed stone-built structure [303].
- 6.5.4 The upper remains of a stone-lined tank [305] was exposed in the north-east end of Trench 3 (Plate 14). The potential tank was constructed from three large gritstone slabs (the fourth wall of the tank likely lay beyond the trench edge) that were held into position by iron rods. The tank had an exposed area of 2.6m by 1.8m, though it appeared to continue beyond the trench edges. The inner and outer faces of the stonework were stained red, potentially from dye. The tank had been truncated by the installation of a ceramic drainpipe encased in modern concrete, aligned broadly east to west.



Plate 14 Shot of Tank [305] in Trench 3, looking south-west. Scale = 2 x 1m.

- 6.5.5 Remnants of a stone structure [303] were identified in the south-east facing section of the trench. The stone structure was constructed from roughly hewn gritstone slabs. The structure consisted of two stone slabs laid horizontally. The uppermost slab was bordered by two stones of roughly equal proportions that were laid on-edge. The structural remains measured 1.5m by 0.6m, continuing beyond the limit of excavation, and survived up to 0.7m high.
- 6.5.6 A brick-built wall [304] ran parallel to the potential stone tank [305], approximately c 0.65m to the south of the tank. The wall was aligned north-west to south-east and measured 3m long, continuing beyond the trench edges. The wall was 0.25m wide and survived up to 0.07m high. The fabric of the wall consisted of machine-made bricks bonded with a light sandy mortar. The wall was built atop modern concrete foundations which had a maximum thickness of 0.43m, projecting 0.4m from the base of the wall.
- 6.5.7 A circular metal pipe ran parallel to the wall [304], in between the stone-built tank [305] and wall [304].
- 6.5.8 A concrete surface [302] was excavated in the south-western end of the trench. A single skin of reused handmade brick laid in stretcher bond and bonded with a hard black ashy mortar intermittently bordered the surface. The surface [302]

has an exposed area of 2.6m long by 1.5m wide. The surface was 0.1m thick and continued beyond the trench edge.

- 6.5.9 The structural remains within trench 3 were overlaid by a dark greyish brown silty clay with frequent stone, concrete and brick rubble inclusions (301). This layer was likely produced during the demolition of the mill building and measured a maximum thickness of 1.65m.
- 6.5.10 The current ground surface comprised modern concrete surface [300], which capped the demolition layer (301) and measured 0.25m thick.

6.6 Trench 4 (Figures 3-8)

- 6.6.1 Trench 4 targeted a rectangular building that formed part of the main mill block at Woodhouse Mill. The building was first shown on the 1893 plan (Figure 4). The 1910 plan (Figure 5) shows that the building was a separate structure potentially associated with the bleaching croft (Lanpro 2024).
- 6.6.2 The trench was aligned north-east to south-west and measured a maximum of 17.8m long, 3.1m wide and 2.2m deep (Plate 15). Site access prevented the trench from being fully excavated. The trench could not be entered due to health and safety constraints, therefore, all measurements were taken from ground level and were approximate.



Plate 15 General shot of Trench 4, looking north-east. Scale = 1 x 2m.

- 6.6.3 The remains of wall [403] were excavated in the south-western end of the trench, aligned north-west to south-east. The wall was constructed of modern, frogged bricks laid in stretcher bond and bonded with cement. Wall 403 had an exposed length of 2.5m long and was 0.35m wide. The wall continued beyond the limit of excavation and likely marked the external wall of the rectangular building first shown on the 1893 plan (Figure 4), although the fabric of the wall suggests that it was a mid-20th-century rebuild.
- 6.6.4 Wall [403] returned in a north-east direction and was visible in the north-west facing edge of the trench. The wall was mostly constructed from blue bricks with the upper surviving three to four courses being constructed in red brick.
- 6.6.5 The south-east facing trench edge collapsed revealing the partial remains of a brick wall. This wall was also likely a return of wall [403] however the junction of the walls was unexcavated and lay beyond the trench edge. The three returns of wall [403] survived up to c 2.2m high.
- 6.6.6 Walls [404] and [405] ran parallel to wall [403], aligned north-west to south-west. Both walls were constructed of modern frogged, blue and red bricks bonded with a modern cement mortar. Both walls measured a c maximum of 2.5m long and 0.4m wide. Wall [404] survived up to eight courses high (c 0.58m) at its north-western end, whilst wall [405] was only visible in plan, within concrete surface [402]. Both walls seemed to be keyed into wall [403].
- 6.6.7 A concrete floor surface [402] was excavated throughout the length of the trench at a depth of c 2.2m below the current ground surface.
- 6.6.8 The structural remains excavated within the trench were overlaid by a loose dark greyish brown silt that contained frequent brick, concrete and stone rubble (401). This layer likely represented demolition material that measured a maximum of 1.95m thick.
- 6.6.9 Modern concrete [400] sealed the demolition material (104) measuring between 0.1m to 0.25m thick. This created the modern ground surface.

6.7 Trench 5 (Figures 3-8)

- 6.7.1 Trench 5 targeted the bleaching croft, with the potential to contain the remains of dye vats, kiers and different areas of processing (Lanpro 2024). The trench was positioned over the main mill building that was first captured on mid-19th-

century mapping (Figure 3). The trench was aligned north-west to south-east and measured a maximum of 30m long, 2.3m wide and 1.4m deep (Plate 16).

- 6.7.2 The presence of large earthen bunds that surrounded the Site prevented the trench from being fully excavated. Furthermore, health and safety constraints prevented the trench from being entered therefore, all measurements were taken from the current ground level.



Plate 16 General shot of Trench 5, looking south-east. Scale = 1 x 2m.

- 6.7.3 The earliest remains encountered in Trench 5 included a flagstone surface [507], an area of brickwork [511-2] and iron piping [508] (Plate 17). Surface [507] was located near the centre of the trench, paving an exposed area of c 1.6m by 1.5m that continued beyond the limit of excavation. The surface was aligned east to west. The flagstones varied in size but had an average size of c 0.37m by 0.3m. No mortar was visible between the stone slabs.
- 6.7.4 The remnants of several brick and stone walls and iron piping were excavated in the north-west end of the trench (Plate 17). This area was later extended and included the fragmented remains of wall [508]. The wall [508] survived up to 0.22m high and was orientated north-east to south-west. The wall was c 0.60m and 1.23m long, continuing beyond the south-west trench edge. The fabric of the wall comprised reused handmade bricks bonded with blackish

grey mortar. The wall had been repaired by frogged bricks and cement along its south-east facing elevation.

- 6.7.5 A metal pipe [510] ran parallel to wall [508] that also continued beyond the south-west trench edge (Plate 17). The pipe had a diameter of 0.20m. A smaller connecting pipe extended south-east from the main pipe running across what appeared to be the truncated remains of the north-east end of wall [508]. The smaller pipe had a diameter of 0.06m. The pipe also continued to the north-west, aligned north-west to south-east before returning in a north-easterly direction. The pipe ran through wall [511] before it returned, running in between and parallel to walls [511] and [512].
- 6.7.6 The remains of an L-shaped wall [511] ran parallel to wall [508] (Plate 17). The wall was c 0.24m and c 1.58m long, before returning to the south-east measuring c 0.36m. The wall continued beyond the south-west trench edge. The wall survived up to c 0.14m and was built from handmade bricks and blackish grey mortar.
- 6.7.7 The north-east corner of a room was exposed in the north-west end of the trench (Plate 18). The room was demarcated by wall [512] that ran parallel to wall [511] for c 2.4m before returning to the north-west (measuring c 2.9m). The walls of the room were mostly c 0.48m wide and survived between 0.56m to 0.67m high (in the north-east facing section of the trench edge). The fabric of the wall consisted of a mixture of reused handmade bricks and machine-made bricks bonded with hard dark greyish black mortar. Modern cement had been used to repair some of the brickwork. Stone blocks had been incorporated into the north-west facing side of the wall. These may have been reused from an earlier phase of activity. A large stone slab abutted the north-west return and may have paved the room.



Plate 17 From left to right, wall [508], pipework [510], wall [511] and wall [512] in Trench 5, looking north-west. Scales = 2 x 1m.



Plate 18 View of potential north-east corner of a room demarcated by wall [512], showing stone inserts, looking north-west/west

- 6.7.8 The remains of concrete slabs and a rectangular metal sheet [502] were excavated in the south-east end of the trench (Plate 19). These were both aligned north to south and covered an exposed area of 3.45m by 1.09m. Each slab measured approximately 1.25m by 1.09m and were 0.1m thick. The rectangular metal plate measured 0.84m by 0.67m and was 0.01m thick. The concrete slabs and metal plate continued beyond the trench edge.

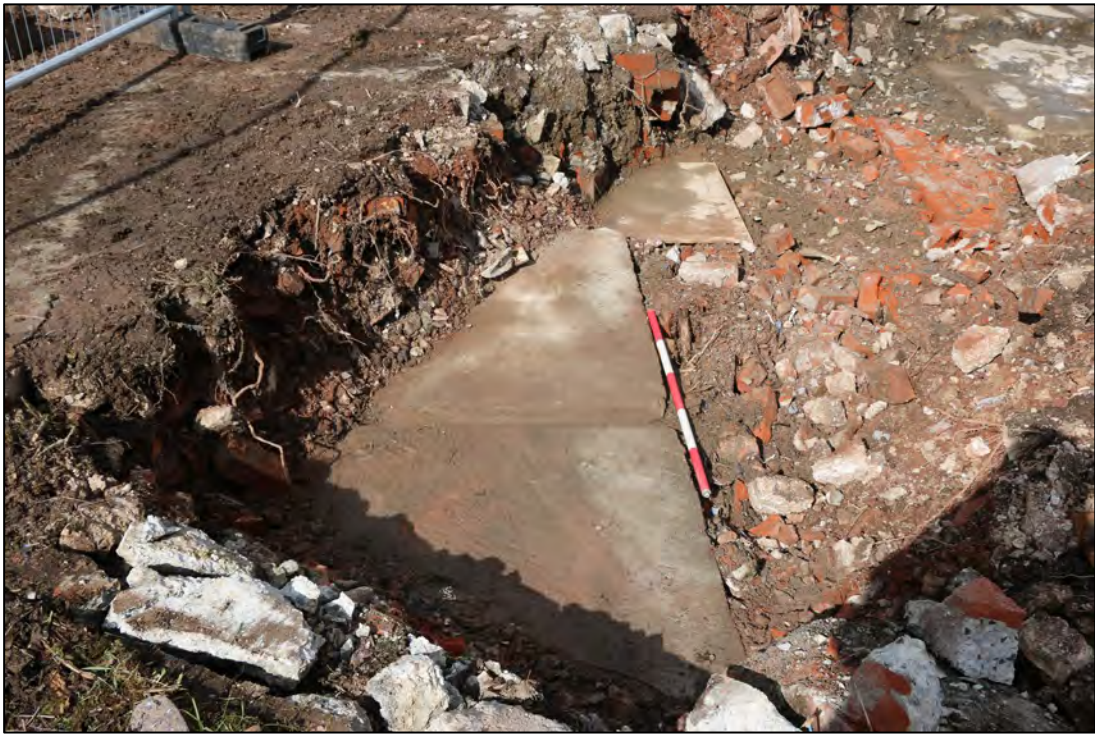


Plate 19 Shot of concrete slabbing and rectangular metal plate [502] in Trench 5, looking north. Scale = 1 x 1m.

- 6.7.9 The remains of a modern frogged brick wall bonded with a modern cement [503] were excavated to the north of the concrete slabs [502] (Plate 20). The wall was laid in stretcher bond and was aligned west/north-west to east/south-east. The wall measured 2.62m long, 0.23m wide and survived up to 0.15m high and continued beyond the limit of excavation.
- 6.7.10 A modern concrete floor surface [504] was excavated to the north-east of the wall [503] (Plate 20), covering an exposed area of 3.89m by 1.83m that extended beyond the trench edges. The concrete was 0.32m thick.



Plate 20 Shot of wall [503] and concrete [504] in Trench 5, looking west-north-west. Scale = 1 x 1m.

- 6.7.11 The remains of a sub-celled room bounded by L-shaped walls that were constructed from modern frogged bricks and modern cement [505] and [509] were excavated in broadly the centre of the trench (Plate 21). A doorway was built within the walls [505]/[509]. Both of these walls were laid in English Garden Wall bond. Wall [505] was 4.45m long, 0.23m wide and 1.22m tall along its east to west axis. The north to south return of the wall measured 0.59m long, 0.23m wide and survived up to 1.22m high (continuing beyond the south-west trench edge).
- 6.7.12 Wall [509] measured 1.05m long, 0.23m wide and survived up to 1.17m high along its north-west to south-east axis (Plate 21). The wall measured 0.59m long, 0.23m wide and survived up to 1.17m tall along its north-east to south-west axis. The north-west end of the wall had been truncated.
- 6.7.13 The surface of the room was paved with rectangular sandstone flags [506] (Plate 21). Each flag measured approximately 0.5m long, 0.3m wide and 0.03m thick. Mortar did not survive between the stone slabs. The surface measured 3m by 2m, continuing past the limit of excavation.



Plate 21 Shot of walls [505] and [509] and surface [506] in Trench 5, looking east. Scale = 1 x 1m.

6.7.14 All of the archaeological remains within Trench 5 were covered by a dark greyish brown silty clay that contained frequent brick, concrete and stone rubble and blue plastic fabric softener bottles (501). The layer was 1.2m thick (501) that was likely associated with demolition of the building.

6.7.15 This was sealed by a modern concrete surface [500] that was 0.18m thick.

6.8 Trench 6 (Figures 3-8)

6.8.1 Trench 6 was aligned north-west to south-east and measured 21.7m long, 2.6m wide and 1.05m deep (Plate 22). Trench 6 targeted the main mill building first shown on mid-19th-century mapping (Figure 3; Lanpro 2024).



Plate 22 General shot of Trench 6, looking north-west, showing concrete [606] and modern wall [605] in the foreground. Scale = 1 x 2m.

- 6.8.2 The earliest remains uncovered in Trench 6 included the partial remains of a boiler bed [602] and a possible engine bed [603], wall [604] and surface [607]. The remains of the boiler beds [602] and potential engine bed [603] were excavated in the north-west end of the trench, aligned north-west to south-east. The boiler bed and potential engine bed ran parallel to each other. Both were constructed of a mixture of handmade red bricks, yellow fire bricks, and stone blocks laid in stretcher bond. No mortar was visible in the lower courses of the structure, but hard grey mortar was present on some of the upper brick courses, potentially representing repair work.
- 6.8.3 The boiler bed [602] measured 6.79m long, 1.22m wide and survived up to 0.58m high (Plate 23). A large circular iron cap that had a diameter of c 0.62m lay on top of stonework at the south-eastern end of the boiler setting. The stone base measured 1.04m by 0.51m. The boiler bed continued beyond the trench edges.
- 6.8.4 The engine bed [603] was partly visible in the north-east facing section of the trench. It had an exposed length of 1.75m and was 0.57m high.



Plate 23 Shot of Boiler Bed [602] in Trench 6, looking north-west. Scale = 1 x 1m.

- 6.8.5 The remains of a brick surface [607] were excavated within broadly the centre of the trench however, as soon as this was uncovered, the trench quickly filled with water (Plate 24). The surface was constructed of handmade red brick and yellow fire brick laid in an irregular bonding pattern and bonded with a sandy lime mortar. The surface had an exposed length of 1.21m and a width of 1.5m, which continued beyond the limit of excavation.
- 6.8.6 At the south-eastern edge of brick surface [607], a north-west to south-east aligned brick wall [604] was excavated (Plate 24). The wall [604] was heavily truncated and was constructed from red wire-cut bricks bonded with a hard black ashy mortar and laid in stretcher bond. The wall measured an exposed length of 1.65m, continuing beyond the trench edge. The wall was 0.11m wide and survived up to c 0.15m high.



Plate 24 Shot of poorly preserved wall [604], also showing flooded area that covered surface [607]

- 6.8.7 A large concrete block [606] was excavated in the south-eastern end of the trench (Plate 22, p48). The concrete block [606] was aligned north-east to south-west and spanned the width of the trench (1.98m long), continuing beyond the trench edges. The concrete had an exposed width of 0.37m wide and survived up to c 0.18m high.
- 6.8.8 A wall constructed of modern frogged red bricks laid in stretcher bond and bonded with a modern cement mortar [605] lay to the north-west of the concrete block (Plate 22, p48). The north-east to south-west alignment of the wall measured 1.8m long before it returned at the wall's south-west end to the north-west measuring 0.8m long. The wall also returned at its north-east end towards the north-west measuring 1.92m long. The wall was c 0.22m wide and survived up to c 0.16m.
- 6.8.9 The structural remains were overlain by a mid-brownish orange silty clay with frequent small fragments of brick and stone rubble (601), which measured 0.81m thick. This layer (601) was likely associated with the demolition of the buildings on the Site. The trench was then sealed by a modern concrete surface [600] that was 0.25m thick.

6.9 Trench 7 (Figures 3-7 and 9)

- 6.9.1 Trench 7 targeted a building that was situated next to a weir that was first shown on the 1893 map (Figure 4) to ascertain what it functioned as, and if it was associated with the factory's water management or power systems (Lanpro 2024). The trench was aligned north-west to south-east and measured a maximum of 15m long, 3.2m wide and 2.6m deep (Plate 25).
- 6.9.2 The trench had to be repositioned 3.7m to the north-east of its original location due to the topography of the Site. Health and safety constraints prevented the trench from being excavated beyond a depth of 2.6m (due to collapsing trench edges).
- 6.9.3 A layer of greyish brown silty sand with frequent stone and brick rubble (700) was observed throughout the excavation of Trench 7, measuring 2.6m thick. This layer was likely created during the demolition of the pre-existing mill buildings on the Site.
- 6.9.4 Trench 7 was devoid of archaeological remains.



Plate 25 General shot of Trench 7, looking north-west. Scale = 1 x 2m.

6.10 Trench 8 (Figures 3-7 and 9)

6.10.1 Trench 8 targeted the north-western end of a building that was associated with Shepherds Mill, first captured on the 1851 map (Figure 3). The building lay close to a large weir that had been extended by the 1890s (Figure 4), potentially to include a chimney and stair tower (Lanpro 2024). The purpose of this trench was to ascertain whether the building was associated with the mill's water management system. The trench measured a maximum of 30.2m long, 3m wide and 2.65m deep (Plate 26).



Plate 26 General shot of Trench 8, looking south-south-east. Scale = 1 x 2m.

6.10.2 A light-yellow silty clay with frequent bedrock inclusions (801) was recorded between 1.05m and 1.85m below the current ground surface and represented the natural geology.

6.10.3 The natural geology was overlain by a very compacted dark grey crushed gritstone and rubble bedding layer (807) that measured 0.15m thick. The bedding layer was excavated directly below wall [803] and was likely

associated with levelling the ground before the foundation course was constructed (Plate 27).

- 6.10.4 The remains of a stone wall were excavated in the north-west end of the trench. The stone wall [803] was constructed above foundation deposit (807). The wall was aligned north-west to south-east and measured a maximum exposed length of 4.3m, continuing beyond the east edge of the trench. The wall was 0.6m wide and survived up to 0.34m high. The wall was constructed of roughly hewn sandstone and gritstone blocks that measured between 0.36m to 0.7m long, 0.26m to 0.33m wide and 0.08m to 0.1m thick (Plate 27). The wall included reused handmade bricks bonded with a hard black ashy mortar, which may have been used to repair the wall. The section of the wall that included bricks measured 0.39m long and was 0.11m high.



Plate 27 South-west facing elevation of foundation deposit (807) and wall [803], looking north-east. Scales = 2 x 1m.

- 6.10.5 The remains of two stone-built walls [806] were excavated in the south-west end of the trench. The walls ran parallel to each other with a gap of 1.5m between them (Plate 28). The walls were only visible in plan and likely represented the walls of a narrow channel that ran along the north side of the reservoirs (Figure 5). Both walls were aligned north-west to south-east and

measured an exposed length of 5.4m, continuing beyond the limit of excavation. The walls were 0.36m wide and were constructed of roughly hewn gritstone blocks measuring between 0.36m to 0.8m long, 0.3m to 0.33m wide and 0.08m to 0.1m thick.



Plate 28 Walls [806], looking north-west. Scale = 1 x 2m.

6.10.6 A large north-west to south-east aligned modern slipped red brick, and gritstone-built drain [805] lay in the south-east end of the trench (Plate 29). The drain was bounded by a modern red brick wall that was exposed in the east trench edge. The drain [805] measured 9.7m long, 0.7m wide and 2.16m high, continuing beyond the limit of excavation. The drain truncated earlier remains in this part of the Site.



Plate 29 Shot of Drain [805], looking north-east. Scale = 1 x 2m.

- 6.10.7 A dark greyish black rubble clay made ground (804) filled the area between the two stone-built walls [806]. The deposit was 1.4m thick and had a very strong hydrocarbon smell. The base of the deposit or channel was not fully excavated due to the water table.
- 6.10.8 A dark-greyish brown silty clay with frequent angular stone inclusions (802) overlay the archaeological remains within the trench. This material measured 0.67m thick and was likely created during the demolition of buildings in this part of the Site.
- 6.10.9 The demolition rubble (802) was sealed by a 0.08m to 0.15m thick modern concrete surface [800] which formed the modern ground surface.
- 6.11 Trench 9 (Figures 3-7, and 9)**
- 6.11.1 Trench 9 targeted the south-eastern extension of a building at Shepherds Mill (the same building excavated in Trench 8). The building had been significantly expanded during the first quarter of the 20th century, shown on the 1929 plan (Figure 6).
- 6.11.2 Trench 8 was aligned north-east to south-west and measured a maximum of 20.1m long, 2.7m wide and 2.4m deep (Plate 30).
- 6.11.3 The north-eastern half of the trench was excavated between 1.29m and 1.8m deep due to the water table. Therefore, the geological natural substrate (905) was not exposed in this part of the trench.



Plate 30 General shot of Trench 9, looking north-east. Scale = 1 x 2m.

- 6.11.4 A very compacted light yellowish-brown buff clay with occasional gritstone inclusions (905) was excavated in the south-west end of the trench and represented the natural geology. The natural geology (905) was excavated at a depth of 1.83m below the current ground surface.
- 6.11.5 The earliest structure observed in Trench 9 was excavated in the south-western half of the trench and consisted of a stone-built wall [904] that was cut into the natural geology (905). The wall [904] ran through the width of the trench (c 2.7m), continuing beyond the trench edges (Plate 31). The wall survived between 0.62m high and 1.10m high (in the south-west trench edge). The wall was c 1m wide and was constructed of roughly hewn gritstone blocks. The wall likely represented the north wall of a reservoir or an associated channel that fed the reservoirs.



Plate 31 South-west elevation of reservoir wall [904], looking north-east. Scale = 1 x 2m.

- 6.11.6 A continuation of the north-west to south-east aligned drain [903] exposed in Trench 8 was excavated to the north-east of wall [904]. Drain [903] was constructed of rolled steel joists (RSJ), modern slipped red brick, and roughly hewn gritstone blocks. The modern slipped red bricks each measured 215mm long, 102.5mm wide, and 65mm thick and were laid in stretcher bond, bonded with a modern cement mortar. The gritstone blocks were bonded with a hard black ashy mortar. Each wall measured 0.75m wide and was exposed to a height of 1.8m. The channel between the walls measured 1.2m wide and 0.9m deep.
- 6.11.7 A greyish-black clay (902) filled the area to the south-west of wall [903], which was likely associated with the backfilling of the reservoir when it had gone out of use. The deposit covered an area of 4.8m by 2.4m, which extended beyond the trench edges. The deposit was excavated to a maximum depth of 0.4m however, it was not fully excavated due to the water table. The deposit smelled strongly of hydrocarbons.
- 6.11.8 A dark greyish black silty clay with frequent stone and brick rubble (901) overlay the structural remains excavated within the trench. The layer measured

between 1.29m to 2.0m thick and likely resulted from the demolition of the former mill building.

6.11.9 A modern rebar concrete surface [900] sealed layer (901). The concrete surface measured between 0.14m and 0.25m thick and formed the current ground surface.

6.12 Trench 10 (Figures 3-7, and 9)

6.12.1 Trench 10 was located across a former building in the south-east of the Site that was part of Shepherds Mill. The building occupied a platform and was south of a water channel that entered the building (Lanpro 2024). The building was first captured on the 1851 plan (Figure 3) and had been expanded by 1893 (Figure 4).

6.12.2 Trench 10 was aligned north-east to south-west and measured a maximum of 10.4m long, 3.8m wide and 2.4m deep (Plate 32). The trench had to be shortened due to its proximity to a metal fence that separated the Site from the brook.

6.12.3 Health and safety constraints (constantly collapsing trench edges) prevented the trench from being entered, therefore, all archaeological remains were recorded from the top of the trench.



Plate 32 General shot of Trench 10, showing wall [1003] in the foreground, looking north-east.

Scale = 1 x 2m.

- 6.12.4 The poorly surviving remains of a handmade brick wall [1003] were excavated in the south-west end of the trench (Plate 32). The wall was laid in stretcher bond and measured 2.2m long and 0.24m wide. The wall was only visible in plan and could not be excavated further.
- 6.12.5 A large stone slab [1004] was excavated to the north-east of wall [1003] (Plate 33). The stone slab measured 2.2m by approximately 0.6m wide. The stone was interpreted as possibly representing the remains of a machine bed [1004] however, it seems to correlate with the north external wall of the mill building (Figure 4).



Plate 33 General shot of machine bed [1004], looking north-east.

- 6.12.6 A stone-built wall [1005] aligned west/south-west to east/north-east was excavated in the north-east end of the trench, temporarily visible within the south-west facing section of the trench (Plate 34). The wall was likely an external wall of a building associated with Shepherds Mill and was constructed of roughly hewn stone blocks bonded with a hard black ashy mortar. The wall had a buttress that measured 0.9m wide. No further measurements could be obtained due to the trench edges collapsing.



Plate 34 Shot of wall [1005] partly visible in the north-east end of the trench, looking south-west

6.12.7 A dark greyish brown silty clay that contained frequent stone and brick rubble (1002) overlaid all of the archaeological remains in Trench 10. The layer was excavated to a depth of c 2.4m however, the bottom of the layer was not excavated due to health and safety constraints.

6.12.8 Demolition layer (1002) was overlaid by a crushed stone levelling deposit that measured a maximum thickness of 0.1m (1001).

6.12.9 The levelling layer (1001) was sealed by a 0.14m thick an asphalt surface [1000] which created the modern ground surface.

6.13 Trench 11 (Figures 3 to 7, and 9)

6.13.1 Trench 11 was targeted to assess internal features of the mill building in the south-east of the Site (the same building that was targeted in Trench 10) to ascertain its probable function (Lanpro 2024).

6.13.2 Trench 11 had to be moved 3m north-east of its original location due to the position of a metal fence that bordered the bank of the brook.

6.13.3 Trench 11 was aligned north-west to south-east and measured a maximum of 9.6m long and 2.3m wide.

6.13.4 The trench was excavated to a maximum depth of 3.2m due to health and safety constraints.

- 6.13.5 No archaeological features or structures were observed in Trench 11.
- 6.13.6 A silty clay with frequent brick and stone rubble (1101) filled Trench 11 (Plate 35), measuring c 3.06m deep. This was likely created by the demolition of buildings on the Site.
- 6.13.7 A modern asphalt surface [1100] overlay the demolition layer (1101) and measured 0.14m thick.



Plate 35 South-west facing section of Trench 11, looking north-east. Scale = 1 x 2m.

6.14 Archaeological Mitigation

- 6.14.1 Following consultation with GMAAS, further excavation was required in the form of a three open area trenches. Mitigation was undertaken between 8th and 12th April 2024. The excavation areas extended evaluation Trenches 2 and 3, Trench 5 and Trench 6.

6.15 Area A (Figures 3, 8 and 10)

- 6.15.1 Area A lay between evaluation trenches 2 and 3 (Plate 36) targeting an area that contained stone-lined tanks that likely correlated with a building that was first shown on the 1910 plan (Figure 5) and extended by 1929 (Figure 6) that may have undertaken the dyeing process.

6.15.2 The natural geology was not exposed within Area A. All of the structural remains excavated within Area A seemed to be constructed on top of a layer of mid-brownish grey silty sand that contained frequent irregular stones (2008). The base of the made ground deposit (2008) was not excavated and had a maximum exposed depth of c 2.1m.



Plate 36 General shot of Area A, showing a series of stone-lined tanks looking south-east.

Scales = 2 x 1m

6.15.3 The earliest remains uncovered in Area A comprised brick walls [2001] and [2012]; four stone-built dye tanks [2004], [2005], [2006], and [2007] and brick-built base [2011].

6.15.4 In total, four stone-built tanks were partly or fully exposed within the excavation area. A stone-built dye tank [2004] was excavated in the north-west of the excavation area (Plate 37). The stone-built tank was aligned north-west to south-east and measured 2.51m by 1.96m wide. The tank had an exposed height of 0.75m. The fabric of the tank consisted of roughly hewn gritstone slabs that varied in size between 1.54m to 2.54m long, 0.55m to 0.56m wide and 0.18m to 0.22m thick. The stone walls of the structure were pinned together using long iron rods and pins. Red dye stained the exterior faces of the stone tank. The tank was heavily truncated.



Plate 37 Shot of dye tank [2004], looking south-east. Scales = 2 x 1m.

6.15.5 Stone-built dye tank [2005] was partly excavated in the south-west edge of the trench (Plate 38). The dye tank was also aligned north-west to south-east and measured an exposed area of 2.1m by 1.22m. The tank continued beyond the limit of excavation. The tank had an exposed height of 0.83m formed from two courses of stone slabs. The tank was of the same construction as tank [2004]. The exterior stone faces of the tank were stained black. The tank was also heavily truncated.



Plate 38 Shot of dye tank [2005], looking south-west. Scales = 2 x 1m.

6.15.6 A third stone-built dye tank [2006] was located south-east of tank [2005]. The tank was roughly square measuring 2.16m by 2.04m and had an exposed height of 0.67m (Plate 39). The tank [2006] was of the same construction as dye tanks [2004] and [2005]. Each stone slab measured between 2.16m to 1.4m long, 0.48m to 0.5m wide and 0.22m thick. The internal stone faces were stained by black dye. The interior of the tank was also excavated revealing the stone base of the tank. The stone slab base had a sub-circular plug hole cut into the corner that was plugged with a metal stopper.



Plate 39 Shot of stone-built tank [2006], looking east. Scales = 2 x 1m.

6.15.7 A fourth stone-built tank [2007] (recorded as [305] during the evaluation) was located north-east of tank [2006] (Plate 40). The tank was also aligned north-west to south-east and measured a maximum exposed area of 1.96m by 1.76m, continuing beyond the south-east trench edge. The tank survived up to 0.78m high. Tank [2007] was of the same construction as the other three tanks described above. Each stone slab measured between 1.4m to 1.76m long, 0.55m wide and 0.2m to 0.26m thick. Red dye stained the external faces of the stonework. The stone tank was heavily truncated by a modern drainpipe set in concrete (as described above, Trench 3, p37).



Plate 40 Shot of dye tank [2007], looking east. Scales = 2 x 1m.

- 6.15.8 The south-east end of a wall [2001] (recorded as wall [207] during the evaluation) was excavated in the north-west of the trench. The wall was aligned west/north-west to east/south-east and measured an exposed maximum length of 3.14m. The wall was 0.4m wide and survived up to 0.57m high. The wall was constructed of wire-cut red bricks laid in alternative header and stretcher bond and bonded with a hard black ashy mortar.
- 6.15.9 The remnants of a short wall stub [2012] were excavated to the south-east of wall [2001]. The wall was aligned north-west to south-east and measured 1.23m long, 0.33m wide and survived up to 0.35m high. The wall was constructed of wire cut red bricks laid in English Garden Wall bond and bonded with a hard black ashy mortar.
- 6.15.10A square brick-built base [2011] was located immediately south-west of dye-tank [2004]. The brick base measured 0.82m by 0.82m and had an exposed height of 0.3m (Plate 41). The brick base was constructed of wire-cut bricks laid in an irregular bonding pattern and bonded with a hard black ashy mortar.



Plate 41 Shot of brick-built base [2011], looking north-west. Scales = 2 x 1m.

6.15.11 The remains of a modern frogged brick and cement mortar wall laid in stretcher bond [2000] (the same as wall [204] excavated in Trench 2) was excavated in Area 3. The wall was aligned north/north-east to south/south-west and measured 4.48m long, 0.23m wide and survived up to 0.73m high (Plate 42).



Plate 42 Shot of wall [2000], looking north-west. Scales = 2 x 1m.

6.15.12A large modern brick-built manhole [2013] was excavated east of wall [2000].

The manhole was aligned north-west to south-east and was constructed of modern frogged red bricks laid mainly in stretcher bond and bonded with a modern cement mortar. The manhole had three iron drainpipes entering it on different sides and contained stagnant water.

6.15.13A modern frogged brick stanchion [2002] was excavated to the south-east of the manhole (Plate 43). The stanchion was bonded with a modern cement mortar. The stanchion measured 1.4m by 1.36m and had an exposed height of 0.8m. The base of the stanchion was not excavated. The stanchion was partly capped by a stone flag (to which it was bonded), and a square concrete block.



Plate 43 Shot of stanchion base [2002], looking north-west. Scales = 2 x 1m.

6.15.14The remains of part of a modern frogged brick wall [2003] were excavated to the north-west of dye tank [2005]. The wall was laid in stretcher bond and bonded with a hard dark grey mortar. The wall was aligned north-west to south-east and had an exposed length of 1.5m, continuing beyond the limit of excavation. The wall was 0.23m wide and survived up to 0.48m high.

6.15.15All of the archaeological remains in Area A were covered by a dark brownish grey silty clay that contained frequent stone, concrete and brick rubble (2009).

This layer was likely associated with the demolition of the former building and measured up to 1.27m thick.

6.15.16 The area was sealed by a modern concrete surface [2010], which measured between 0.14m to 0.25m thick.

6.16 Area B (Figures 3, 8 and 11)

6.16.1 Area B extended the north-east end of evaluation Trench 5, targeting the interior of the main building at Woodhouse Mill (Plate 44)



Plate 44 General shot of Area B, looking north-west. Scales = 2 x 1m.

6.16.2 The remains of a probable machine bed [4002] were excavated in the north-east end of the trench. The machine bed was aligned east to west and consisted of a large sandstone block measuring an exposed length of 3.3m, continuing beyond the north-east trench edge. The stone bed was 0.66m wide and 0.3m thick. In total, four holes had been cut into the surface of the stone bed, presumably to fix a machine to the floor (Plate 45).



Plate 45 Shot of Machine bed [4002], looking east. Scale = 1 x 2m.

- 6.16.3 The remains of a series of poorly preserved brick walls and stone blocks survived to the south-east of the machine bed (Plate 46). An east to west aligned sandstone foundation block [4003] was excavated to the south-west of the machine bed. The sandstone block measured 1.4m long by 0.55m and 0.3m thick.
- 6.16.4 The remnants of an L-shaped wall [4004] were constructed above the stone block [4003] (Plate 46). Wall [4004] was constructed of handmade red bricks laid in stretcher bond and bonded with a hard black ashy mortar. Modern frogged red brick had been used to repair part of the wall. The wall measured 0.64m long, 0.25m wide and survived up to 0.1m high along its north-east to south-west alignment, before returning to the south-west. The south-west to north-east return of the wall measured 0.36m long.
- 6.16.5 Remains to the north-east of wall [4004] were excavated in Trench 5 and included walls [511] and [512] and pipework [510] (described in the evaluation section, above).
- 6.16.6 A large sandstone block [4005] was excavated to the south-west of wall [512] excavated within Trench 5 (Plate 46). The sandstone block had a single hole drilled into its upper face suggesting it may have functioned as a small machine bed, potentially associated with the bleaching plant. The stone block measured 0.7m by 0.63m and was 0.24m thick.

- 6.16.7 In total, two north-west to south-east aligned walls ran parallel to each other to the south of the stone block [4005]. Wall [4006] was constructed of handmade, bricks laid in header bond and bonded with a hard black ashy mortar. The wall measured a maximum of 3.2m long, 0.26m wide and had an exposed height of 0.26m. The wall was truncated in three sections along its length.
- 6.16.8 Wall [4007] ran c 0.4m to the south of wall [4006]. The wall was of the same construction as wall [4006] and measured 4.6m long, 0.23m wide and survived up to 0.46m high (Plate 46).
- 6.16.9 The fragmented remains of occasional flagstones were evident between the two walls (Plate 46). These were laid above a dark brownish-black stoney-silt levelling deposit (4010), that covered the iron pipe [510]. The pipe ran between the walls and was covered by deposit (4010) and capped by the fragmented remains of flagstones.



Plate 46 From left to right, shot of walls [4004], stone block [4005], walls [4006] and [4007], looking east. Scales = 2 x 1m.

- 6.16.10 Wall [4008] was located to the south-east of wall [4007]. The wall was aligned north-east to south-west and measured an observed maximum length of 1.35m, continuing beyond the south-west limit of excavation. The wall was 0.24m wide, with a stepped foundation course visible at the base of the wall

(full width 0.33m). The wall survived up to 0.42m high. The wall was constructed of handmade brick laid in stretcher bond and bonded with a hard black ashy mortar.

6.16.11 Running parallel to wall [4008], were the remains of wall [4011], which lay to the south-east (Plate 47). The wall [4011] was constructed of reused handmade bricks laid in alternating stretcher and header bond and bonded with a hard black ashy mortar. The wall measured an observed maximum length of 2.7m long, continuing past the south-west limit of excavation. The wall was 0.23m wide and survived up to 0.38m high. An iron pipe was located beneath the wall which was visible at the northern extent of the wall.

6.16.12 A single skin wall (0.11m wide) [4012] was excavated a short distance to the south of wall [4011]. Wall [4012] ran parallel to wall [4011] and measured an observed maximum of length of 3.04m long, continuing beyond the south-west limit of excavation (Plate 47). The wall was constructed of handmade, bricks laid in stretcher bond and bonded with a hard black ashy mortar.

6.16.13 A substantial brick wall [4013] was excavated to the south of wall [4012]. The north-east end of the wall was previously excavated in Trench 5, recorded as [508]. The wall was located east of and ran parallel to wall [4012] and measured an observed maximum length of c 5m, possibly continuing beyond the south-west limit of excavation. The wall was 0.75m wide and survived up to 0.87m high (Plate 47 and Plate 48). Wall [4012] was constructed of a mixture of wire-cut red brick and yellow fire brick and had a large stone slab atop its south-western end. The yellow firebricks were predominantly used within the upper surviving course of the wall. The bricks were laid in English Garden Wall bond and bonded with a hard black ashy mortar. A very large ceramic pipe protruded out of the south-eastern face of the wall at its centre.



Plate 47 From left to right, walls [4013], [4012] and [4011], looking south. Scale = 1 x 2m.

- 6.16.14 Wall [4014] ran south-east to north-west between wall [4013] and wall [4015] forming the south-west end of a sunken tank or brick-built chamber that was demarcated by walls [4013], [4014], [4015] and [4020] (Plate 48). The wall measured 1.55m long, 0.28m wide and survived up to 0.94m high. Wall [4014] was constructed of wire cut bricks laid in English Garden Wall bond and bonded with a hard black ashy mortar.
- 6.16.15 Wall [4015] ran parallel to wall [4013] and measured an exposed length of 2.37m, potentially continuing beyond the south-west trench edge (Plate 48). Wall [4015] was constructed of wire-cut red bricks laid in English Garden Wall bond and bonded with a hard black ashy mortar. A large gritstone block was situated along the north-western face of the wall however, it was not *in-situ* and lay on top of demolition rubble (4001). The wall was 0.88m wide and survived up to 0.84m high.
- 6.16.16 A single skin, L-shaped wall [4020] ran in a north-west to south-east alignment adjoining the south-east face of wall [4013]. The wall measured 1.49m long, along its north-east to southwest axis, before it returned to the south-west measuring 0.7m long (Plate 48). The wall survived up to 0.24m high. Wall [4020] was constructed of wire cut red bricks laid in stretcher bond and bonded with a hard black ashy mortar.

6.16.17A concrete floor surface [4019] was excavated at a depth of c 1m below the current ground surface creating the surface between walls [4013], [4014], [4015] (Plate 48). The floor surface [4019] measured 2.92m by 1.41m.

6.16.18 The truncated remains of a pipe overlay the concrete surface [4019] and ran through single skin wall [4020] (Plate 48). The pipe seemed to have been bounded by a mixture of firebrick and wire-cut bricks that survived in poor condition.



Plate 48 Shot of walls [4015] (left), [4020] in the foreground, [4014] in the background and [4013] (right), and surface [4019], looking south. Scales = 2 x 1m.

6.16.19A modern manhole [4016] lay on the south-west side of wall [4015] bounded by modern brick walls. The manhole was capped by two large concrete slabs (Plate 49). Each of these slabs measured 0.89m long, 0.56m wide and 0.05m thick. The manhole was approximately 1m by 1.25m.

6.16.20A concrete encased metal pipe [4017] ran immediately to the south-east of the manhole [4016] and was aligned north-east to south-west (Plate 49). The concrete structure measured a maximum exposed length of 1.81m, continuing beyond the south-west limit of excavation. The pipe measured 0.53m wide and 0.18m thick. A small area of modern frogged red bricks laid in stretcher bond

were observed around the north-east end of the feature. The pipe ran vertically through the south-west end of the concrete.

6.16.21 The structural remains of a second concrete feature [4018] ran alongside and parallel to [4017]. The structure consisted of concrete that was flanked on either side by a row of modern frogged bricks laid in stretcher bond and bonded with a modern cement. The concrete and brick structure measured an observed maximum length of 2.5m long, which continued beyond the south-west limit of excavation. The feature measured 0.49m wide and survived up to 0.09m high. A large pipe ran vertically through the south-west end of the concrete (Plate 49).



Plate 49 From left, manhole [4016], and concrete and brick features [4017] and [4018], looking north. Scales = 2 x 1m.

6.16.22 All of the archaeological remains discussed above were covered by a dark greyish brown silty clay with frequent stone and brick rubble inclusions (4001). The layer was 0.96m thick and was likely associated with the demolition of buildings on the Site.

6.16.23 The demolition layer (4001) was sealed by concrete [4000], which created the modern ground surface and measured 0.14m thick.

6.17 Area C (Figures 3, 8 and 10)

6.17.1 Area C extended evaluation Trench 6 to the north-west, targeting Woodhouse Mill's steam power plant, first shown on the 1851 map (Figure 3; Plate 50).



Plate 50 General shot of Area C, looking north-west. Scales = 2 x 1m.

6.17.2 A north-west to south-east aligned wall [3003] was visible in the south-western edge of the trench, running north-west to south-east. The wall measured an observed maximum length of 5.55m, continuing beyond the south-east limit of the excavation. The wall was 0.35m wide and survived up to 0.57m high (Plate 51). The wall was constructed of handmade bricks laid in stretcher bond with some half bricks and bonded with a hard black ashy mortar.

6.17.3 A large sandstone block [3008] was built within the north-western end of wall [3003] which measured an excavated length of 2.2m long, continuing beyond the north-west trench edge. The stone measured 0.4m wide and was 0.6m high, with courses of brick work [3003] running beneath it (Plate 51). Sandstone block [3008] was roughly hewn and may have functioned as a machine bed, although no fixings were visible.



Plate 51 Shot of sandstone block [3008], at the north-western end of wall [3003] looking south-west. Scales = 2 x 1m.

6.17.4 A large north-east to south-west aligned gritstone slab [3004] was excavated at the north-western end of Area C (Plate 52). The stone slab was excavated at a depth of c 0.3m below the current ground surface and had an excavated area of 3.6m by 1.75m. The stone slab was 0.64m thick and continued beyond the north-west and north-east limit of excavation. The slab was roughly hewn and had a line of fragmented gritstone pieces bonded along its south-eastern edge laid in no particular pattern and bonded with hard black ashy mortar. This feature was likely another machine bed. No machine fixings were observed on the surface of the stone however, a large iron pipe ran parallel with the stone block along its south-eastern edge.



Plate 52 Shot of gritstone block [3004], looking south-west. Scales = 2 x 1m.

- 6.17.5 In total, two north-west to south-east aligned engine beds [3005] and [3006] were excavated within the centre of Area C (initially visible within the south-west edge of Trench 6 recorded as [603]). The engine beds ran parallel to the boiler bed [602] that was excavated during the evaluation.
- 6.17.6 Engine bed [3005] was the north-westernmost bed, which measured 3.3m by 1.68m and was 0.9m high (Plate 53). Engine bed [3005] was rectangular in plan and was constructed of handmade red brick laid in stretcher bond and bonded with a sandy lime mortar. In total, four machine fixings were observed on the upper face of engine bed [3005].
- 6.17.7 Engine bed [3006] was of the same construction as engine bed [3005] and lay directly to the south-east (Plate 54). Engine bed [3006] was almost identical in size to [3005] measuring 3.3m by 1.7m and 0.86m high. In total, three machine fixings were observed on the upper face of engine bed [3006].
- 6.17.8 The engine beds were separated by a stone slab, which had a series of rectangular depressions and iron fastenings or restraining bolts visible on the surface of the slab [3007] (Plate 55). The iron fixings were fastened to the stone slab [3007], which was situated 0.37m lower than the surface of the engine beds (which were excavated 0.23m below the current ground surface). The

area measured 1.65m by 1.7m wide and was 0.16m high. The remains of timber were also recorded though they were very badly preserved.



Plate 53 Shot of engine bed [3005], looking south-east. Scales = 2 x 1m.



Plate 54 Shot of engine bed [3006] bordering boiler bed [602], looking south-west. Scales = 2 x 1m.



Plate 55 Shot of machine fixings, slab and brickwork [3007] connecting the engine beds, looking south-west. Scales = 2 x 1m.

6.17.9 A narrow asphalt channel [3009] ran alongside the south-western edge of engine beds [3005] and [3006]. The surface measured 9.1m long and 0.98m wide and likely continued beyond the trench edges (Plate 56). No flywheel pit was excavated.



Plate 56 Shot of asphalt channel [3009], looking north-west. Scale = 1 x 2m.

6.17.10A compacted grey crushed stone layer (3002) measuring approximately 0.42m thick overlay the stone machine bed [3004] in the north-west of the excavation area.

6.17.11All archaeological remains in Area C were later overlaid by a dark greyish brown silty clay containing frequent stone and brick rubble inclusions (3001). The layer measured 1.03m thick and was likely associated with the demolition of buildings on the Site

6.17.12The entire area sealed by a modern concrete surface [3000] that formed the modern ground level. The concrete measured 0.14m thick.

7 DISCUSSION

7.1 Introduction

7.1.1 The following section attributes the deposits and archaeological features recorded on the Site to six broad phases (see Appendix 1).

7.2 Phase 1: Geological Natural Substrate

7.2.1 The earliest deposit encountered on Site was the geological natural substrate (801)/(905) which comprised a light buff yellowish-brown sandy clay with occasional grit stone inclusions.

7.2.2 The geological natural substrate was exposed in Trenches 8 and 9, only. The natural geology was excavated between 1.05m and 1.85m below the current ground surface in Trench 8 and at a depth of 1.83m below the modern ground surface in Trench 9.

7.3 Phase 2: Early to mid-19th century (Figure 3)

7.3.1 Woodhouse Mill

7.3.2 The fabric of engine beds [3005] and [3006] (partially excavated in Trench 6 and recorded as [603]) consisted of handmade bricks and sandy lime mortar. These were the only structural remains that were bonded with lime mortar and therefore represent the earliest phase of activity at Woodhouse Mill. The two engine beds were situated within the main mill building first shown on mid-19th-century mapping (Figure 3). No flywheel pit was encountered.

7.3.3 The engine beds ran parallel to a handmade brick and fire brick boiler bed [602], which lay immediately to the north of the engine beds. The boiler bed was likely contemporary with the engines. Mortar did not survive within the lower courses of the boiler bed. This is consistent with mortar in boiler beds generally being granular and loosely compacted, with a high sand content, to retain heat but also to allow flexing of the structural fabric during repeated cycles of heating and cooling. The upper courses of the boiler bed were bonded with hard grey mortar, suggesting that the boiler bed had been repaired in the late 19th century.

7.3.4 Machine bed [3008] may have also been contemporary with the engine and boiler beds, though this is unclear as no dating evidence was yielded.

7.3.5 The 1893 map (Figure 4) shows the engine and boiler house as a separate square building at the north-east end of the main mill building. The archaeological remains exposed in Trench 6 and Area C confirm that the north-east part of the building functioned as the engine and boiler house (Figure 3 and 4).

7.3.6 **Shepherds Mill**

7.3.7 Wall [904] was excavated in the south-west end of Trench 9. The wall roughly corresponds to a channel that fed the reservoirs or could have marked the north boundary wall of a reservoir first shown on mid-19th-century mapping (Figure 3). The wall was constructed of stone. No mortar was visible between the stone courses. Wall [904] likely had its origins in the first half of the 19th century (Figure 3).

7.3.8 In total, two walls (both recorded as [806]) exposed in the south-east end of Trench 8 roughly correlate with a channel that fed the reservoirs at Shepherds Mill, first shown on the 1851 plan (Figure 3). The walls were stone-built but the upper courses of the walls were bonded with hard greyish black mortar that generally post-dates 1863. This could suggest the upper courses of the walls had been repaired during the late 19th century. The walls were only visible in plan.

7.3.9 Similarly, wall [803] was constructed of stone, though repairs had been built in reused handmade bricks and hard greyish black mortar. The wall follows the same alignment as a building at Shepherds Mill and likely formed an internal wall. The building first appears on the 1851 map (Figure 3). The wall may have originally been built in the first half of the 19th century and repaired in the late 19th century.

7.4 **Phase 3: Late 19th century (Figure 4)**

7.4.1 **Woodhouse Mill**

7.4.2 The majority of the remains uncovered in Trench 5 and Area C likely dated to the late 19th century with many of the structures constructed using reused handmade and wire cut bricks, bonded with hard blackish grey mortar (Figure

4). They consisted of walls [508-9], [511-2], [4003-4008], [4011-5], wall [4020], machine bed [4002] and [floor 507], which represented the internal workings of Woodhouse Mill, with several repairs and additions constructed in modern frogged bricks and cement.

7.4.3 Walls [4011-5], [4020], [508-12] and pipework [510] may have been associated with the steam power plant and machinery. The sub-cellar room or tank bounded by walls [4013], [4014], [4015] and [4020] had ceramic drains built into it. Fire bricks were evident within the upper surviving course of wall [4013]. The feature was likely associated with the bleaching process. Both bleaching and souring cisterns and roller washing machines consisted of sunken brick-built structures, which machinery was inserted into and secured into place by restraining bolts. The presence of ceramic drains within wall [4013] and [4020] may suggest that the sunken brick-built feature held liquid. The rectangular cellared area may have been associated with such machinery (Plate 4, p19; Plate 6, p21).

7.4.4 Machine bases [4002], [305] and [308] were likely associated with bleaching plant, such as that described in section 4.6, p17-24).

7.4.5 **Shepherds Mill**

7.4.6 A stone slab [1004] was partly uncovered in Trench 10, which correlates with the north-west external wall of a building first shown on the 1893 map (Figure 4). Wall [1005] also likely dates to this phase and may represent an internal wall. Brick wall [1003] may also likely date to this phase though it survived in poor condition.

7.5 **Phase 4: early 20th century (Figures 5 and 6)**

7.5.1 **Woodhouse Mill**

7.5.2 The majority of the structural remains excavated within Trench 2, 3 and Area A were likely associated with this phase of activity correlating with a building that was first shown on the 1910 plan (Figure 5) and extended by 1929 (Figure 6). This included square-shaped brick-built base [2011] located south-west of tank [2004] and wall [2012]. Wall [2001] (recorded as [207] during the evaluation), and wall [2003] likely represented external walls of the dye complex. In total, four stone-built tanks [2004], [2005], [2006], and [2007]

(recorded as [305] during the evaluation) and tank [303] also likely dated to this phase, together with walls [203], [2000] (recorded as [204] during the evaluation), [205], [207], and potentially surface [206] and stone flag surface [302].

7.5.3 **Phase 5: Mid-20th century**

7.5.4 **Woodhouse Mill**

- 7.5.5 Walls [607], [605] and single-skin wall [604] likely date to this phase of activity, as they correlate with the east expansion of Woodhouse Mill that is first shown on the 1963 map (Figure 7). They were built using frogged bricks and cement. Concrete surface [606] may also date to this phase.
- 7.5.6 Several 20th-century alterations were also evident within Trench 5 and Area B and were likely associated with the continuous use of Woodhouse Mill. These included metal and concrete slab floor surface [502], wall [503], a sub-cellar room that was demarcated by walls [505], and [509], concrete floor surface [504], concrete manhole cover [4016], concrete and metal pipe features [4017] and [4018]. The walls consisted of frogged bricks with cement.
- 7.5.7 Walls [403] and [405], and surface [404] were contemporary features. Despite them falling within the original footprint of Woodhouse Mill, they are likely to represent a rebuild, potentially associated with mid-20th-century expansion of the mill shown on the 1963 plan. The walls consisted of frogged bricks and cement.
- 7.5.8 Other mid-20th-century alterations could include walls [304] and [2003], L-shaped wall [208], concrete stanchion base [2002] and modern plastic drainpipes surrounded by a deposit of builders' sand (202).

7.6 **Phase 6: Site clearance and levelling**

- 7.6.1 A large drain [805] / [903] was inserted through the area of the former Shepherds Mill after it went out of use.
- 7.6.2 The reservoirs or reservoir channels noted on historic mapping were backfilled with clay (902) / (804).
- 7.6.3 A crushed stone levelling deposit (3002) overlaid machine bed [3004], and the entire area was sealed by demolition rubble (3001).

- 7.6.4 Made ground (102) formed the majority of the material excavated in Trench 1, which was overlaid by demolition rubble (101), which is likely to be associated with the demolition of Woodhouse Mill.
- 7.6.5 Demolition rubble (101, 201, 301, 401, 501, 601 700, 802, 901, 1002, 1101, 2009 3001, 4001) overlay all of the structural remains within the Site created during the demolition of Woodhouse Mill and Shepherds Mill.
- 7.6.6 A layer of crushed stone packing (1001) overlay the demolition layer (1002) in Trench 10, which was then sealed by a deposit of asphalt (1000), which formed the current ground surface in this part of the Site.
- 7.6.7 Similarly, demolition layer (1101) in Trench 11 was also overlaid by asphalt (1100), which formed the current ground surface in this part of the Site.
- 7.6.8 The demolition layers elsewhere in the Site were overlaid by concrete [100, 200, 300, 400, 500, 600, 800, 900, 2010, 300, 4000] which formed the current ground surface.

7.7 Unknown

- 7.7.1 The above ground remains of walls associated with Shepherds Mill bordered the northern edge of the Site boundary, surviving up to c 2m (Plate 57). Several materials and phases of construction were evident within the wall including stone, reused stone blocks, concrete and bricks. The phasing sequence is likely to span the mid-19th century to mid-20th century. These walls were not recorded as part of the excavation or evaluation.



Plate 57 Shot of extant 19th century walls in southern area of Site, looking north. Scale = 1 x 2m

8 CONCLUSIONS

8.1 Key Results

- 8.1.1 In summary, the archaeological investigation has demonstrated that archaeological features associated with Woodhouse Mill and Shepherds Mill survived within the Site and are considered to be of low (local) significance.
- 8.1.2 The archaeological remains excavated within the Site spanned the mid-19th century to the present and were poorly preserved. Earlier phases had been repaired, damaged or removed by later phases, which is consistent with the continuous occupation and expansion of Woodhouse Mill.

8.2 Woodhouse Mill

- 8.2.1 The only remains that could be dated to the first phase (1851; Figure 3) of activity at Woodhouse Mill (Figure 3) were the remains of engine beds [3005] and [3006] and boiler bed [602], (with some potential for machine bed [3004] to also date to this period). These were also the best preserved remains excavated within the Site. During this period, the building functioned as a bleaching works. These remains confirm the location of the mill's steam power plant.
- 8.2.2 By 1893 (Figure 4) the mill was operating as a woollen mill, which likely involved converting and adapting machinery within the Site. New engines (supplied by J& W McNaught) were also installed during the late 19th century and reportedly involved considerable alterations to connect with the old gearing shafts (see 4.5; Rochdale Observer, 22nd April 1894).
- 8.2.3 Other remains at Woodhouse Mill were associated with its expansion in the early 20th century (Figure 5 and 6) and the building's conversion into a dyeing and finishing works. This was most clearly represented by the remains excavated in trenches 2-3 and Area A, where several stone-built tanks [2004-7], [305] and [303] were recorded. These were housed within a building to the north-west of the main mill buildings.
- 8.2.4 The mill was continuously used throughout the 20th century and extended again by 1963 (Figure 7). Walls excavated in Trench 6 correlated with the eastern expansion of the main mill building [607], [605] and single-skin wall

[604]. Modern cellars in Trench 4 and 5 [404-6], [504- 5] and [509] may also date to this phase.

- 8.2.5 The excavated remains represent the continuous use and expansion of the mill up to the end of the 20th century, with later phases damaging or destroying earlier structures. A planning application was submitted as late as the 1980s for the erection of a new 80ft chimney and other structures at Woodhouse Mill.

8.3 **Shepherds Mill**

- 8.3.1 Shepherds Mill probably originated as a fulling mill that was likely established during the early 19th century. Archaeological remains associated within the mill survived in poor condition with limited archaeological remains uncovered.
- 8.3.2 The most significant remains included wall [803], a potential internal wall of a rectangular mill building and wall [806] and [904], which were associated with the reservoirs. These walls likely relate to features shown on the 1851 plan (Figure 3), with repair undertaken during the second half of the 19th century (Figure 4).
- 8.3.3 Wall [1004] potentially represented the north external wall associated with the expansion of the building in the south-east of the Site, dating to the late 19th century (Figure 4).
- 8.3.4 Shepherds Mill functioned as a bleaching and finishing works throughout 20th century (Figures 5 to 7), which may have required alterations.

8.4 **Significance**

- 8.4.1 The archaeological evaluation and subsequent excavation have demonstrated that poorly preserved buried remains of Woodhouse Mill and Shepherds Mill survive within the Site.
- 8.4.2 The remains excavated within the Site are likely to be of low (local) significance (ICOMOS, 2011).

8.5 **Key Initiatives**

- 8.5.1 The following key initiatives taken from the North West Regional Research Framework have been addressed:
- 8.5.2 *Ind60: How can we make sense of the relative significance of historic industrial processes and building types perceived as poorly understood and recorded?*

- 8.5.3 Limited remains of the bleaching, dyeing or finishing works survived within the Site. In total, four stone-built tanks were excavated and represented remains of the dyeing and finishing works.
- 8.5.4 The four excavated tanks did not seem to be laid out in a regular pattern. Dye vats at Crescent Bleach Works, Salford were set out in a grid of four, creating a square in plan. They consisted of four-stone lined tanks that appeared to be of a similar size and construction to those excavated at the Site (Trow 2018). Similarly, stone-lined tanks at Douglas Green, Pendleton were set out in a grid (Greater Manchester's Past Revealed, Douglas Green, Pendleton, 2022). These measured 2.5m and 2.8m long, 2.2m wide and between 0.91m and 1.03m deep. The stone tanks retained drains allowing liquid to discharge into the adjacent river. Like the tanks within the Site, they were stained with dye suggesting that they may have been used for dyeing cloth. The tanks excavated at Douglas Green, Pendleton were of a similar size to those excavated within the Site, although those within the Site had been truncated (2.16m by 2.04m and a depth of 0.67m). The interior of one tank was excavated revealing a sub-circular plug hole and metal stopper, which would have allowed liquid to be drained from the tank.
- 8.5.5 Stone vat bases were also excavated at Mayfield, Manchester (Salford Archaeology 2021). Like those excavated within the Site, these were not laid out in a regular grid pattern. The vat bases consisted of slabs of worked stone, the surface of which contained a perimeter groove, set back from the edge of the stone. Each also had a plughole set in the corner, allowing the contents of the vats to be drained. The grooves around the edges may have once held upright stones or potentially wooden vats or becks. The stone slabs varied in size but were all approximately 60-80mm thick. The arrangement of the vat bases suggests they were not all laid out simultaneously, but instead added progressively.
- 8.5.6 The bases varied in size measuring between 1.35m to 1.59m long and 1.16m to 1.57m wide, smaller than those excavated within the Site (2.16m by 2.04m and a depth of 0.67m). The bases were had a slight yellowish-green staining, seemingly deriving from its use.

- 8.5.7 The excavation of the dyeing and finishing rooms at Woodhouse Mill provides an insight into the workings of an early 20th-century works and adds to the growing body of research focused on poorly understood industrial process.
- 8.5.8 Following the evaluation, the investigation also had the potential to contribute towards research agenda:
Ind55: What is the evidence for the development of power production?
- 8.5.9 The excavation revealed the remains of an engine bed, boiler and machine bed that likely dated to the mid-19th century (handmade bricks with lime mortar) with repair work undertaken in greyish black mortar. The excavation confirmed the location of the original engine and boiler house. Many mills in Greater Manchester had adjoining boiler and engine houses tagged onto the main mill buildings, such as that at Mayfield Print Works (Salford Archaeology 2021) and Ancoats Bridge Mill (Salford Archaeology 2024).
- 8.5.10 Some curved bricks were noted along the truncated remains of the boiler bed. Remains of a curved boiler bed were excavated at Water Street by Oxford Archaeology North in 2014 (interpreted as a possible egg-ended boiler), though the boiler base was significantly more curved, and the remains much better preserved than those excavated within the Site.
- 8.5.11 It is not possible to determine what type of boiler may have been used at the Site from the archaeological remains alone due to the incompleteness of the boiler bed remains.
- 8.5.12 Newspaper articles confirm that new engines were installed in the late 19th century, which had some electrical elements, however this did not seem to be uncovered during the excavation.
- 8.5.13 Electricity likely came to power the mill and Trench 2 was positioned to target the potential location of the electrical drive machinery however, no remains were uncovered.
- 8.5.14 Other than uncovering the original steam power plant, the excavation provided limited insight into the development of power production at the Site.

8.6 Dissemination

- 8.6.1 A summary statement should be produced for publication in Post Medieval Archaeology's annual roundup of fieldwork.

- 8.6.2 The project archive comprises site drawings, context sheets, site matrix, digital scans and surveys and photographs. A copy of this report will be deposited with the Greater Manchester Historic Environment Record. All drawn records will be transferred to a digital format and then a copy will be deposited with the Archaeological Data Service (ADS).

9 **ARCHIVE**

- 9.1.1 The results of the archaeological investigation will form the basis of a full archive to professional standards and in line with current ClfA guidelines updated 2020. 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 ClfA in that organisation's code of conduct. As part of the archiving process, the on-line OASIS (On-line Access to Index of Archaeological Investigations) form will be completed. The site archive will be so organised as to be compatible with the other archaeological archives produced in Merseyside. All drawn records will be transferred to and stored in digital format and deposited with the ADS (Archaeological Data Service). The integrity of the site archive will be maintained upon completion of the archaeological works with the archive ultimately being offered for deposition with an appropriate repository.
- 9.1.2 No artefacts were recovered from the Site and no physical archive will require depositing with a museum.

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APPENDIX 1: CONTEXT INDEX

Evaluation Trenches

Trench 1 Context Table.

Context Number	Type	Description	Phase	Finds
100	Deposit	Modern Concrete ground surface	6	N/A
101	Deposit	Demolition debris/ silt mixed made ground	6	N/A
102	Deposit	Stoney/clayey/silty made ground	6	N/A

Trench 2 Context Table.

Context Number	Type	Description	Phase	Finds
200	Deposit	Modern concrete ground surface	6	N/A
201	Deposit	Demolition debris/ silt mixed made ground	6	N/A
202	Deposit	Packing sand around modern plastic drainpipes	5	N/A
203	Wall	NNE-SSW aligned red brick wall	4	N/A
204	Wall	NNE-SSW aligned modern red brick wall	4	N/A
205	Wall	SSW-NNE aligned red brick wall	4	N/A
206	Surface	Concrete surface	4	N/A
207	Wall	WNW-ESE aligned brick wall	4	N/A
208	Wall	Modern L-shaped red brick wall	5	N/A

Trench 3 Context Table.

Context Number	Type	Description	Phase	Finds
300	Deposit	Modern concrete ground surface	6	N/A
301	Deposit	Demolition debris/ silt mixed made ground	6	N/A
302	Surface	Concrete and red brick surface	4/5	N/A
303	Tank	Stone-built dye tank	4	N/A
304	Wall	NW-SE aligned modern red brick wall	5	N/A
305	Tank	Stone-built dye tank	4	N/A

Trench 4 Context Table.

Context Number	Type	Description	Phase	Finds
400	Deposit	Modern concrete ground surface	6	N/A
401	Deposit	Demolition debris/ silt mixed made ground	6	N/A
402	Surface	Modern concrete floor surface	5	N/A
403	Wall	NW-SE aligned modern red brick wall	5	N/A
404	Wall	NW-SE aligned modern black brick wall	5	N/A

Context Number	Type	Description	Phase	Finds
405	Wall	NW-SE aligned modern black brick wall	5	N/A

Trench 5 Context Table.

Context Number	Type	Description	Phase	Finds
500	Deposit	Modern concrete ground surface	6	N/A
501	Deposit	Demolition debris/ silt mixed made ground	6	N/A
502	Surface	Modern metal and concrete slab floor surface	5	N/A
503	Wall	WNW-ESE aligned modern red brick wall	5	N/A
504	Surface	Modern concrete floor surface	5	N/A
505	Wall	WNW-ESE aligned modern L-shaped red brick	5	N/A
506	Surface	Sandstone Flagged surface	2	N/A
507	Surface	York Stone flagged surface	3	N/A
508	Wall	Substantial brick wall. Same as 4013	3	N/A
509	Wall	WNW-ESE aligned modern L-shaped red brick	5	N/A

Context Number	Type	Description	Phase	Finds
510	Pipe (assigned post-exc)	Runs between and through walls 509, 511 and 512	3	N/A
511	L-shaped wall (assigned post-ex)	Fragment remains of a wall with pipe 510 running through it	3	N/A
512	Wall (assigned post-exc)	Formed potential room in north-west end of trench	3	N/A

Trench 6 Context Table.

Context Number	Type	Description	Phase	Finds
600	Deposit	Modern concrete ground surface	6	N/A
601	Deposit	Demolition debris/ silt mixed made ground	6	N/A
602	Boiler Bed	NW-SE aligned red brick, fire brick, and stone-built Boiler Bed	2?	N/A
603	Boiler Bed	NW-SE aligned red brick and fire brick-built Boiler Bed	2?	N/A
604	Wall	NE-SW aligned red brick wall	5	N/A
605	Wall	NE-SW aligned U-shaped red brick wall	5	N/A
606	Concrete	NE-SW aligned concrete platform	5	N/A

Context Number	Type	Description	Phase	Finds
607	Surface	Red brick and fire brick-built floor surface	5	N/A

Trench 7 Context Table.

Context Number	Type	Description	Phase	Finds
700	Deposit	Demolition debris/ silt mixed made ground	6	N/A

Trench 8 Context Table.

Context Number	Type	Description	Phase	Finds
800	Deposit	Modern concrete ground surface	6	N/A
801	Deposit	Geological Natural Substrate	1	N/A
802	Deposit	Demolition debris/ clay mixed made ground	6	N/A
803	Wall	NW-SE aligned stone-built wall	2	N/A
804	Deposit	Contaminated black rubble/ clay mixed made ground	6	N/A
805	Drain	NW-SE aligned RSJ, red brick, and stone-built drain	5/6	N/A
806	Wall	NW-SE aligned stone-built reservoir wall	2	N/A

Context Number	Type	Description	Phase	Finds
807	Foundation	Stone packing foundation for wall 803	2	N/A

Trench 9 Context Table.

Context Number	Type	Description	Phase	Finds
900	Deposit	Modern concrete ground surface	6	N/A
901	Deposit	Demolition debris/ silt mixed made ground	6	N/A
902	Deposit	Contaminated clay	6	N/A
903	Drain	NW-SE aligned RSJ, red brick, and stone-built drain	5/6	N/A
904	Wall	NW-SE aligned stone-built reservoir wall	2	N/A
905	Deposit	Geological natural substrate	1	N/A

Trench 10 Context Table.

Context Number	Type	Description	Phase	Finds
1000	Deposit	Modern asphalt ground surface	6	N/A
1001	Deposit	Stone packing levelling deposit for 1000	6	N/A
1002	Deposit	Demolition debris/ silt mixed made ground	6	N/A

Context Number	Type	Description	Phase	Finds
1003	Wall	NNE-SSW aligned red brick wall	3/4	N/A
1004	Machine Bed	NNW-SSE aligned stone machine bed	3	N/A
1005	Wall	WSW-ENE aligned stone-built wall with buttress in NE end trench section	3	N/A

Trench 11 Context Table.

Context Number	Type	Description	Phase	Finds
1100	Deposit	Modern asphalt ground surface	6	N/A
1101	Deposit	Demolition debris/ silt mixed mix made ground	6	N/A

Mitigation Areas

Area A Context Table.

Context Number	Type	Description	Phase	Finds
2000	Wall	NNE-SSW aligned modern red brick wall	2	N/A
2001	Wall	WSW-ENE aligned red brick wall	1	N/A
2002	Stanchion	Modern red brick and concrete stanchion base	5	N/A
2003	Wall	NW-SE aligned modern red brick wall	2	N/A

Context Number	Type	Description	Phase	Finds
2004	Tank	Stone-built dye tank	4	N/A
2005	Tank	Stone-built dye tank	4	N/A
2006	Tank	Stone-built dye tank	4	N/A
2007	Tank	Stone-built dye tank	4	N/A
2008	Deposit	Stoney/ silty/ sandy mixed made ground	3/4	N/A
2009	Deposit	Demolition debris/ silt mixed made ground	6	N/A
2010	Deposit	Modern concrete ground surface	6	N/A
2011	Brickwork	Square shaped brick-built base	4	N/A
2012	Wall	NW-SE aligned red brick wall	4	N/A
2013	Brick manhole	Assigned post-ex	4/5	N/A

Area B Context Table.

Context Number	Type	Description	Phase	Finds
4000	Deposit	Modern concrete ground surface	6	N/A
4001	Deposit	Demolition debris/ silt mixed mix made ground	6	N/A
4002	Machine Bed	E-W aligned sandstone machine bed	3	N/A

Context Number	Type	Description	Phase	Finds
4003	Foundations	Sandstone foundations for wall 4004	3	N/A
4004	Wall	L-shaped red brick wall	3	N/A
4005	Machine Bed	Square sandstone machine bed	3	N/A
4006	Wall	E-W aligned red brick wall	3	N/A
4007	Wall	E-W aligned red brick wall	3	N/A
4008	Wall	N-S aligned red brick wall	3	N/A
4009	Wall	NE-SW aligned stone and red brick-built wall	3	N/A
4010	Deposit	Stone and silt mixed levelling deposit	3	N/A
4011	Wall	N-S aligned red brick wall	3	N/A
4012	Wall	N-S aligned red brick wall	3	N/A
4013	Wall	N-S aligned substantial red brick and fire brick wall	3	N/A
4014	Wall	E-W aligned red brick wall	3	N/A
4015	Wall	N-S aligned stone and red brick wall	3	N/A
4016	Manhole Cover	Concrete slabs covering modern manhole	5	N/A

Context Number	Type	Description	Phase	Finds
4017	Surround	NW-SE aligned brick and concrete surround for iron drainpipe	5	N/A
4018	Wall	NW-SE aligned brick and concrete wall	5	N/A
4019	Surface	Concrete floor surface	4/5	N/A
4020	Wall	L-shaped wall	3	N/A

Area C Context Table.

Context Number	Type	Description	Phase	Finds
3000	Deposit	Modern concrete ground surface	6	N/A
3001	Deposit	Demolition debris/ silt mixed made ground	6	N/A
3002	Deposit	Stone levelling deposit	6	N/A
3003	Wall	NW-SE aligned red brick wall	2	N/A
3004	Platform/ Possible Machine Bed	NW-SE aligned stone-built platform or possible machine bed	2/3	N/A
3005	Engine Bed	NW-SE aligned red brick-built machine bed	2	N/A
3006	Engine Bed	NW-SE aligned red brick-built machine bed	2	N/A
3007	Engine Fixings	Rectangular iron-made engine fixings	2	N/A

Context Number	Type	Description	Phase	Finds
3008	Block	NW-SE aligned sandstone block	2	N/A
3009	Surface	Asphalt surface	2	N/A

APPENDIX 2: LEVEL 1 HISTORIC BUILDING SURVEY

10.2 Introduction

10.2.1 This level 1 historic building survey of three buildings at Tack Lea Works, Greenbooth Road, Norden, Rochdale (centred at NGR: SD 385787 414709) was carried out on 22nd March 2024. A brief text description of the exterior and interior of the buildings is provided, with an assessment of its chronology, and an evaluation of architectural and historic significance based on the author's professional judgement.

10.2.2 The site comprises the ancillary buildings of a former vehicle accident repair centre, the oldest of which likely date to the mid-20th century, although later 20th century additions have been constructed in and around the building spaces (Photograph 1). These buildings are composed of a variety of materials and differ in style depending upon the date of construction.



Photograph 1: Buildings 1 and 2, looking north-east.

10.3 Building 1

10.4 Exterior

10.4.1 Building 1 was a two-storey tall, large, detached building with an attached tower at its eastern end, constructed of modern, frogged, red brick laid in Common Bond and bonded with a modern cement mortar, and modern concrete blocks. The building had a pitched roof, its longest axis aligned east to west (Photographs 2 and 3). The building was located along the northern perimeter of Site boundary in the north-western area. The building had likely previously been in use as a storage warehouse as evidenced by the large openings that had been blocked up on its southern, western, and eastern elevations and what remained of what appeared to be a metal pulley above the southern elevation opening.



Photograph 2: Southern elevation of Building 1, looking north. Scale = 1 x 2m.



Photograph 3: Southern elevation of Building 1 tower, looking north. Scale = 1 x 2m.

10.4.2 The southern elevation of the main building comprised an east to west aligned gable wall with two ground level doorways and a large opening (Photograph 2). The westernmost doorway was a double doorway which had replacement plank doors. The centremost doorway was a single doorway which had a replacement metal door. The easternmost large opening had been a later edition as evidenced by an area of newer, cleaner, brickwork observed either side of the opening, which had a steel roller shutter in place of doors. During the installation of this large opening two brick-built square pillars were constructed on either side of the opening, likely to support the large east to west aligned concrete block that was used as the lintel of the opening which spanned the entire southern elevation of the main Building. Finally, three vertical steel girders were observed on the eastern elevation of the main building, with the central and easternmost being cut short by the insertion of the large opening.

10.4.3 The southern elevation of the attached tower to the eastern end of Building 1 comprised an east to west aligned gable wall with one large opening at ground level (see Photograph 3). Two east to west aligned concrete blocks were observed on this elevation, with the lower of the two being utilised as the lintel of the opening. At some point, this opening was blocked up using grey concrete

breeze blocks laid in stretcher bond and bonded with a modern cement mortar, and evidence of new brickwork were observed on either side of the opening.

10.4.4 At first floor level attached to the eastern end of the tower building, was the remains of some iron or steel fixings, probably the remains of a pulley system.



Photograph 4: Western elevation of Building 1, looking north-east. Scale = 1 x 2m.

10.4.5 The western elevation presented a north to south aligned wall with two openings and an area where the wall had been removed (Photograph 4). The southernmost large opening had a rolled steel joist as its lintel. This opening had again been blocked at some point using grey concrete breeze blocks laid in stretcher bond and bonded with a modern cement mortar.

10.4.6 The central opening was slightly smaller than the eastern opening. This again had a rolled steel joist as its lintel and had been blocked at some point using grey concrete breeze blocks laid in stretcher bond and bonded with a modern cement mortar (see Photograph 4).

10.4.7 The western end of the wall seemed to have been completely removed at some point and was rebuilt using grey concrete breeze blocks laid in stretcher bond and bonded with a modern cement mortar up to the exposed steel girder near the top of the wall, and then had what seemed to be a metal sheet covering the void above the exposed girder (see Photograph 4).

10.4.8 The ends of a further five steel girders were observed protruding from the western elevation (see Photograph 4). This elevation also showed signs of

being painted white in areas, though the mass of graffiti observed on the wall hid a lot of this.



Photograph 5: Eastern elevation of Building 1 tower, looking north-west. Scale = 1 x 2m.

- 10.4.9 The eastern elevation of the tower attached to Building 1 comprised a brick wall with a single opening, four possible buttresses and concrete facias along the bottom of the wall (Photograph 5). A single north to south aligned concrete block was observed running through just above the middle of the wall which also doubled as the lintel for the large opening located at the southern end of the wall.
- 10.4.10 The large opening at the southern end of the wall had also been blocked at some point using grey concrete breeze blocks laid in stretcher bond and bonded with a modern cement mortar.
- 10.4.11 Some damage to the brickwork and staining was observed vertically through the wall. This was likely caused by a drainpipe that was once located there but has since been removed.
- 10.4.12 The northernmost elevation could not be accessed.
- 10.4.13 Externally it looked like building 1 with its attached tower should have had two floors internally. However, there was no evidence found of this on the inside faces of the walls.
- 10.4.14 Building 1 with its attached tower had a roof consisting of corrugated asbestos sheets. The building had replacement circular plastic downpipes and half

round gutters. Once inside six windows were observed along each side of the roof of the main building 1 (see Photograph 11). The tower attached to building 1 did not have any windows in the roof.

10.5 Interior

10.5.1 The interior of building 1, accessed from the single doorway and large opening in the southern elevation, constituted one large ground floor room. A second much smaller room was accessed via the double doorway in the southern elevation, with the external brick construction of this smaller room observable in the south-western corner of the main larger interior room of building 1 (see Photograph 6). The larger, northern room retained a brick and concrete-built raised platform along its northern and eastern walls similar to a stage (see Photographs 7, 8 and 9). The interior surfaces of the building's walls were largely painted white (with graffiti) and featureless, aside from a series of vertical steel girders placed at regular intervals and a circular rail running the top of all four walls. A ladder was also observed attached the southern wall which led up to a small walkway in the roof joists of the tower of building 1 (Photograph 10).

10.5.2 The steel roof joists were also open and visible in the room (see Photograph 11).



Photograph 6: Internal space of Building 1 showing the construction of smaller room, looking south-west. Scale = 2 x 1m.



Photograph 7: Internal space of Building 1, looking south-east. Scale = 2 x 1m.



Photograph 8: Internal space of Building 1, looking north-east. Scale = 2 x 1m.



Photograph 9: Internal space of Building 1, looking north-west. Scale = 2 x 1m.



Photograph 10: Internal space of the tower in Building 1, looking north-west.

10.5.3 A concrete floor was observed throughout the large room of building 1 and the steel roof joists were also open and visible in the room (see Photograph 10).



Photograph 11: Roof joists in Building 1, looking south-west.

10.6 Building 2

10.7 Exterior

10.7.1 Building 2 was a single-storey, large, detached building constructed of stone blocks along its southern elevation laid in stretcher bond and bonded with a modern cement mortar; and modern, frogged, red brick laid in stretcher bond and bonded with a modern cement mortar, along its western, eastern, and northern elevations. The building had a pitched roof, its longest axis aligned east to west (Photograph 12). The building was located to the east of building 1 along the northern perimeter of Site boundary in the north-western area. The building had likely previously been in use as a workshop/ garage and offices based on its interior.



Photograph 12: Southern elevation of Building 2, looking north. Scale = 1 x 2m.

10.7.2 The southern elevation of building 2 comprised an east to west aligned stone-built gable wall with two ground level windows, a single small window above the easternmost ground floor window, and a central doorway. A brick-built lean-to extension with single-pitched roof had later been added to the eastern end which contained a second doorway (Photograph 12). The westernmost doorway was a single doorway with a stone lintel and doorstep which had replacement metal door which was padlocked. The easternmost doorway was also a single doorway with a stone lintel and doorstep and had a replacement plank door that had sustained some damage and hung on a single surviving hinge.

10.7.3 The two ground floor windows had stone lintels and sills and had been blocked by metal sheeting (see Photograph 12). The westernmost window also contained a sign stating “WOODHOUSE GARAGE. I & C CORLETT. Tel: 01706 869061. Mob: 07538378564. Head Office: 01706 647164”. Another sign was observed protruding from the wall above the westernmost window advertising a “REPAIR CENTRE”. A third window was observed above the easternmost window (see Photograph 12). This was much smaller and thinner than the ground floor windows, again with a stone lintel and sill. The remains of a wooden window frame was observed around the outside of the opening, but no glazing survived.

10.7.4 Finally, a square plastic downpipe was observed at the western end of the brick-built extension. Though no guttering was observed on the southern elevation of the building.



Photograph 13: Western elevation of Building 2, looking north-east. Scale = 1 x 2m.

10.7.5 The western elevation of the building comprised a north to south aligned brick-built wall with three buttresses, three grid/ ventilation bricks included in its construction, and two large openings, one at the northern end of the wall, and one at its centre (Photograph 13). Both large openings contained accordion metal shutters. The northernmost shutter was locked shut. However, the central most shutter had previously been prized open and used to access the interior of the building.

10.7.6 A white vertical downpipe was observed at both the northern and southern ends of the western elevation which was attached to a half-round white plastic gutter, which ran horizontally at eaves level at the foot of corrugated, plastic sheet roof coverings..



Photograph 14: Eastern elevation of Building 2, looking north-west. Scale = 1 x 2m.

- 10.7.7 The eastern elevation comprised a north to south aligned brick-built wall that had three ventilation bricks incorporated into its construction, with two window openings at the southern end of the wall (Photograph 14). These window openings were tall and narrow and had a stone lintel. Due to the fact that it was a single length of stone lintel atop both windows, it seems to suggest that this may have been a single large window originally. However, at some point it was converted into two smaller windows by the construction of the brick column separating them. No window frames or glazing survived in these windows.
- 10.7.8 A large, vertical, round, light grey plastic ventilation pipe was attached to this brick column separating the windows and the wall itself, that separated into three at its base as it entered the building. A larger, vertical, white plastic funnel pipe was also observed protruding from the roof at the eastern elevation of the building (see Photograph 14).
- 10.7.9 A brown plastic circular downpipe was attached to the wall just north of the windows, that also seemed to enter the building at its top (see Photograph 14). Just north of this was the remains of a metal downpipe cover from a drain that was no longer in use. A further two downpipes had once been present along the eastern elevation but no longer exist. This was evidenced by scarring on the wall and water staining.



Photograph 15: Northern elevation of Building 2, looking south-east. Scale = 1 x 2m.

10.7.10 The northern elevation of building 2 comprised an east to west aligned brick-built gable wall which had a large metal ventilation funnel attached to its eastern end (Photograph 15). Two ground floor level windows were once present but had later been bricked up. The shape of the windows and the two stone lintels could still be observed in the northern elevation. Finally, a small metal L-shaped rod protruded from the centre of the northern elevation. Though its use could not be ascertained.

10.7.11 Building 2 also had a roof consisting of corrugated asbestos sheets. The building had replacement circular and square plastic downpipes and half round gutters. Once inside six windows were observed along each side of the roof (see Photograph 16).

10.8 Interior



Photograph 16: Internal space of Building 2 showing the construction of smaller room, looking west. Scale = 2 x 1m.

10.8.1 The internal space of building 2 was separated into two ground floor rooms and one first floor room. The southernmost ground floor room was mainly a large empty space likely used to work on vehicles (see Photographs 16 and 17). The metal roof joists were also visible from inside building 2 and had long fluorescent lights attached to them (see Photograph 16). The walls of the southern room were painted white (with graffiti) aside from the northern internal partition wall which was painted white and dark green. A long metal-constructed room was observed at the northern end of the southern room which led to the northernmost accordion shuttered opening in the western elevation of the building (Photographs 16 and 17).



Photograph 17: Internal space of the metal room in Building 2, looking north-west.

10.8.2 The eastern side of the southernmost ground floor room contained a workbench, and a set of stairs that led to the first-floor room (Photograph 18). The first-floor room was not investigated.



Photograph 18: Internal space of the southern room and the first-floor room in Building 2, looking east. Scales = 2 x 1m.

10.8.3 The inside of building 2 had detritus, car parts, tools, ladders, and parts of machinery strewn across its floor. The northern room was accessed by an opening in the northern internal partition wall of the southern room (Photograph

18). This wall was painted white with a dark green band around its lower half. A large part of a yellow machine, possibly some kind of lift for a vehicle, was observed in-situ to the west of this opening (see Photographs 16 and 18).



Photograph 18: Opening from the southern room of Building 2 to the northern room, looking north. Scales = 2 x 1m.

- 10.8.4 The northern room of building 2 was created by the eastern extension observed on the southern and eastern external elevations. This room was long and narrow and contained some in-situ machinery within its eastern end along with a wooden rack and shelving attached to the walls (Photograph 19). The walls in the northern room were again painted white and dark green.
- 10.8.5 A single door was also observed to the south of the machine that led to the smaller room observed on the southern external elevation of building 2 (see Photograph 12).
- 10.8.6 The western half of the northern room contained no machinery, had been severely damaged and contained a lot of detritus (Photograph 20).



Photograph 19: Machinery in the eastern end of the northern room of Building 2, looking east.

Scales = 1 x 2m.



Photograph 20: Western end of the northern room of Building 2, looking west. Scales = 1 x

2m.

10.9 Summary

10.9.1 Buildings 1 and 2 dated to the mid-20th century. Building 1, used latterly as a vehicle accident and repair centre, was built to a high standard and most likely originally constructed as a storage warehouse perhaps for the very nearby

Woodhouse Mills complex. Building 2 comprised an open planned garage workspace with first floor offices which was later extended to the east.

APPENDIX 3: FIGURES

- Figure 1: Site location
- Figure 2: Site boundary, trench locations and areas of archaeological mitigation superimposed onto modern mapping
- Figure 3: Site boundary, trench locations and areas of archaeological mitigation superimposed onto the 1851 Ordnance Survey 6-inch to 1-mile plan
- Figure 4: Site boundary, trench locations and areas of archaeological mitigation superimposed onto the 1893 Ordnance Survey 25-inch to 1-mile plan
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- Figure 9: Site excavated trenches 7, 8, 9, 10 & 11
- Figure 10: Area A
- Figure 11: Area B
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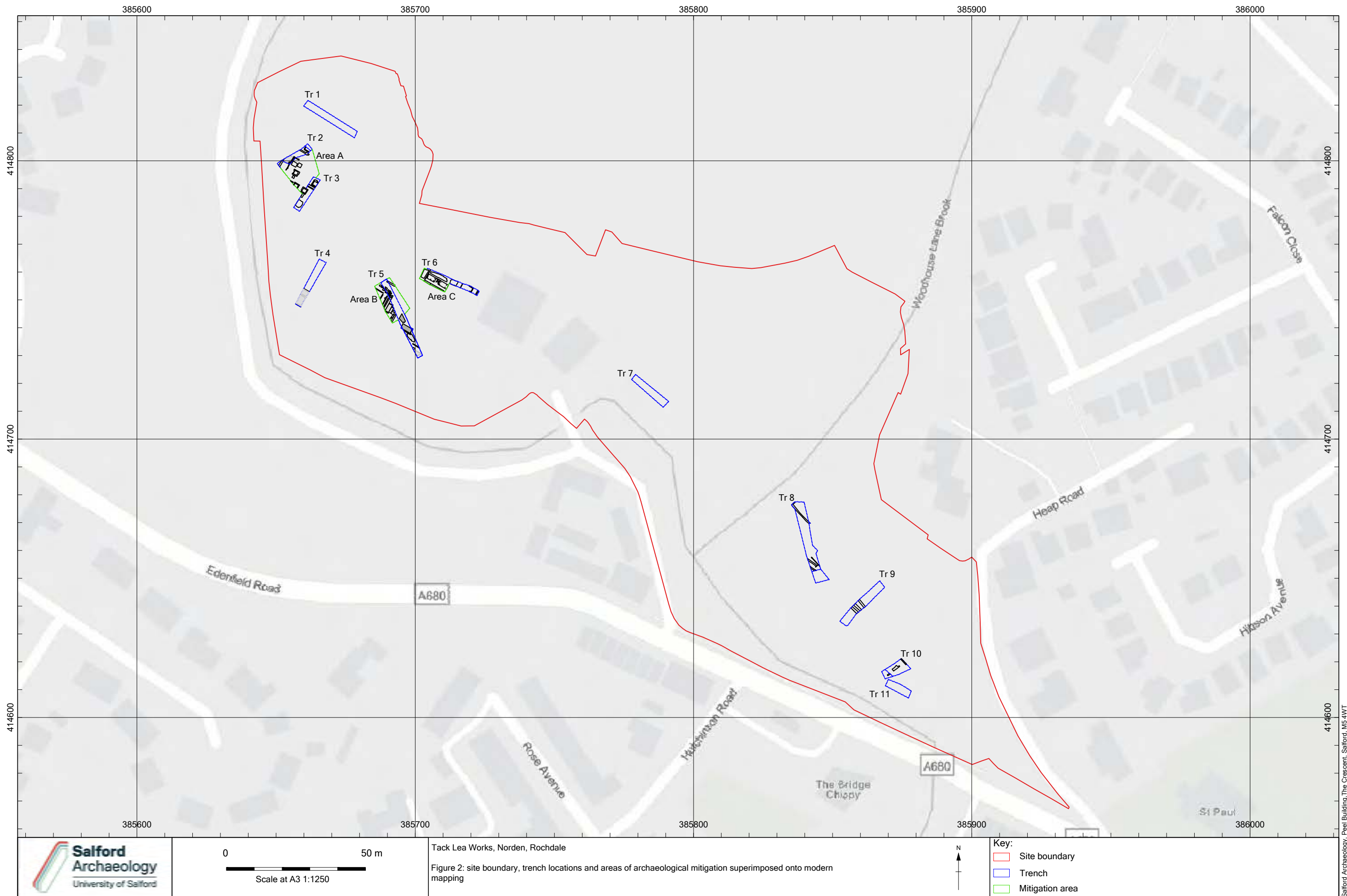


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Tack Lea Works, Norden, Rochdale

Figure 1: Site location plan

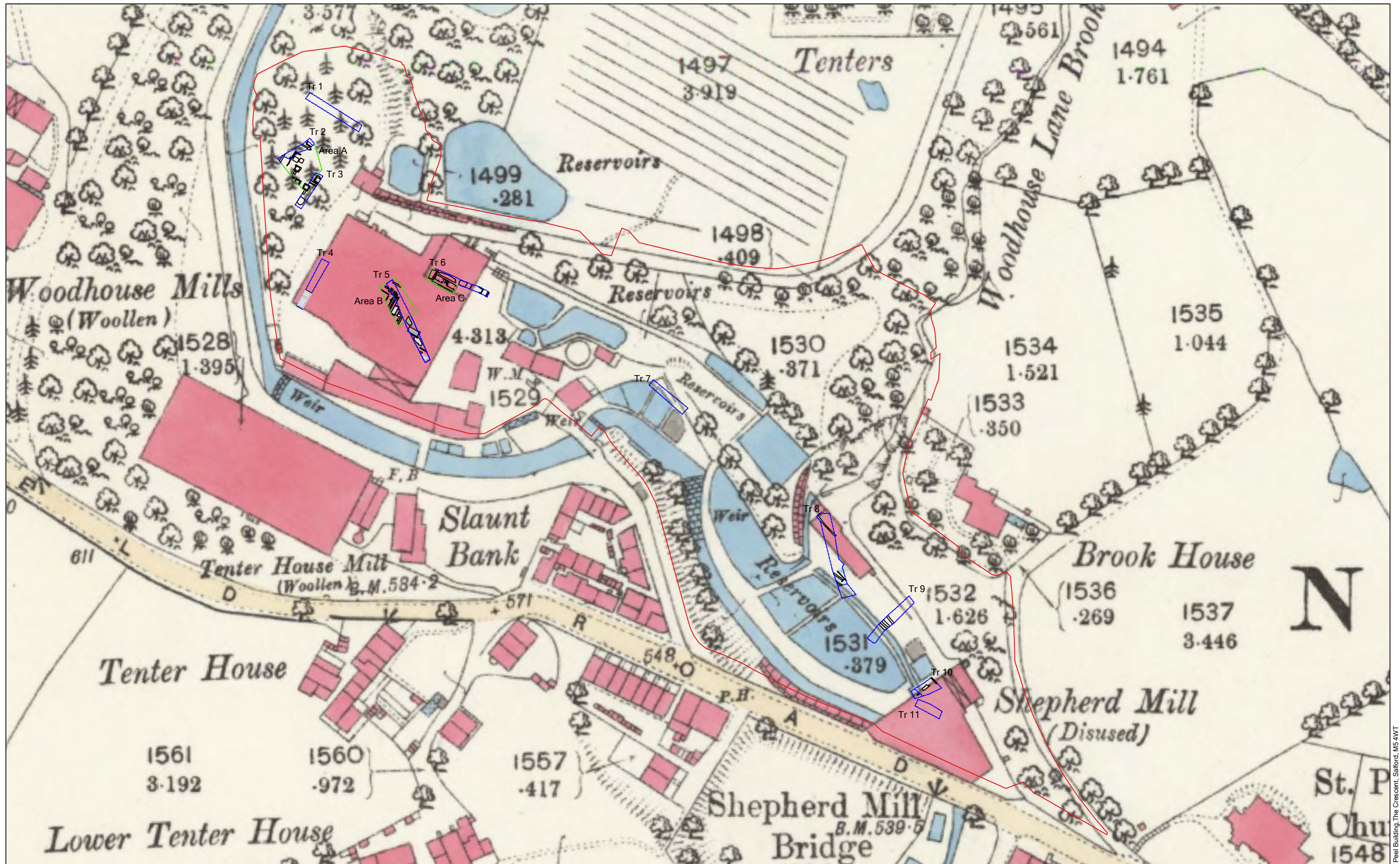


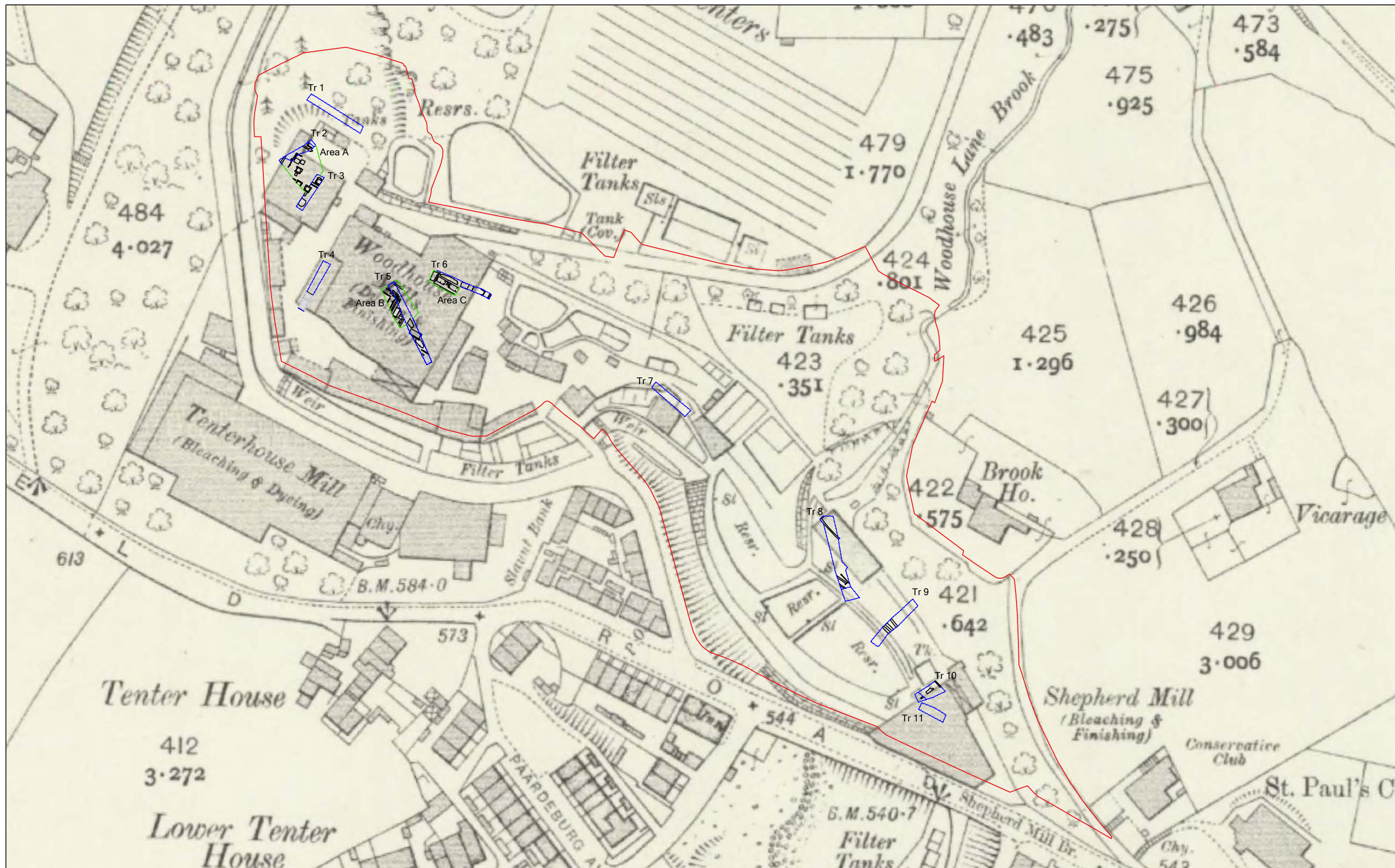


Tack Lea Works, Norden, Rochdale

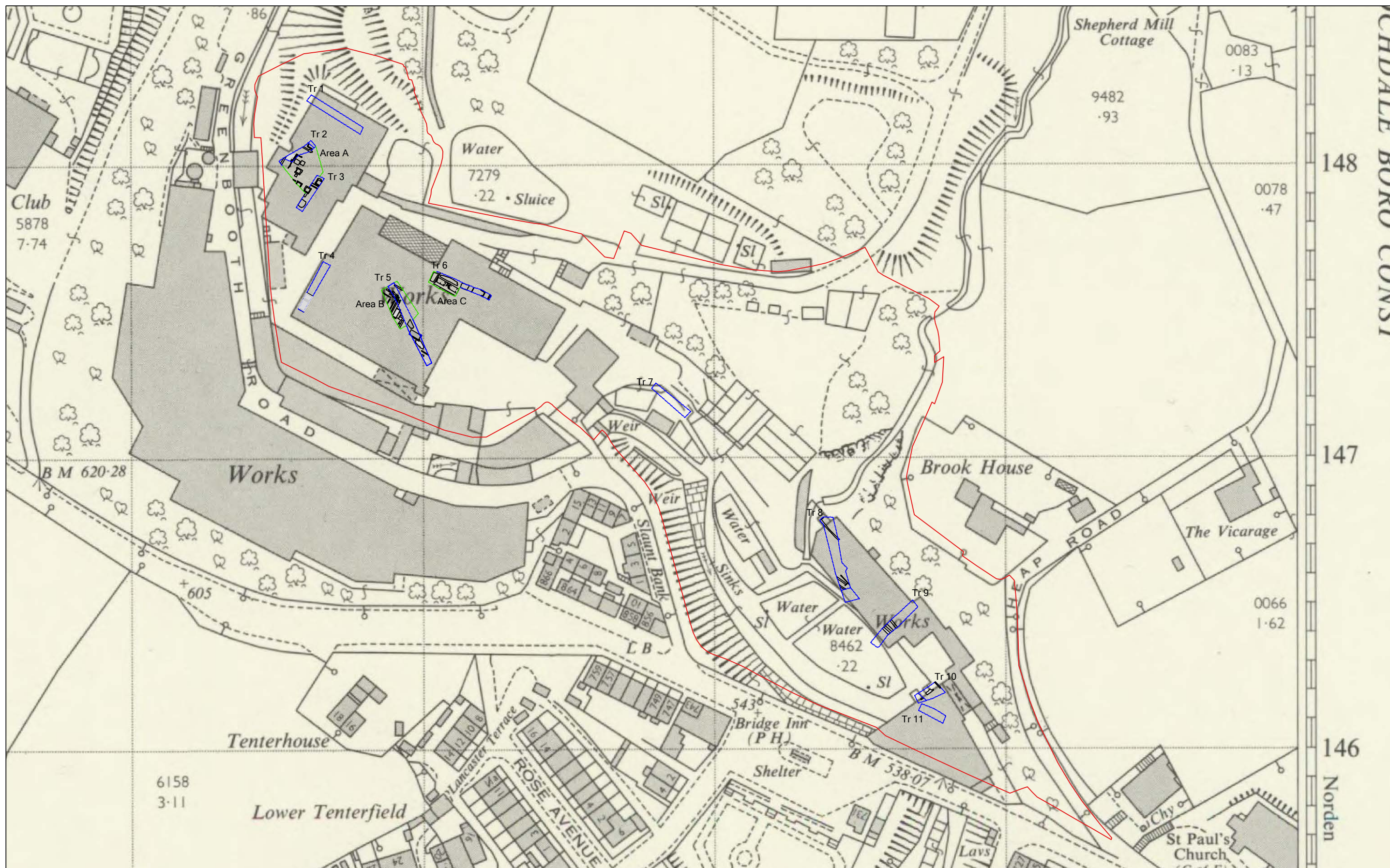
Figure 2: site boundary, trench locations and areas of archaeological mitigation superimposed onto modern mapping

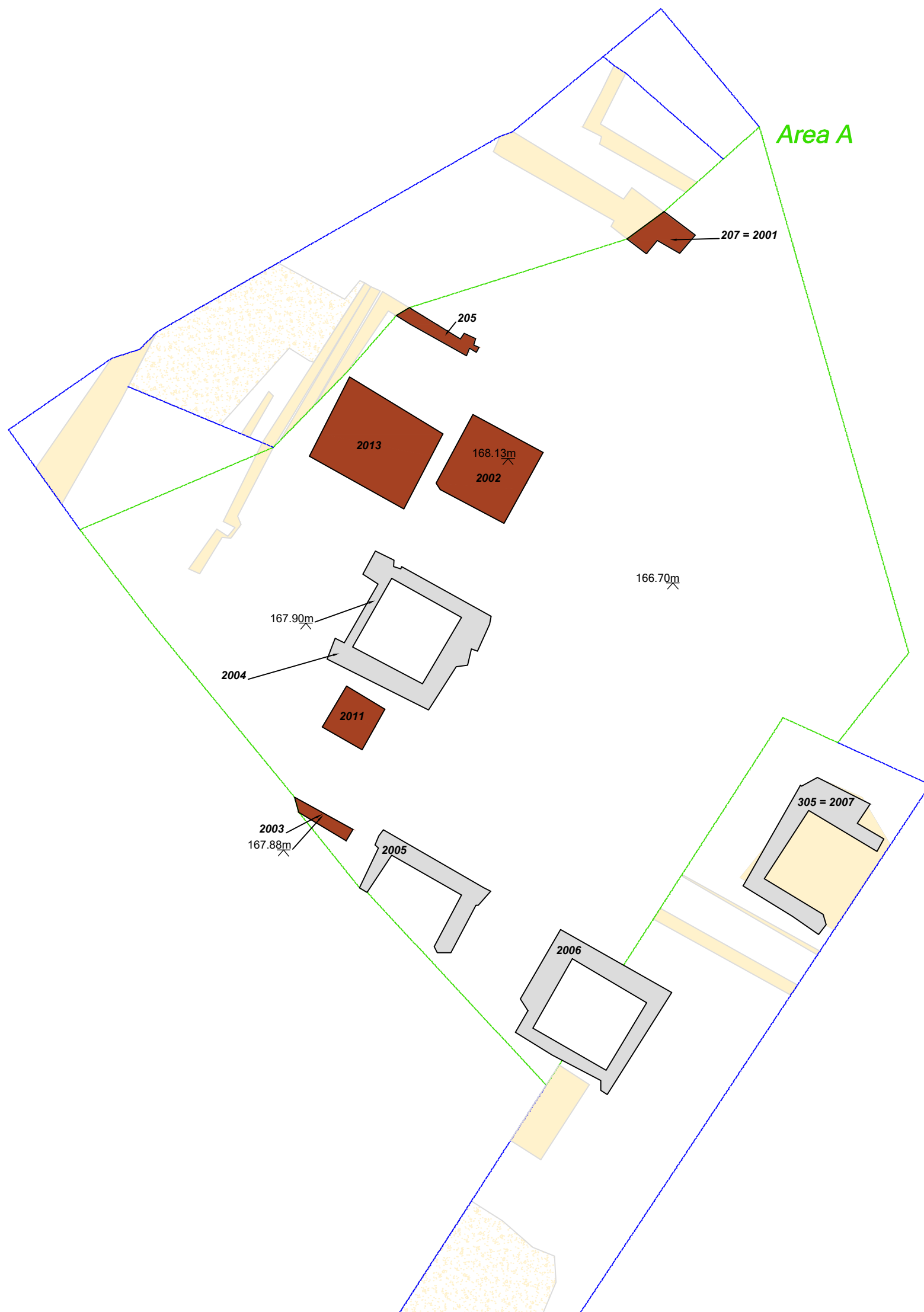












Tack Lea Works, Norden, Rochdale

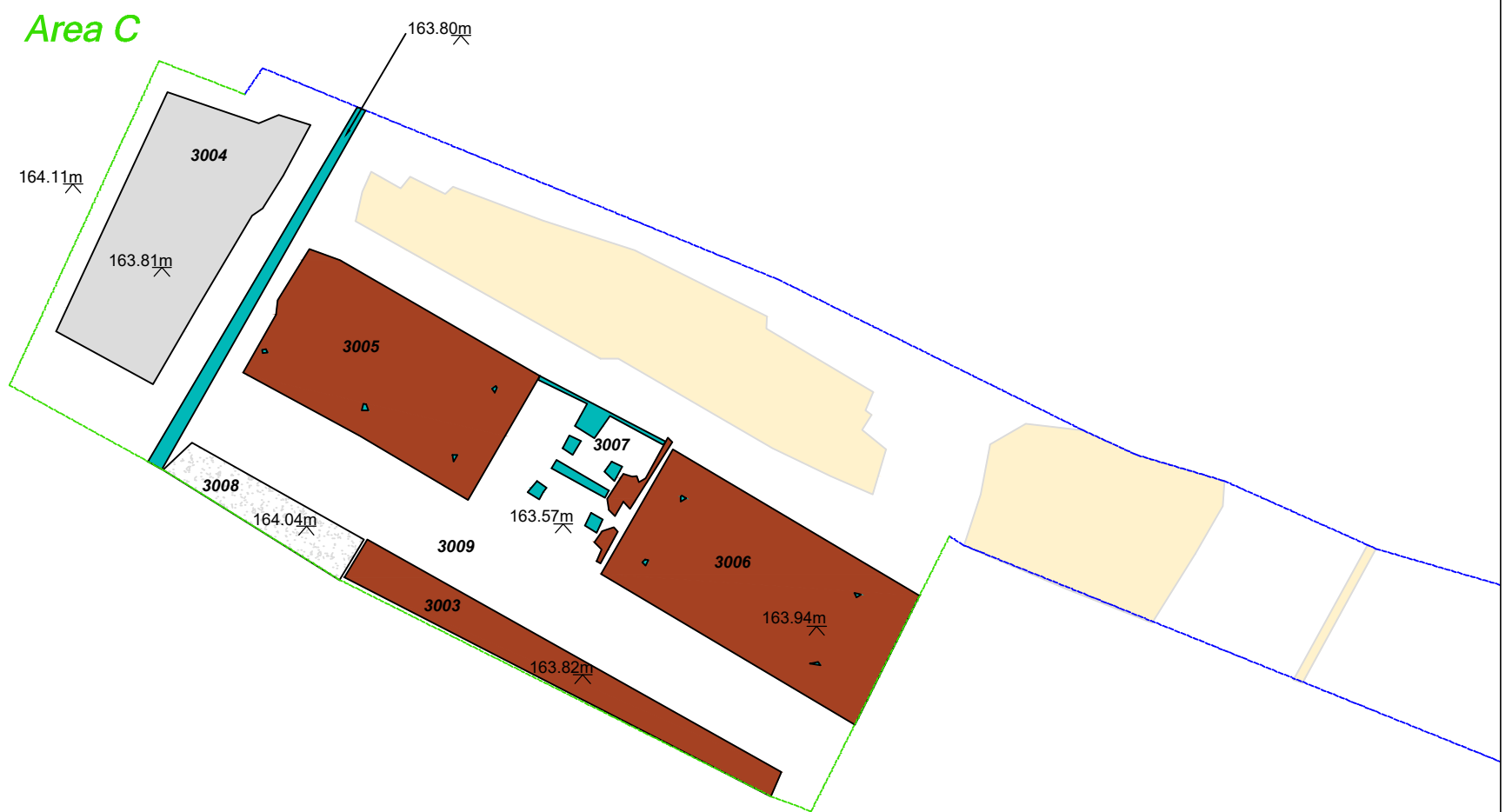
Figure 10: archaeological mitigation Area A





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Figure 11: archaeological mitigation Area B



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Figure 12: archaeological mitigation Area C

