



University of
Salford
MANCHESTER

Archaeological Watching Brief

ManMet Science
and Engineering,
Chester Street,
Manchester

Planning Ref:

125799/FO/2019

Client:

Manchester
Metropolitan University

Technical Report:

Graham Mottershead

Report No:

SA/2021/96



Site Location: The proposed development lies to the southwest of the John Dalton building, between Chester Street, Cambridge Street and the Mancunian Way

NGR: Centred at NGR 384075 397210

Project: ManMet Science and Engineering, Chester Street, Greater Manchester: Archaeological Excavation

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Summary

Manchester Metropolitan University are progressing a scheme of redevelopment at Chester Street, Manchester (Planning Ref: 125799/FO/2019 centred on NGR 384075 397210). The consented scheme allows for the demolition of the existing John Dalton West building and the redevelopment of a new seven storey Science and Engineering and associated landscaping works. The delivery of these proposals will necessitate considerable earth-moving works, which will impact on buried archaeological remains.

In June 2020, Salford Archaeology was commissioned by Manchester Metropolitan University to carry out archaeological works at land on Chester Street, Manchester. The archaeological excavation targeted 19th century workers' housing comprising back-to-back dwellings between Cambridge Street and Billington Street, a second plot of back-to-backs on Billington Street and Back Billington Street, and blind back dwellings on Waddington Court. The potential for remains at the site was initially demonstrated in a desk-based assessment produced in 2019 (Nexus Heritage 2019). This was followed by a series of trial trenching undertaken by Salford Archaeology in May 2020, which confirmed the survival of below-ground archaeological remains across the site.

In accordance with advice provided by Greater Manchester Archaeological Advisory Service (GMAAS), Manchester City Council attached a condition (Condition 4) to the planning consent that required a further programme of archaeological investigation to be undertaken in advance of development. In order to fulfil a condition attached to planning consents, archaeological work was carried out in accordance with a Written Scheme of Investigation produced by Salford Archaeology in June 2020. Archaeological investigations comprised an open area excavation that targeted three areas. The most significant remains included the footprints of early to mid-19th century back-to-back houses and the cellar remains of blindback houses on Waddington Court, which underwent several phases of redevelopment. Later archaeological remains, associated with redevelopment of the site in the late 19th and early 20th century, comprised the installation of sanitary facilities and the conversion of houses along Waddington Court into through houses.

It had also been determined that there was potential for the survival of a 19th-century Oakum Works, an industrial building type that has never been subject to archaeological investigation. This building potentially lay below the standing John Dalton 'Shed'. As it could not be accessed during the evaluation it was decided that it would be investigated via an archaeological watching brief. This was carried out throughout late 2020 and early 2021. The watching brief demonstrated that no remains of the Oakum Works had survived the construction of the 'Shed', the building having been destroyed by ground reduction and levelling, foundations, services and a weigh bridge.

1. Introduction

1.1 Planning Background

Manchester Metropolitan University are progressing a scheme of redevelopment at Chester Street, Manchester (centred on NGR 384075 397210, Figure 1, Plate 1). The proposed scheme lies within the University's existing Campus and is currently occupied by the John Dalton West building and associated car parking. The site is bounded by Chester Street to the northwest, John Dalton Tower to the northeast, Mancunian Way to the southeast and Cambridge Street to the southwest.

Planning proposals by Manchester Metropolitan University (Planning Ref. 125799/FO/2019; Figure 1) comprise the demolition of the existing John Dalton West building and the redevelopment of a new seven storey Science and Engineering building that will be physically connected to John Dalton Tower to the east. The development will also include associated landscaping works, recladding the existing John Dalton Tower and internally refurbishing the building. Subject to planning approval, demolition works will commence in 2021 and the scheme is scheduled to be completed by 2023.

The delivery of these proposals will necessitate considerable earthmoving works, which will impact on buried archaeological remains, the potential of which was first highlighted in a desk based assessment by Nexus Heritage in October 2019. The desk based assessment concluded that further archaeological investigation pertaining to 19th century workers' housing and industrial remains should be carried out in advance of development. Based on the results of the DBA it was recommended that the site was evaluated through archaeological trenching. Salford Archaeology carried out the evaluation in May 2020, which uncovered the well preserved remains of back-to-back and blind-back houses in the southwest part of the site. Subsequently, Greater Manchester Archaeological Advisory Service recommended that a programme of excavation should be developed in order to mitigate the impact of the proposed redevelopment. Manchester City Council attached a condition (Condition 4) to the planning consent that required a further programme of archaeological investigation to be undertaken in advance of development.

The condition (No. 4) attached to the decision notice stated that:

'No development-related groundworks shall take place (except for demolition and clearance to the current ground level), until the applicant or their agents or successors in title has secured the implementation of a programme of archaeological works. The works are to be secured through and undertaken in accordance with a Written Scheme of Investigation (WSI) prepared by the appointed archaeological contractor and submitted to and approved in writing by Manchester City Council as Local Planning Authority. The WSI shall cover the following:

- 1. A phased programme and methodology of site investigation and recording to include:*
 - i) active presence, monitoring and recording of geotechnical investigations*
 - ii) targeted archaeological evaluation through trial trenching*

- iii) *dependent on the above, targeted open area excavation or 'strip, map and excavate' recording (subject to a separate WSI)*
- iv) *an archaeological watching brief during construction groundworks.*

2. *A programme for post investigation assessment to include:
- production of a final report on the significance of the below-ground archaeological interest.*
3. *Deposition of the final report with the Greater Manchester Historic Environment Record.*
4. *Dissemination of the results of the archaeological investigations commensurate with their significance possibly including publication as part of the 'Greater Manchester's Past Revealed' series.*
5. *Provision for archive deposition of the report and records of the site investigation.*
6. *Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.*

The development hereby approved shall be carried out in accordance with the approved WSI.'.

In June 2020, Salford Archaeology produced a Written Scheme of Investigation, which outlined the approach to the mitigation works, approved by GMAAS (*ManMet Science and Engineering, Chester Street, Manchester, Archaeological Written Scheme of Investigation*). Salford Archaeology were commissioned by Manchester Metropolitan University to undertake archaeological excavation comprising three open area trenches positioned to target the *in situ* remains of 19th century houses. The excavation commenced in June 2020 and was completed in July 2020, with the report being produced in September 2020. It had also been determined that there was potential for the survival of a 19th-century Oakum Works, an industrial building type that has never been subject to archaeological investigation. This building potentially lay below the standing John Dalton 'Shed' (Figure 2). As it could not be accessed during the evaluation it was decided that it would be investigated via an archaeological watching brief. This was carried out throughout late 2020 and early 2021. This report presents the results of the watching brief

1.2 The Original Research Aims

1.2.1 Academic Aims

- 1.2.2 The principal aims of the project are: to record by watching brief any remains of the Oakum Works and to produce a final watching brief report and archive (Figures 2 and 3).
- 1.2.3 The location of the watching brief area has been informed by the results of the DBA and evaluation, in consultation with GMAAS. This approach to devising proposals to mitigate the impact of development on the archaeological resource of the development area is in accordance with national guidelines set out in the National Planning Policy Framework: Section 16 – *Conserving and enhancing the historic environment*.

1.3 Objectives

1.3.1 The principal objectives of the archaeological investigation are:

- to maintain a watching brief during post-demolition groundworks within the designated watching brief area in order to record any remains of the former Oakum Works;
- to produce a watching brief report and archive; and
- to make available the results of the work.

1.4 Location

The site is situated within Chorlton upon Medlock, an inner city area of Manchester bordered to the north by the River Medlock (Figure 1). The site is bounded by Chester Street to the northwest, John Dalton Tower to the northeast, Mancunian Way to the southeast and Cambridge Street to the southwest. (centred on NGR 384075 397210). The site comprises an irregular rectangular shaped area aligned broadly northeast/southwest.

The study area comprises land that stands at a height of approximately 33.8m above Ordnance Datum (aOD). The site is currently a levelled construction site, the John Dalton 'Shed' having been demolished over 2020 and the first half of 2021.

Historically, the district known as Chorlton Row was a township in the ancient parish of Manchester in the Salford Hundred of Lancashire. During the early Industrial Revolution, the area became a residential suburb of Manchester and was originally middle class in character. A number of cotton mills were established in the northern part of Chorlton Upon Medlock, along the southern bank of the river, attracting workers to the area. Throughout the 19th century, the area increasingly became a working class district. By the turn of the century, many of the domestic dwellings were in a state of disrepair, demonstrated by Thomas Marr's plan of Manchester in 1931 for the Manchester and District Social Survey Society.

Buildings associated with the University of Manchester gradually expanded into the adjacent residential streets. Extensive projects undertaken in the 21st century drastically changed the character of Oxford Street and the surrounding area.

The underlying solid geology of the site comprises Cheshire formation sandstone sedimentary rock formed in the Triassic Period (247 to 250 million years ago; BGS 2020). The British Geology Survey records superficial deposits as till, formed in the Quaternary Period (two million years ago). The proximity of the River Medlock may indicate that alluvial deposits such as sands may be lie beneath made ground.

2. Historical Background

2.1 Prehistoric Period

Evidence for prehistoric activity across north-west England tends to be sporadic and is based on chance finds, which is in part due to the local geology, as the poorly drained and heavy boulder clays were not conducive to early farming techniques. However, there is growing regional evidence that prehistoric settlement and other activities were concentrated on well-drained sand and gravel sites adjacent to rivers and moss lands.

The valley of the River may have been an area for prehistoric settlement and communication during the Neolithic and Bronze Age periods. Assemblages of prehistoric artefacts have been discovered during archaeological investigations in the Castlefield area. In addition, flint scappers and other stone tools have been discovered in the Kersall Moor area, dating to the Neolithic period.

There is no evidence of prehistoric activity at the site or within 250m of proposed study area (Nexus Heritage 2019, 6). Furthermore, the intensity of development in the industrial period means that the chances of survival of remains from this period are slight.

2.2 Romano-British Period

During the governorship of Agricola in AD 79, a Roman fort named *Mamucium* was built from earth and timber in the Castlefield part of what is now Manchester. An extramural settlement or *vicus* grew around the military fort, occupied until the 3rd century AD.

A network of roads extended from Manchester, leading to Ribchester in the east and Wigan in the west. The projected course of the Roman road from Manchester to Buxton, aligned northwest/southeast, lies to the northeast of the site boundary. Although the site is situated beyond the confines of the Roman settlement, finds of Roman artefactual material have been found within the vicinity of the Roman road. At the new gasworks on Cambridge Street, close to the west of the site, three Roman coins were found in Medlock silt. The coins comprised issues of Gallienus (253-68 AD), Claudius Gothicus (268-70 AD) and Aurelianus (270-5 AD) (Bruton 1909, 129; Roeder 1899, 177-8) (ibid).

2.3 Medieval and Post-medieval Period

After the collapse of the Roman Empire, many of the established urban centres and forts were abandoned along with large-scale industry production. Manchester is likely to have been a sparsely populated and isolated part of the country demonstrated by a lack of archaeological evidence for this period.

Following centuries of Germanic and Danish immigration, new identities and cultures began to emerge. It is during this period that the focus of settlement is believed to have shifted to the confluence of the Rivers Irwell and Irk by the 7th century. The Anglo Saxon Chronicle records that in 919 Edward the Elder sent men to “repair and man Mamecaster”, implying that Manchester was a Saxon burgh. Place name evidence implies that Chorlton derives from the

Old English meaning “the peasant’s tun” (Mills 1976). The word ‘tun’ originates from the Saxon word for settlement or farm (Farrer and Brownbill 1911).

At the time of the Domesday Survey in 1086, Manchester is recorded within the historical subdivision of the county of Lancashire known as the Salford Hundred and was held by a tenant in chief by an Anglo Norman aristocrat, Roger de Poitou. Roger de Poitou was granted much of the land between the River Ribble and the River Mersey and retained the manor of Salford, later held by the Grelley family. The Grelley family occupied Manchester Castle until 1215, when they moved into their newly built Manor house.

The medieval settlement was focused in the area surrounding Manchester Cathedral and a Norman castle (first documented in 1186), the site of which is currently occupied by Chetham’s College. The medieval town was located to the south and east of the castle bounded by a ditch and a canalised watercourse known as “Hanging Ditch”. In 1227, Henry III granted Robert Grelley the right to hold an annual fair and by 1282 Manchester is recorded as having a market. Borough status was granted by Edward I in 1301.

Manchester’s economy was predominantly based on agricultural produce although it was increasingly supplemented by the production of traditional textiles. It is believed that the region’s textile industry was stimulated by an influx of Flemish weavers who migrated to Manchester during the 14th century. By the 16th century, Manchester became an important centre for the manufacture and trade of woollens and linen. In 1540, John Leland noted that the town was “The fairest, best builded, quickest, and most populous town of all Lancashire”. Textiles were produced in domestic settings, usually through the putting-out-system, which involved merchants delivering materials that would undergo a series of manufacturing techniques at different households to produce the finished item. This system was both timely and costly, eventually leading entrepreneurs to invent machinery that would quicken the process, which gave rise to the factory-based system.

The site lay a considerable distance from the medieval town of Manchester, first captured on a town plan of Salford and Manchester dating to 1650. Chorlton-on-Medlock was known in the medieval period as Chorlton Row, a separate township situated within the ancient parish of Manchester. Chorlton is mentioned in documents from the 13th century onwards and Chorlton Hall, to the east of the assessment area was probably established in the medieval period and was visible on historic maps until the Second World War, when it was destroyed (Nexus Heritage 2019, 7).

2.4 Post-medieval and Industrial Period

During the 17th and 18th centuries, Lancashire remained predominantly an agricultural area of isolated settlements and market towns, with the burgeoning towns of Manchester and Salford being the exceptions (Williams with Farnie 1992, 3). Chorlton, lay outside the expanding territory of Manchester and remained mostly agricultural during that time.

The importation of cotton to the region in the late 16th and early 17th-century began to accelerate the textile producing industry and by the mid-18th century, cotton had overtaken wool in importance. By this time, advances in technology began to transform textile production, which was increasingly taking place in mills, which could manufacture textiles on an

unprecedented scale. Some of the most famous inventions included James Hargreaves' spinning jenny, which was introduced in 1764 and Richard Arkwright's water-frame. Initially, mills were established on the banks of the River Irwell in Manchester where a good head of water was sufficient to power a waterwheel that would in turn drive machinery. Richard Arkwright built Manchester's first cotton spinning mill in 1780.

By the 1780s, the national demand for textiles and concomitant mill building transformed Manchester into a centre of the factory-based cotton-manufacturing industry. The industrialisation of Manchester was greatly facilitated by an expansion of the region's waterways such as the Mersey and Irwell Navigation that opened in 1734. In addition, a stretch of the River Medlock was navigable by the late 18th century, between the Bridgewater Canal and India House at Whitworth Street. The introduction of the canal network competed with the navigable waterways and provided an alternative means of transporting fuel and raw materials such as the nearby Rochdale Canal, which opened in 1798. Later the development of the railway, such as the nearby Manchester South Junction and Altrincham Railway, which opened in 1842 transported baulk goods faster than ever before.

2.5 Development of the Site

The first available map that captures the development of the site is Laurent's plan of Manchester in 1793 (Plate 1). Laurent's plan shows the existing field systems, boundaries and track ways overlain by the proposed grid of streets. Little development has taken place on the southern side of the River Medlock and immediately to the north of the river, along the projected line of Oxford Street. Hatching on the map captures the original topography of the area, which sloped downwards towards the River Medlock on the north side of the site. A northeast/southwest aligned track way, extending from Oxford Street, bisected through the site. Running roughly parallel, to the south of the track way is a field boundary that forks into two in the southwest part of the site. The new grids of streets do not seem to respect the earlier field boundaries implying that large plots of land have been purchased to develop. In addition, two ponds were partially contained within the western half of the site on Cambridge Street, whilst two larger ponds were situated on the eastern fringe of the site on Great Ormond Street. Hatches sketched around the two smaller ponds seem to indicate that the two smaller ponds were sited on slightly elevated ground. Although the new streets are depicted on the mapping, it is likely that some of the smaller streets have not yet been laid.

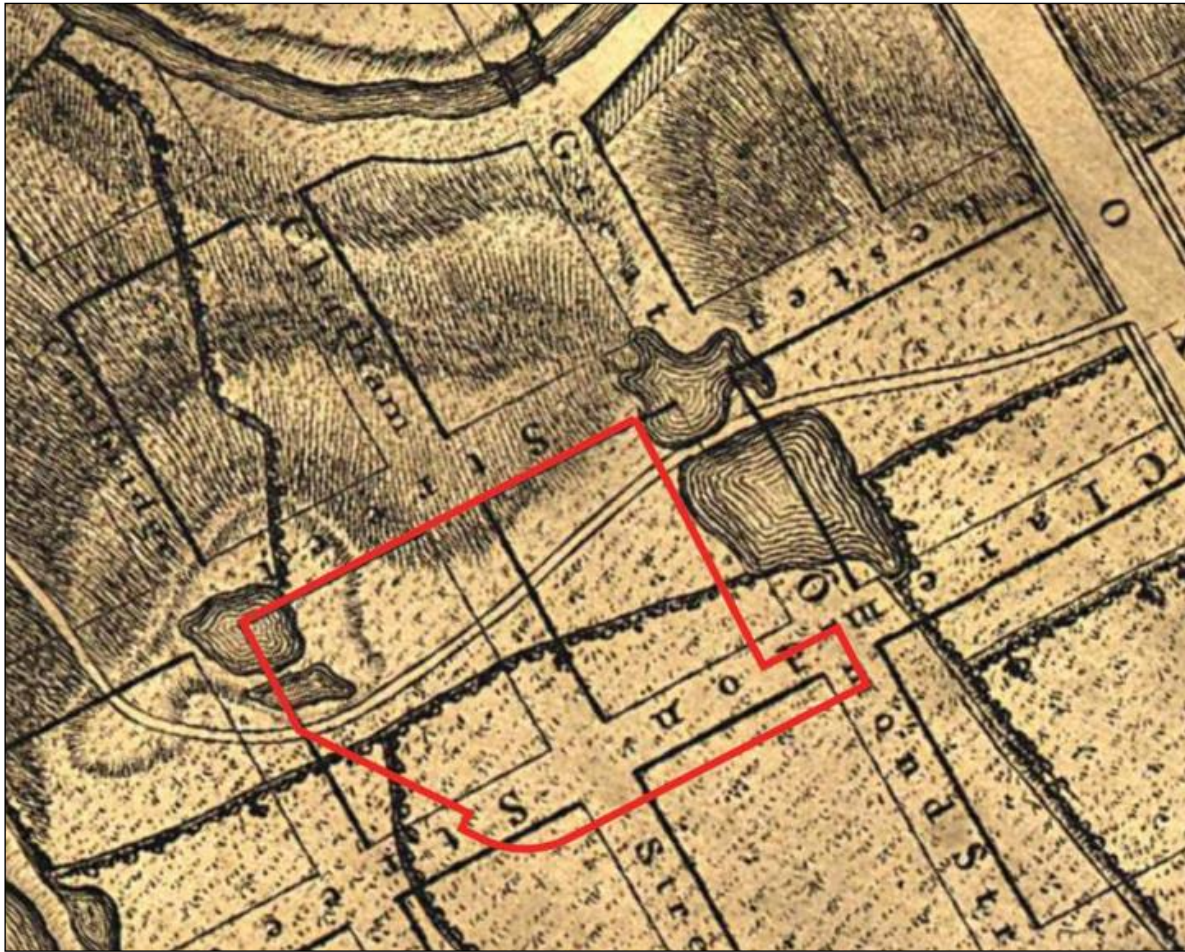


Plate 1: Extract from Laurent's Plan of 1793 showing the red line boundary

The next available map that depicts the site is Green's plan of 1794 (Figure 3). This map shows a similar arrangement of features previously captured on Laurent's map of 1793, however, the track way had not been surveyed and the two ponds partially seen in the west of site are shown to have been located to the northwest of the site boundary. No development had taken place within the site or within the immediate vicinity.

Johnson's map of Manchester is the first map that captures development within the site and surrounding area. Large blocks of buildings had in-filled the streets to the north of the site, demarcating the footprints of buildings associated with Cambridge Street mills. In addition, the course of the Rochdale Canal is shown to the north of the River Medlock. A small building with a rectangular footprint is depicted on the southern side of Clarendon Street within the site boundary.

The next available map of Manchester is Banks & Co's plan of 1831 (Figure 4). This plan shows that the majority of the site had been developed together with the laying of new streets. The road running northwest/southeast, through the centre of the site is labelled Chatham Street. Land within the western portion of the site had been sub-divided by two new streets that run parallel to Chatham Street. The westernmost street was Billington Street, whilst the street to the rear was Back Billington Street. A small alleyway is depicted running northeast/southwest through the centre of Back Billington Street. Plots of back-to-back, single

depth, workers' houses occupied both streets. Larger buildings occupied the land between Back Billington Street and Chatham Street although the entire plot had not been in-filled. The eastern portion of the site had been divided into three streets aligned northeast/southwest, labelled James Street, Lord Street and Rathbone Street. The dwellings along James Street and Lord Street were back-to-back dwellings, whilst the properties along Rathbone Street were single depth, blind back houses. The southwest end of James Street had not yet been completed. Behind the dwellings along Rathbone Street were small back yard plots, possibly belonging to the larger houses situated on the north side of Clarendon Street.

The Ordnance Survey town plan of 1851 is the first map that depicts the site in detail (Figure 5). The same arrangements of back-to-back dwellings are visible on the Ordnance Survey plan. In addition, the line of Waddington Court extended northeast from the line of Back Billington Street and was occupied by small blind back dwellings that may have adjoined commercial or industrial buildings. The line of Chatham Street had been re-named Lower Chatham Street. Chorlton Street School occupied the southern half of Billington Street and Back Billington Street, the King's Arms Public House was situated on Lower Chatham Street, the Chorlton Union Oakum Works was located on Chester Street. This map also depicts two coal yards and the Lord Stanley Public House and adjoining brewery.

Back-to-back dwellings were some of the worst kinds of workers' housing. They were often single depth, with the only doors and windows for light and ventilation located at the front of the house. The dwellings shared three party walls with the surrounding dwellings that were usually only half a brick course wide. The houses were built without adequate drainage or sanitary facilities, which often led to multiple households sharing privies. In addition, many of the dwellings were overcrowded and were occupied by multiple families, extended family members and lodgers. This combination of factors caused poor health, hygiene and facilitated the spread of diseases among the working classes. Following several campaigns by housing improvement advocates a series of local acts were established to improve housing conditions, the first of these was the Manchester Local Police Act of 1844.

The same street layout is visible on the Ordnance Survey plan of 1891 (Figure 6). Some alterations had taken place since the previous mapping including the conversion of Chorlton Street School, previously located at the end of Back Billington Street and Billington Street back into back-to-back dwellings. In addition, buildings associated with a coal yard and Chorlton Union Oakum Works along Chester Street seem to have been demolished. The mapping also depicts clusters of small buildings that had been installed along Rathbone Street and Back Billington Street. Presumably, the small outbuildings represent privies and a wash house possibly built following the enforcement of the Public Health Act of 1875, which sought to improve sanitary facilities at workers' houses.

The next available map is the Ordnance Survey plan of 1908, which shows that some of the back-to-backs had begun to be demolished. All, but one house between James Street and Lord Street had been demolished as had the majority of dwellings between Chester Street and James Street, with the exception of the public house and two dwellings. The two surviving dwellings fronting Chester Street appear to have been converted from back-to-back dwellings into through houses. The footprints of the dwellings were double depth and included a small

back yard. The houses at the northeast end of Lord Street and Rathbone Street had been demolished, but the rest of the street remained unchanged. The small blind back dwellings along the southern side of Rathbone Street had also been demolished, allowing the properties fronting Clarendon Street to benefit from a back yard and privy. The houses at the northwest end of Back Billington Street and Billington Street seem to have been converted into a larger dwelling. It is also likely that the two northeast dwellings along Waddington Court were demolished, extending the back yard plots of houses fronting Lower Chatham Street.

A similar configuration of buildings are shown on the next Ordnance Survey plan of 1922. The same buildings are shown between James Street and Chester Street, whilst the last dwelling between James Street and Lord Street had now been demolished. Some demolition work had begun on Back Billington Street, which had removed dwellings in the centre of the street. All of the houses between Cambridge Street and Billington Street were still standing as were the remaining dwellings between Lord Street and Rathbone Street shown on the previous map. At Waddington Court the two remaining blind back dwellings had been converted into through-houses.

In December 1938 it was announced in Parliament that in the event of War a National Register would be taken to list the personal details of all civilians in order to co-ordinate the war effort including issuing identity cards and arrange rationing. National Registration took place on 29th September 1939. Although a full search of the records has not been undertaken a sample was conducted and on Rathbone Street, for example, there are only two addresses listed (numbers 8 and 14) and both properties have an entry of “nobody was living in this property in 1939” (Nexus Heritage 2019, 15).

The Manchester blitz was a sustained bombing campaign that targeted Manchester and the surrounding areas during the Second World War by the Luftwaffe. The bombing took place over the Christmas period, over three successive nights. The bomb census from this event shows that two explosive devices detonated to the southwest of the site area, in one of the neighbouring streets, which caused nine fatalities (ibid).

Large parts of the site had been demolished by the time the survey for the Ordnance Survey map of 1948 was undertaken. The same configuration of buildings is shown between Chester Street and James Street comprising two dwellings and the Lord Stanley public house. A printing works had been built on land to the southwest of no 33 Chester Street. The northeast portion of Clarendon Street was still standing together with one dwelling at the northwest end of Back Billington Street and Billington Street (labelled no 61), and small buildings along Lower Chatham Street including the King’s Arms. A warehouse was situated along Chester Street, to the northeast of no 61. The dwellings along Waddington Court had been significantly remodelled.

The Ordnance Survey plan of 1969 shows that the historic layout of the site has been entirely redeveloped. The Mancunian Way is shown to the southeast and southwest of the site together with the footprint of the John Dalton West building and the John Dalton Tower to the northeast of the site. The modern layout of the site depicted on this Ordnance Survey map represents the immediate pre-demolition layout of the site.

2.6 *Archaeological Background*

The archaeological significance of the site was initially highlighted in a desk-based assessment produced in 2019 (Nexus Heritage 2019). This report concluded that there was high potential for buried remains of archaeological interest to survive within the development area.

Based on the findings of the desk-based assessment GMAAS recommended that an archaeological evaluation should be carried out to determine the presence or absence of archaeological remains and their form, nature, condition and potential. A series of trial trenches, undertaken by Salford Archaeology in May 2020, confirmed the survival of below-ground archaeological remains across the site (Salford Archaeology 2020).

GMAAS recommended that a programme of archaeological excavation would mitigate against the impact of the proposed redevelopment. In accordance with advice provided by GMAAS, Manchester City Council attached a condition (Condition 4) to the planning consent that required a further programme of archaeological investigation. Archaeological work was carried out in accordance with a Written Scheme of Investigation produced by Salford Archaeology for the development, identifying three areas for archaeological excavation. Manchester Metropolitan University commissioned Salford Archaeology to undertake the archaeological investigation, which commenced in June and July 2020.

A second phase of archaeological investigation was scheduled following the demolition of the existing John Dalton West ('Shed') building. This took the form of an archaeological watching brief, which monitored ground works in the area of the former Oakum Works and nearby housing and is the focus of this report.

3. Methodology

3.1 Archaeological Watching Brief

The principal aim of the archaeological watching brief was to monitor all intrusive groundworks within the designated watching brief area in order to record any archaeologically significant remains (Figure 2).

3.2 General Methodology

All archaeological work was conducted following the ClfA Standards and Guidance for archaeological watching briefs (*Standards and Guidelines for an Archaeological Watching Brief*, ClfA 2020a).

All excavations were carried out by the client, who was also responsible for ensuring that no live services were damaged during the works. All health and safety requirements detailed by the client were adhered to during the watching brief.

3.3 Photographic Archive

A comprehensive photographic archive was produced utilising a high-resolution digital camera. All frames, excluding general contextual views, incorporate a graduated metric scale. Photograph records were maintained on special photograph *pro-forma* sheets. All photography was carried out following the latest Historic England guidance (*Digital Image Capture and File Storage: Guidelines for Best Practice* HE 2015).

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4. Summary of the Fieldwork Results

No features or structure of archaeological significance were encountered during the watching brief. At the northwest part of the area was a large late 20th-century weighbridge (Plate 2)

Within the central part of the area was a 20th-century brick and concrete basement which contained several oil and fuel tanks (Plate 3).

At the northeast side of the watching brief area it was observed that the ground had been excavated to over 2m deep during construction of the John Dalton 'Shed', and that it had been infilled with a uniform sand. This also contained modern brick manholes (Plate 4).

Across the rest of the watching brief area natural gravel and clay was observed at a depth of 1.8m to 2m. This lay below levelling material mainly comprising mixed demolition rubble, with bands of imported clay and aggregate levelling across the northwest part of the area (Plates 5 and 6).



Plate 2: Modern Weighbridge at the northwest side of the area, looking north



Plate 3: Central basement, note fuel tank at centre left, looking northeast



Plate 4: Deep sand infill and modern brick manhole at the northeast side of the area, looking northeast



Plate 5: Natural gravel below mixed rubble levelling material, southeast side of the area, looking southeast



Plate 6: Natural gravel and clay below levelling layers, northwest side of the area, looking northwest

5. Discussion

The construction of the John Dalton 'Shed', and below ground structures associated with the John Dalton Tower, during the 1960s had removed any trace of the Oakum Works and the housing visible on the 19th century mapping. It appears that the 'Shed' was partially basemented and also contained a large weighbridge. In the unbasemented areas the ground had been excavated to 1.8m to 2m and had been levelled with crushed demolition rubble and imported aggregates. Across the northeast of the area access shafts and manholes to services associated with the John Dalton Tower had also been excavated to depth of over 2m.

6. Conclusion

No remains of archaeological significance survived within the designated watching brief area and no further archaeological investigation is required.

7. Acknowledgements

Salford Archaeology would like to thank the Manchester Metropolitan University for commissioning the archaeological works and providing support during the fieldwork. Thanks are also expressed to Norman Redhead for providing monitoring support and advice on behalf of Greater Manchester Archaeological Advisory Service (GMAAS)

The watching brief was carried out by Andy Coutts. The illustrations were prepared by Sarah Mottershead. The report was written by Graham Mottershead, who was also responsible for project management.

8. Archive & Dissemination

8.1 Archive

The archive is currently held by Salford Archaeology, but will be offered for final deposition with Manchester Museum of Science and Industry (MoSI). The digital archive consists of digital drawings, digital photographs, and other electronic data. As part of the archiving process, the on-line OASIS (Online Access to Index of Archaeological Investigations) form will be completed. All archiving will be carried out to the standards set out in the Code of Conduct of the Chartered Institute for Archaeologists (CIfA 2020b and 2020c). A copy of this report will be forwarded with the Greater Manchester Historic Environment Record.

In addition to this report, Condition 4 stated '*Dissemination of the results of the archaeological investigations commensurate with their significance possibly including publication as part of the 'Greater Manchester's Past Revealed' series.*' This element of the condition will be satisfied by submission of this report to the Greater Manchester Historic Environment Record (GMHER).

Bibliography

Cartographic Sources

Green's Map of Manchester and Salford, 1787-94

Johnson's map of 1819

A Plan of Manchester by Bancks and Co., 1831

Ordnance Survey (County Town Plan) Map of 1851: 60 inches to 1 mile

Ordnance Survey Map of 1891: 10 inches to 1 mile

Ordnance Survey Map of 1908: 25 inches to 1 mile

Ordnance Survey Map of 1922: 25 inches to 1 mile

Ordnance Survey Map of 1948: 1:1250

Ordnance Survey Map of 1962: 1:1250

Ordnance Survey Map, (1:10,000), 2014

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Appendix 1:

- Figure 1: Site Location
- Figure 2: Watching brief and excavation areas
- Figure 3: Watching brief area superimposed onto Green's map of 1787-94
- Figure 4: Watching brief area superimposed onto Bancks' & Co 1831
- Figure 5: Watching brief area superimposed onto Ordnance Survey 60" to 1 mile Town Plan of 1851
- Figure 6: Watching brief area superimposed onto Ordnance Survey 1:500 Town Plan of 1891

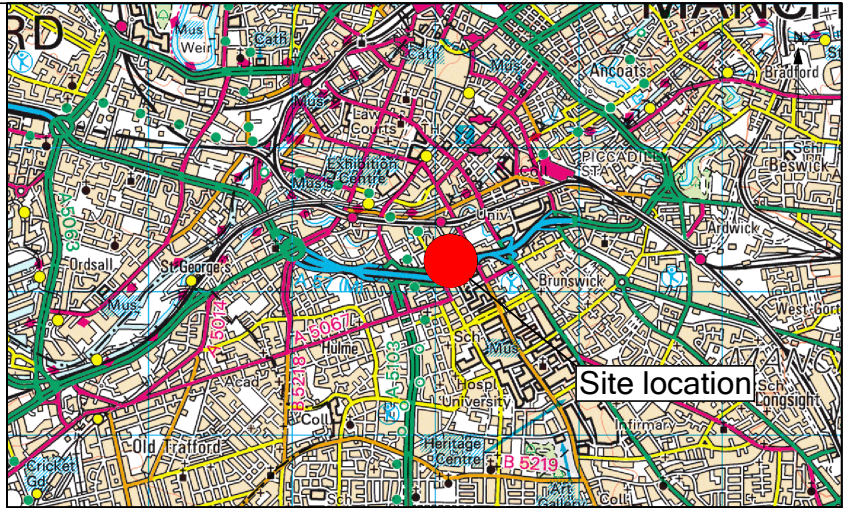


Figure 1:

Site Location

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384000

384100

397300

397300

397200

397200

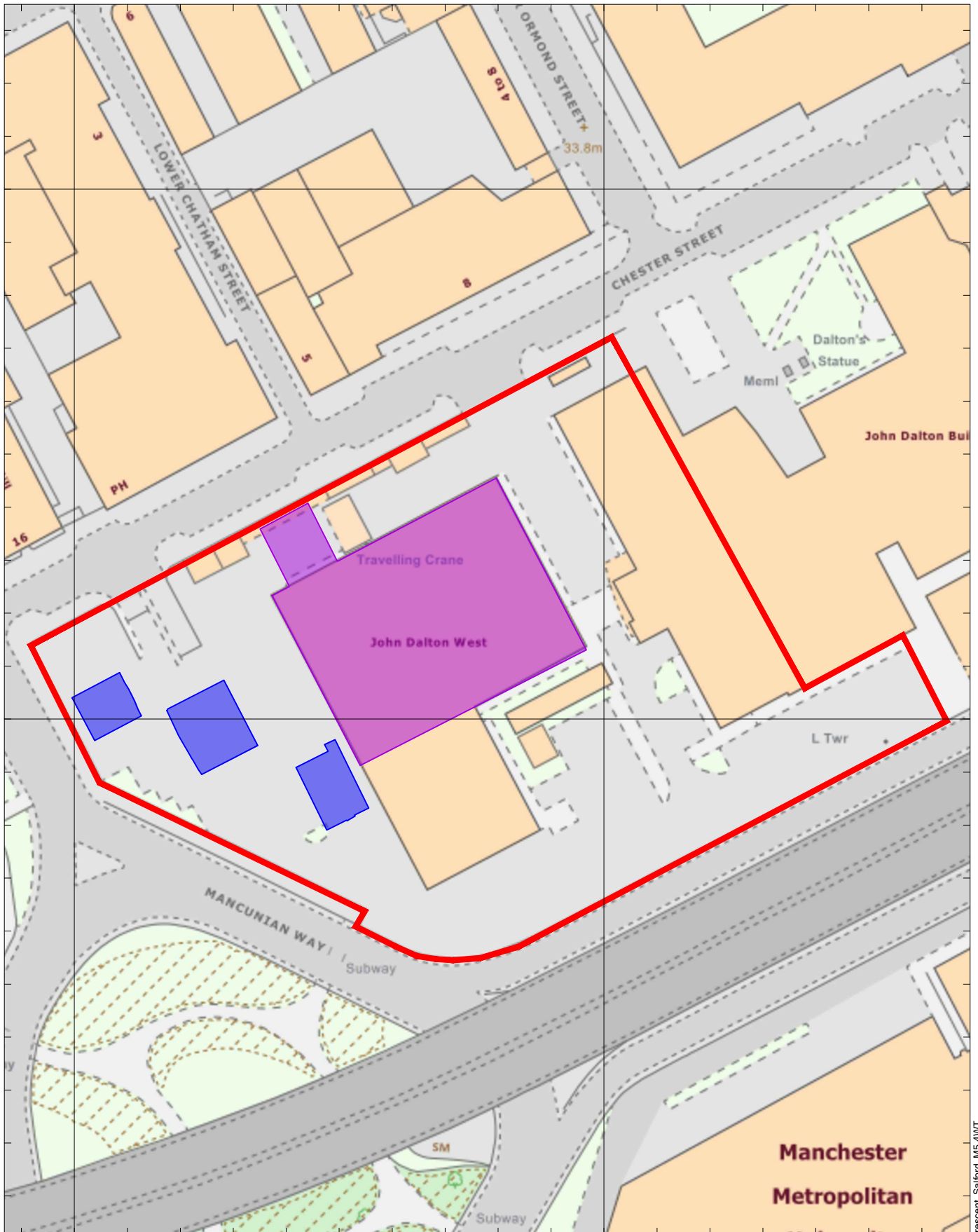


Figure 2:

Watching Brief and Excavation Areas Superimposed onto Modern Mapping

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Key:

- Site Boundary
- Watching Brief Area
- Excavation Areas


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0 50 m

Scale at A4 1:1000

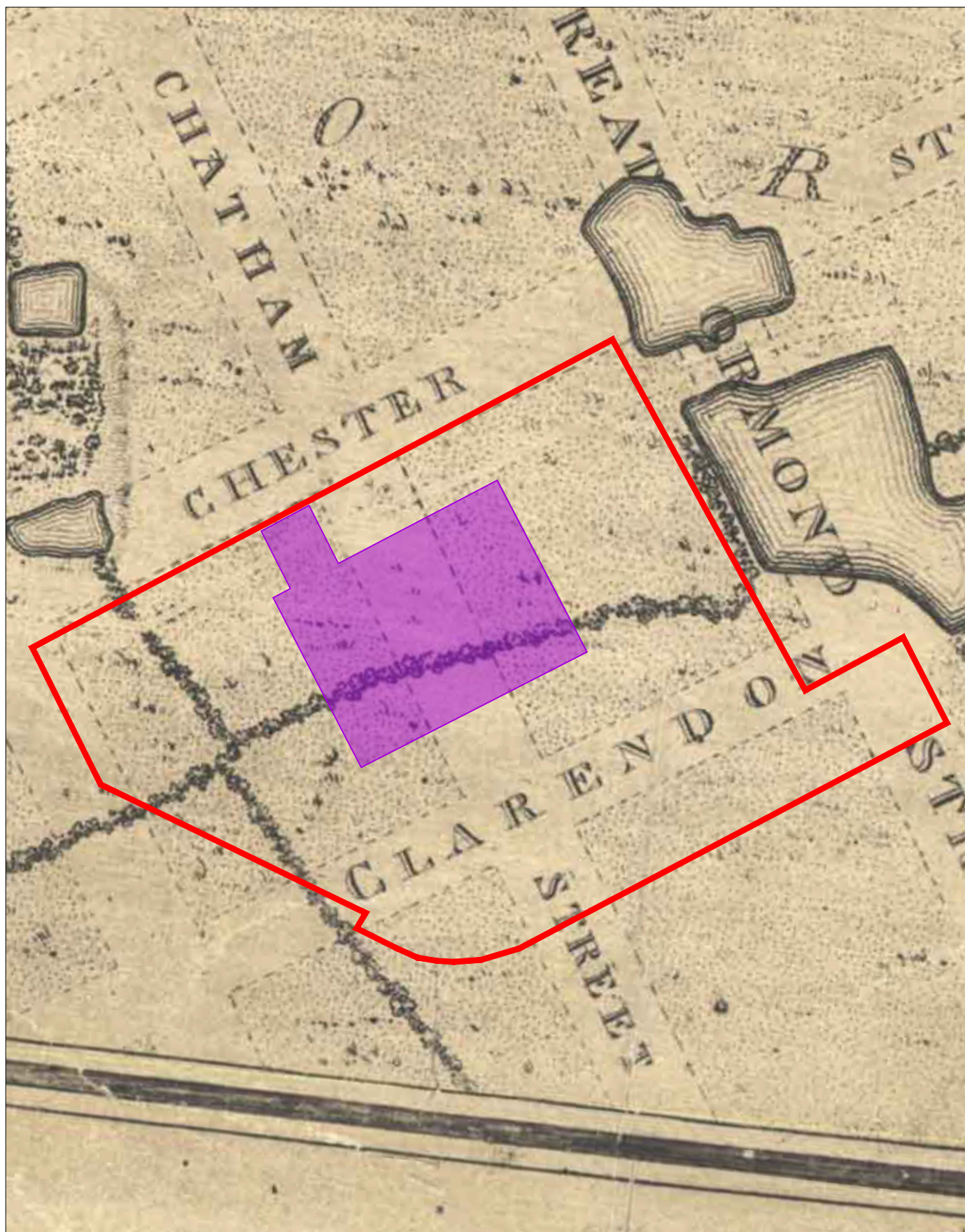


Figure 3:

Watching Brief Area Superimposed onto Green's Map of Manchester & Salford 1787-94



Key:

- Site Boundary
- Watching Brief Area



**SALFORD
ARCHAEOLOGY**

0 50 m



Scale at A4 1:1000

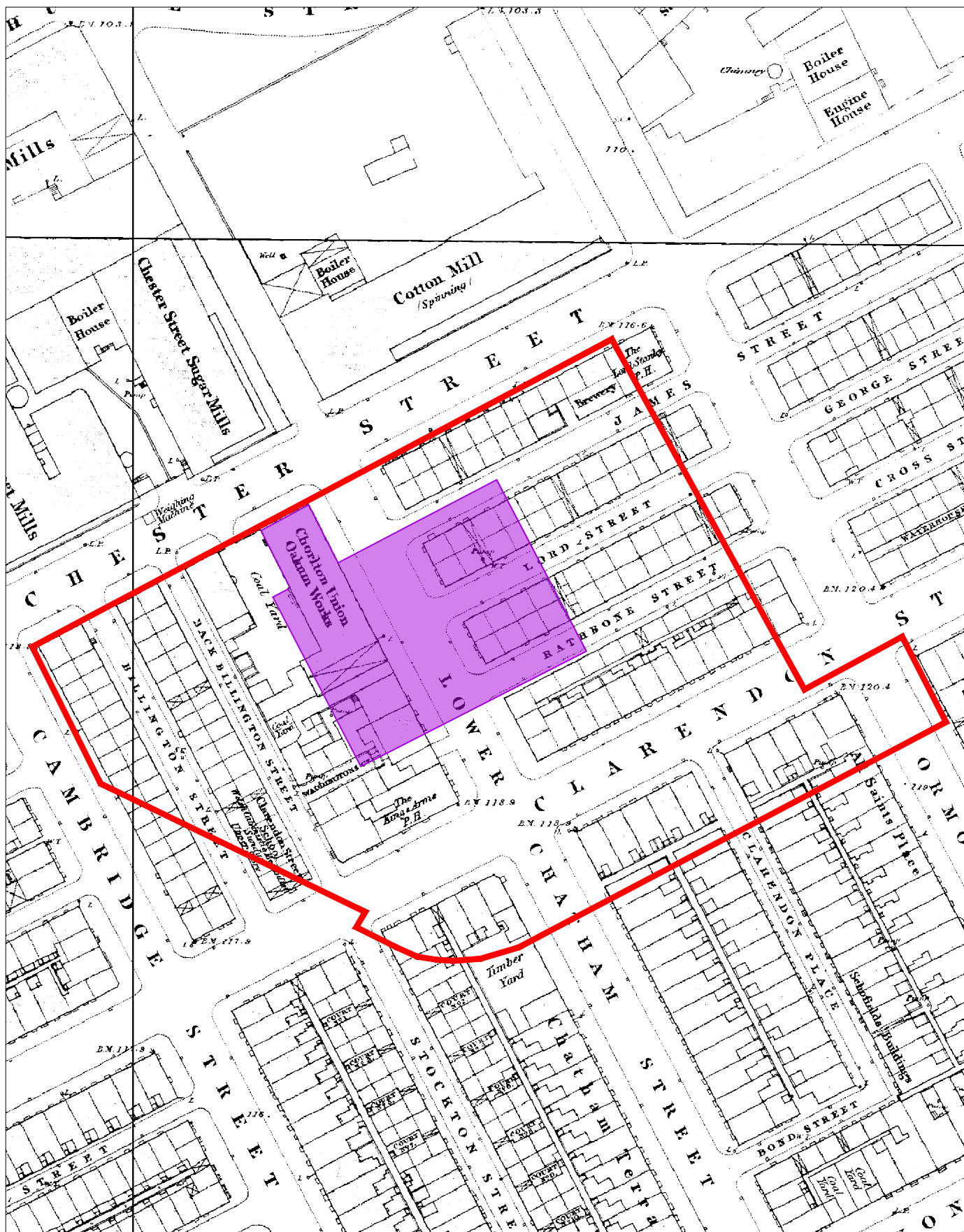


Figure 5:
Watching Brief Area Superimposed onto the 1:1056 Town Plan of 1851

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Key:

- Site Boundary
- Watching Brief Area



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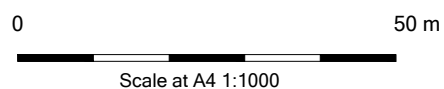




Figure 6:

Watching Brief Area Superimposed onto the 1:500 Town Plan of 1891

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Key:

- Site Boundary
- Watching Brief Area



**SALFORD
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0 50 m



Scale at A4 1:1000