

University of
Salford
MANCHESTER

**Archaeological
Excavation**

Wellington Street,
Bury.

Client: Kier & Greater
Manchester Fire and
Rescue Service

Technical Report:
Sarah Cattell

Report No: 20/2015



Site Location: The site lies just off Wellington Street, Elton, Bury (SD 79583 10525) within a secure compound at a height of roughly 80m AOD. It is located approximately 200m south-east of the A58 (Bolton Road), 750m south-west of Bury town centre and 175m north of the Wellington Street Railway Viaduct.

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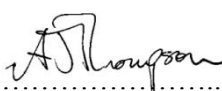
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Summary

Salford Archaeology (SA) was commissioned by Kier Construction on behalf of the Greater Manchester Fire and Rescue Service to undertake an archaeological excavation on the land to the east of Wellington Street, Bury, Greater Manchester (centred at SD 79583 10525). This work was carried out in response to the findings of archaeological evaluations of the site produced by the Centre in 2013 (Maguire, 2013) and 2014 (Cattell, 2014). Excavation areas were located to investigate the nature and extent of the remains associated with the 18th and 19th century Barlow's Bleach Works and the 19th and 20th century industrial sites of Elton Paper Mill and Victoria Mill as well as Victoria Row, a terrace of workers housing on the western side of the site. Open area excavations were carried out in the areas occupied by Elton Paper Mill, Victoria Mill and Victoria Row with a watching brief on the area occupied by Barlow's Bleach Works.

Prior to the commencement of archaeological works an extensive geo-environmental investigation and testing regime was carried out. As a result of asbestos found during this programme and after consultation with the HSE regarding the remediation works required at the site, it was considered prudent to notify the scheme as Licensed Asbestos works. A licensed Asbestos removal contractor was appointed to supervise and remove fragment asbestos from within the soils as works progressed. As a result of health and safety measures to mitigate against contamination the excavation strategy was revised as high dust producing excavation techniques were prohibited. This did affect the ability of archaeological staff to carry out the excavation in the normal manner.

Despite the difficulties posed by the health and safety precautions, significant remains associated with the power systems of both mills and the 19th century workers housing including evidence of phased construction were uncovered in all the excavation areas. In particular the remains of the paper mill chimney and possible engine structures within Victoria mill were identified. Very little, however, was observed in the area highlighted for a watching brief to assess the remains of the Barlow's Croft Bleach works as the construction of the later paper mill had removed all earlier features.

1. Introduction

1.1 Background

Salford Archaeology (SA) was commissioned by Kier Construction on behalf of the Greater Manchester Fire and Rescue Service to undertake an archaeological excavation on the land just off Wellington Street, Elton, Bury (SD 79583 10525).

The purpose of the excavation was to identify and record as far as possible the archaeological remains associated with the industrial activity on the site in the 19th century. This work was informed by two earlier phases of evaluation works and a Desk Based Assessment and was required to fulfill planning conditions in advance of the construction of a new Fire Service training centre.

1.2 Location, Topography & Current Land Use

The site lies just off Wellington Street, Elton, Bury (SD 79583 10525) within a secure compound at a height of roughly 80m AOD. It is located approximately 200m south-east of the A58 (Bolton Road), 750m south-west of Bury town centre and 175m north of the Wellington Street Railway Viaduct. The site is bounded on the West by Wellington Street, on the east by the river Irwell, on the north by several Industrial estates and on the south by Victoria Mill and the Railway Viaduct (see Fig1).

The Geological bedrock for the Wellington Street site is described by the British Geological Survey on-line search facility as; Carboniferous sandstone, overlain by superficial river terrace deposits and alluvium. These superficial deposits comprise of sandy gravels and clay silts (<https://www.bgs.ac.uk>).

1.3 Personnel

The project was conducted by professional archaeologists from SA. On-site excavations were conducted by Sarah Cattell, John Roberts and Emilie Hayter. The report was compiled, written and illustrated by Sarah Cattell and Emilie Hayter. The project was managed by John Roberts.

1.4 Monitoring

Norman Redhead, the Heritage Management Director (Archaeology) for Greater Manchester Archaeology Advisory Service, (GMAAS) monitored the archaeological works throughout.

2. Historical Background

Historical Background

The Desk Based Assessment undertaken by Matrix Archaeology describes the historical background for the Wellington Street study area in great detail. In order to avoid repetition, the historical background provided here is a condensed copy (Matrix, 2013).

Prehistoric & Romano-British

No finds of the prehistoric and Roman periods are known from within the study area. The nearest such finds have been two Bronze Age urns were discovered in the vicinity of the parish church and the old Grammar School on The Wylde (HER 3821.1.0; 8259.1.0). A single sherd of Roman pottery is reported to have been found during excavations at Bury Castle in the late 1990s (N Redhead, pers comm) and in 1992, settlement evidence dated to the late Iron Age and Roman periods was discovered at Castle Steads, Burrs, 2.5km to the north.

Medieval and Post Medieval

Historically the study area lay within the township of Elton, in the parish of Bury. Elton is documented from the 13th century and was probably a settlement within a larger estate that centered upon Bury.

In the post-Conquest period Elton seems to have been considered to be a hamlet, or subordinate part, of the manor of Bury. That manor is documented from the late 12th century and by the mid-14th century was held by the Pilkingtons. In the 1480s the family's estates were confiscated by Henry VII and granted to the earl of Derby. The earls were still major local landowners in the industrial era.

During the 15th century Bury manor was redeveloped as Bury Castle and Bury was granted a market charter in about 1440. The town remained a relatively small-scale urban centre until the Industrial Revolution.

To the north of the study area, the present bridge carrying the A58 over the river marks the ancient crossing point of the road between Bury and Bolton. The present Bolton Road was built as a turnpike under an Act of Parliament of 1821.

Yates's 1770's map of Lancashire shows a small settlement to the north, named on later mapping as Brook's Mouth. Hinds Lane ran from Brook's Mouth, across the

western side of the study area, to the small settlement of Hinds Fold. Yates's map appears to show no buildings within the study area itself.

Industrial

The known evidence for the development of the study area dates from the late 18th century onwards, when it was transformed by the impact of the Industrial Revolution. This transformation began with the establishment of Barlow's bleach works (Fig.19), followed within a few years by the construction of the Manchester, Bolton and Bury Canal. In the second half of the 19th century the bleach works were replaced by Elton Paper Mill, occupying most of the study area to the east of the canal and part of the study area to the west, where two cotton mills, the Victoria Mill and Albert Mill, were also constructed (Fig.20).

A brief overview of the Industrial landscape of Bury can be observed in 'Cotton Mills in Greater Manchester' (Williams & Farnie, 1992). Local, comparative, archaeological material is documented in 'The Rock Triangle, Bury' (Miller, 2006-7) whilst 'An Industrial Art: The Archaeology of Calico Printing in the Irwell Valley' (Miller, 2012) provides an overview of the development of textile finishing in the area.

Archaeological Background

An archaeological desk based assessment was undertaken by Matrix Archaeology Ltd in August 2013 (Report No. 2013-10). This report highlighted that the Wellington Street study area had the potential to contain below ground remains of C18th and C19th century buildings pertaining to the industrial expansion of Bury. These sites were assessed in accordance with the NPPF (National Planning Policy Framework, March 2012). Subsequently, Barlow's Croft Bleach works and the Victoria, Albert and Elton Mill engine house complexes were deemed to be of significant importance to warrant further investigation which was secured through.

The evaluation brief recommended that in the first instance the excavation of six evaluation trenches be carried out in October 2013. The trenches were targeted to assess the preservation and extent of C18th and C19th buildings that were highlighted within the DBA completed by Matrix Archaeology Ltd. Trenches were located to assess the potential for remains associated with Barlow's bleach works, the Victoria Mill engine house, workers housing on Victoria Row, the engine house of Elton Mill's western complex and the main engine house at Elton Paper Mill. Significant archaeological remains relating to the 19th century occupation and use of the site were discovered in all but one of the evaluation trenches. This led to an excavation carried out in January 2014 which was targeted on the site of the Elton Paper Mill/ Barlow's Bleach Works designed to assess the potential for further remains of the earlier bleach works below those discovered relating to the 19th century paper mill.

3. Methodology

3.1 Excavation Strategy

The aim of the archaeological excavation was to progress our understanding of the origins, form and character of the buried remains associated with Barlow's Bleach works, Victoria Mill and Elton Paper Mill. This information was required in advance of the construction of the new Fire Service training centre.

Discussions with Mr N Redhead (Heritage Management Director (Archaeology) for Greater Manchester Archaeology Advisory Service) led to the design of three areas of excavation across the site totalling 2800m² of open area with a further 200m² area for Watching Brief (**Fig. 24**).

Area 1 – Located to target remains associated with the Elton Paper Mill engine house and chimney.

Area 2 – Located to investigate the engine house and power systems of the Victoria Cotton Mill.

Area 3 – Located to target remains associated with workers housing on Victoria Row.

Watching Brief Area – Located to investigate the potential for remains of the earlier Barlow's Bleach works site below those of the Elton Paper Mill.

3.2 Excavation Methodology

Prior to the commencement of archaeological works an extensive geo-environmental investigation and testing regime was carried out. As a result of asbestos found during this programme and after consultation with the HSE regarding the remediation works required at the site, it was considered prudent to notify the scheme as Licensed Asbestos works. A licensed Asbestos removal contractor was appointed to supervise and remove fragment asbestos from within the soils as works progressed.

It was therefore essential that when excavation started archaeological staff followed exactly the health and safety requirements of the licensed asbestos contractor. The full extent of the site was designated as a respirator zone. As well as respirators full disposable coveralls had to be worn and decontamination procedures put in place for workers exiting the respirator zone. Tools and equipment were also subject to decontamination.

Due to the risk of releasing asbestos fibres into the air the use of hand tools was severely restricted and in particular hand brushes were prohibited. All hand excavation and cleaning was carried out under the supervision of the licenced asbestos contractor. As a result these stringent but necessary health and safety precautions did affect the ability of archaeological staff to carry out the excavation in the normal manner as some tasks could not be undertaken.

As an additional safety precaution machine watching during excavation was done from behind barriers with licenced asbestos contractor present at all times.

Where possible and necessary all archaeological features selected (stratigraphical layers, cuts, fills, structures) were evaluated by hand tools and recorded in plan at 1:20 or in section at 1:10 using standard single context recording methods with photographs taken as appropriate.

Removal of modern overburden (topsoil and subsoil) was conducted using a mechanical excavator with a toothless ditching bucket under the supervision of a professional archaeologist and licenced asbestos contractor acting as a banksman. Removed overburden was stored on a single mounded spoil heap located at an appropriate distance away from the main open areas of excavation within the fenced edges of the area compounds.

Machine excavation continued in 100mm spits until either natural geological deposits or significant archaeological deposits were identified. Machine excavation remained cautious, with preference for surviving information and hand excavation where possible once interfaces were encountered.

During the machine excavation and until the programme of archaeological works were complete, the open area excavation and spoil heaps were surrounded by Herras fencing, located not less than two metres away from the edges of either.

Following machine excavation all areas were cleaned using appropriate hand tools and archaeological features recorded by photography and scaled plan.

During the machine excavation and planning phase Mr Norman Redhead of the Greater Manchester Archaeological Advisory Service (GMAAS) was consulted at regular intervals.

3.3 Recording Methodology

A unique text-number site code was created prior to the commencement of the programme of works.

Separate contexts were recorded individually on pro-forma context sheets. Plans and sections were recorded on drawing sheets at an appropriate scale of 1:10, 1:20, or 1:50, depending on the complexity of the data and features encountered. All drawings will be individually identified and cross referenced, contexts enumerated and principal layers and features annotated with OD level information.

A 'site location plan' indicating the site north and based on the current Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO) was prepared. This was supplemented by a trench plan at 1:200 (or 1:100), which shows the location of the areas investigated in relation to the investigation area and National Grid Reference (**Fig. 24**). The location of the OS bench marks used and the site TBM will also be indicated.

The OD height of all principal strata and features was calculated and indicated on the appropriate plans and sections.

Photography of all relevant phases and features was undertaken with digital formats. General working photographs were taken during the duration of the archaeological works, to provide illustrative material covering the wider aspects of the archaeological work undertaken and which were needed for the Greater Manchester Historic Environment Record (HER). A copy of the digital photographs will be made available to the curatorial body, GMAAS with the production of the technical archaeological report.

All finds were recorded by context. Significant "small finds" located within three dimensions to the nearest 10mm and bagged and labelled separately, numbered and a simple description made so that they can be identified within the assemblage.

4. Archaeological Descriptions

Area 1



Fig.1. General view of Area 1 showing the remains of the chimney (075) and wall (073). Looking south.

This trench was targeted to locate the remains of a possible engine house and chimney associated with Elton Paper Mills, highlighted within the DBA. Excavations in this trench uncovered remains that were possibly associated with several phases of construction observed through historic mapping. Much of the trench was affected by waterlogging.

All remains in this area were found to lie below a *c.*0.30m thick layer of overburden and a 20th century concrete slab floor (079) measuring 0.15m in thickness. Following the removal of (079) a mid grey-brown demolition layer (077) rich in stone, brick and concrete rubble was identified above and surrounding a number of brick structures. This deposit also had several lenses of a yellowish grey clayey deposit which was found near to walls (073) and (076).

Three standing walls were identified during the excavation of Area 1, all of which were revealed at a depth of approximately 0.50m. Wall (073) was found to lie along

the northern edge of the excavation area and was composed of handmade bricks laid in English Garden Wall bond with black mortar. The excavated length of (073) was



Fig. 2. Detail view of (075) showing flue (partially submerged) in foreground and wall (076) to the south. Looking west

5.00m and the height was 0.95m (7 brick courses). A ceramic drain (074) was found to lie immediately south of the wall and was also orientated east-west. Both the wall and drain appeared to be set within a very dark brownish black silty deposit (080) which had very few inclusions of sub-angular stone fragments.

This deposit lay against a large circular brick wall (075) with an external diameter of 7.00m and a thickness of 1.00m. This wall was identified during the evaluation phase of work within Trench 6 but was not excavated due to safety concerns. The wall was found to comprise of 5 courses of heavily degraded handmade brick laid with stretchers on the external and internal faces with the core made up of header courses. The internal face on the western section of the wall was heavily truncated leaving only 3-4 courses of brick visible. A rounded channel was identified running north-south across the south-eastern section of the wall which was constructed using stretchers laid on their sides, the base of which was found at a depth of c.0.25m. The central area within the wall was filled by (077).

To the south of (075) lay a short section of a machine made brick wall (076) which ran east-west and measured 2.35m x 0.51m. This wall was also identified during the

evaluation and appears as context (032) in the report for this earlier work. The wall was composed of 6 courses of frogged bricks, of which 3 were projecting foundation courses, laid with a black mortar.

A third standing wall (**078**) was identified within Area 1, however this was badly damaged and only visible in section. The wall appeared to be constructed of machine made bricks laid with white mortar, although the bonding and dimensions could not be ascertained.

Area 2



Fig. 3. General view of Rooms 1 & 2, Area 2. Looking south.

This trench was located to identify the remains of the possible engine house/power systems associated with the Victoria Cotton Mill to the west of the canal highlighted in the DBA. Excavation in this trench was limited due to the later construction of 20th century stanchion bases which had destroyed the archaeological features on the northern side of the proposed excavation area.

All remains in this area lay below a layer of topsoil to the south and a concrete slab to the north. The only features identified on the northern part of the site were revealed in the north-east corner where a machine made brick wall (**006**) was identified extending northwards from (005). The wall measured 2.80m x 0.65m and was composed of 8 courses of brick laid with black mortar, 6 of which were projecting foundation courses. A square stone block measuring 0.70m x 0.80m was found set into the wall at its junction with (005). This block had the remains of four iron bolts arranged in a square pattern within a recess in the top of the block. A yellow-brown silty clay (**021**) was found to lie between walls (005) and (006) which appeared to be natural, possibly re-deposited, but had lenses of a loose black clinker rich in 19th century pottery fragments (**020**).



Fig 4. Western side of Room 1 showing walls (002) and (004). Looking west.

Two rooms were identified in the south-eastern corner of the area, elements of which were identified during the evaluation phase. Room 1 was found in the far south-eastern corner of the area and was bounded to the north by a rubble core stone wall (001), to the south by a handmade brick wall (002) which continued westwards into Room 2, and to the west by a stone wall with 2 courses of handmade brick added to the top (004). This wall appeared to have been cut by (002) and the join filled by brick fragments, possibly as part of the same phase as the top 2 brick courses. The eastern edge of the room was bounded by the eastern trench edge. No floor surface was identified within this room, although a light yellowish-brown sandy deposit (021) was found across the lower level of the room which was cut on the eastern side by a stone culvert (003) running northwest-southeast which was identified in the evaluation phase as context (050). Three deposits of (020) were identified within layer (021) which were found to be rich in bitumen fragments, brick and mortar.



Fig. 5. Eastern side of Room 1 showing culvert found during the evaluation works. Looking east.

Room 2 was found to lie immediately west of Room 1 and shared wall (004) as its eastern boundary. The room was bounded to the south by the continuation of wall (002), to the north by a dressed stone wall (005) and to the west by a rubble core stone wall (007). Wall (005) was almost identical to (004) with the same type of mortar, however the brick course identified on this wall was far less substantial and was only seen at the far eastern end. In the southeast corner of the room wall (002) was discovered to have a large sandstone block measuring 1.65m x 0.65m inserted *c.* 7 courses below the top of the wall with a row of handmade bricks laid as headers above. Directly opposite this in wall (005) was a square opening measuring 0.50m x 0.50m which was edged with narrow stone blocks and filled by (022), a demolition layer covering many features in this area. Both features in the walls were aligned with two large dressed sandstone blocks which dominated the majority of Room 2. The larger of these was (013) which abutted and extended 2.25m from wall (005) and measured 1.30m wide and 0.50m thick. The smaller block (014) lay 0.90m south of (013) and 0.70m north of (002) and measured 1.30m x 0.50m x 0.50m. Neither block had any evidence of fixing points/ironwork/recesses but both were found to lie on a rough stone floor (027) although this stopped 0.25m short of wall (002) with the void filled by (028), a yellow-brown sandy demolition layer containing mortar and brick fragments. Wall (007) lay approximately 0.50m west of blocks (013) and (014) and was heavily truncated leaving only one stone course visible with a single course of handmade bricks lying along its western face all bonded with a light yellowish-brown sandy mortar. This wall abutted (005) to the south and was abutted by (019) on its western side. The wall lay against a compacted dark reddish-brown demolition deposit with frequent inclusions of brick fragments and black mortar.



Fig. 6. General view of Room 2 showing stone beds in the centre. Looking southeast.



Fig. 7. Wall (019) in foreground with brick structure (009) to rear. Looking west.

No more discreet rooms were identified to the west of Area 2 however two large brick structures (008) and (009) and associated features were revealed on this side of the site. Both brick structures were constructed of machine made brick standing to a height of 1.40m with a course of 0.30m thick dressed stone blocks c.0.80m below ground level which in turn lay over a further 4 courses of more degraded bricks. The upper courses of both structures consisted of heavily damaged brick with a 0.15m hole bored into the eastern side of each and were previously identified during the earlier evaluation. Structure (008) was the smaller of the two and measured 1.90m x 4.00m with the larger, (009), measuring 2.00m x 5.00m, both appeared to continue southwards beyond the limit of excavation and were abutted to wall (019) in the north. These structures were separated by a 1.75m wide recess in which a rough stone floor (015) was identified on top of which lay two dressed stone blocks (018) and (017) measuring 0.30m x 0.80m lying opposite each other against (008) and (009) respectively. A 0.60m wide area of dark yellowish-brown silty sand (016) was revealed at the northern end of (015) lying against (019) which was rich in stone, brick and mortar fragments with lenses of black clinker material.



Fig. 8. Internal space between (008) and (009). Looking north.



Fig. 9. Brick structure (009) and walls (011), (012) and (025). Looking south

Wall (019) measured 4.40m x 0.70m and ran between wall (007) in the east and (009) in the west which abutted it. The wall was constructed of both dressed and rough stone blocks laid with a yellow sandy mortar and stood to a height of 1.30m (7 courses). At its western extent the wall was abutted by an almost identical wall (**011**) which continued northwards before being truncated by the layer of concrete on this side of the site. Both walls appeared to be abutted to by (009) with some of the bricks from this structure even found to overlie the stone walls. Two similar stone walls were also revealed to the west of (009) which were of almost identical construction and bonding. Wall (025) lay against the northern end of (009) with some of the bricks from this structure obscuring its upper course, making it difficult to ascertain if this was a continuation of (019) or a separate wall. The wall measured 2.80m and stood to a height of 1.00m at its eastern end where it abutted (011), but was heavily truncated to the west where only one stone course was visible. Approximately 1.50m south of (025) lay the final stone wall found in this area. This wall was again constructed of dressed and rough stone blocks with a sandy mortar measuring 3.20m x 0.80m. the wall was aligned north- south and may have formed a return of wall (025) although both walls have been destroyed at the possible site of this junction.

Area 3

This trench was excavated to locate any remains associated with a terrace of workers housing and industrial premises on Victoria Row. Although the road line still exists as part of the current site, small alterations to its alignment have been made which have led to the truncation of some of the remains of the earlier structures on the northern



Fig. 10. General view of eastern side of Area 3. Looking north.

edge of the trench. All features identified lay below a *c.*0.35m thick layer of concrete and hardcore. Despite this the remains of several rooms were able to be identified across Area 3.

The eastern side of the trench was dominated by the machine made brick remains of a 20th century industrial structure identified on the 1957 OS mapping. The eastern edge of the trench was formed by a machine made brick wall (**037**) with black mortar overlaid by a concrete floor surface (**081**) which appeared to continue eastwards beyond the excavation area. To the south this wall was abutted by an almost identical brick wall (**036**) which was 3 courses wide, 4 courses high and orientated northeast-southwest. The northern end of (**037**) abutted wall (**041**) measuring 12.80m x 0.30m which was also machine made with black mortar and ran east-west parallel to the



Fig. 11. General view of western side of Area 3. Looking northeast.

roadway. At its western extent this wall abutted a third machine made brick wall (050), also laid 3 courses wide in black mortar and orientated north-south. This wall also possessed the remains of four small buttress structures on its eastern face.



Fig. 12. Floor (044) showing drain and cut [039]. Looking east.

The area enclosed by these walls contained a number of brick and stone remains with the outline of several rooms visible, although some features had been damaged or truncated by a 20th century services cut [039] which bisected the area running west from (037). Room 1 was revealed on the eastern side of the trench and was bounded by (037) to the east, (041) to the north, (036) to the south and (042) and (043) to the west. The main area of the room was dominated by a stone flagged floor (038) comprised of flags measuring approx. 0.70m x 1.00m cut by [039] in the centre with a drainage channel to the south. To the west the room was bounded by two walls (042) to the north of [039] and (043) to the south. Both walls were constructed from handmade brick laid 2 courses wide with white lime mortar and ran parallel to (037). Wall (042) measured 5.00m x 0.40m and had an additional course of sandstone blocks on its eastern face, excavation revealed it to stand to a height of 0.80m. Wall (043) appeared to be constructed on the top of (038) and only survived to a height of 2 courses (0.25m). To the west of this wall another area of stone flags (044) was identified which was almost identical to (038) and may have been a continuation of this floor. To the north floor (044) was truncated by [039] with no evidence of its continuation north of this cut. The floor was also cut to the south by a rectangular stone feature (056) which abutted (036) and measured 1.40m x 1.95m. A line of stone flags standing on edge (057) were revealed enclosing the feature on the eastern and north-eastern sides with smaller stone flags laid on a rotated alignment on the western side.

Room 2 lay adjacent to Room 1 and was bounded to the north by (041), to the east by (042), to the south by (045) and to the west by (046) and (064). Wall (045) measured 3.00m x 0.80m and was composed of roughly cut sandstone blocks laid 3 courses high. This wall abutted (064) to the west which was a zig-zag handmade brick wall aligned north-south measuring 1.30m x 0.25m with a concrete drain close to its junction with (047). Wall (046) lay approximately 0.75m north of (045) and was also constructed of handmade brick with a white lime mortar. The main part of this wall measured 2.00m x 0.25m and was aligned north-south although two small projections westwards were identified at either end, the northernmost of which abutted (047). The inside of Room 2 was filled by a dark grey-brown ashy deposit with frequent inclusions of brick, stone, mortar and clinker (054) which lay against the walls surrounding it, rather than cut by them.



Fig. 13.
Wall (045)
showing (046)
and (047) at
rear. Looking
west.

Wall (047) abutted the western extents of both (064) and (046) was aligned north-south and measured 4.50m x 0.25m. The wall was composed of 2 courses of handmade brick laid with white mortar and possessed two spurs extending c.0.60m westwards c.1.20m apart with a 0.65m square brick feature between. Room 3 was identified to the west of this wall and was enclosed by (041) to the north, (048) and (063) to the south and (050) to the west. This room, like Room 2 was also filled with a dark ashy material containing fragments of brick, stone and mortar (055). A small machine made brick wall (072) was identified extending 1.20m south into the room from (041) which was laid 2 courses wide with white mortar. Wall (048) overlaid (063) both running east-west 4.00m south of (041). Wall (048) measured 1.85m x 0.30m and consisted of 2 courses of handmade brick laid with white mortar. Despite

forming the southern boundary of Room 3 this wall did not abut (047) and was removed at the possible junction point with (050). This wall appeared to be laid on top of the stone wall (063) which measured 3.00m in length and was badly disturbed at its western end, where again, its relationship with (050) could not be ascertained. Wall (050) ran north-south across the extent of the trench measuring 0.35m wide constructed of machine made frogged brick laid with a light yellowish-brown mortar. Four small buttress structures were identified 2.00m apart along the eastern face of this wall along with a short projecting wall to the south on the western face.



Fig. 14. Floor (051) with Rooms 5 and 6 behind. Looking north.

This wall also formed to western boundary of Room 4 which lay to the south of Room 3 and was also filled by (055). The northern boundary of this room was (048) which was abutted to the south by wall (062) running north-south which in turn abutted (082) a east-west orientated handmade brick wall. Wall (062) measured 2.20m x 0.25m and comprised a single course of handmade bricks laid as headers. Wall (082) measured 2.70m x 0.35m and was found to have a northern course of stretchers with a southern course of headers, although both courses were heavily degraded which also made its relationship with (050) difficult to ascertain. Immediately south of this wall lay the truncated western extent of (044) which had been badly damaged by [039], although two drains survived in this feature.

The majority of the features identified to the west of (050) were the remains of stone structures, several of which were identified during the evaluation of 2013 (Maguire, 2013). A compact dark blueish-grey clay was revealed to surround all of the features on this western side of the trench and may have been a natural deposit. Room 5 lay to the west of (050) but was bounded by wall (067) which was a second machine made brick wall measuring 3.70m x 0.25m comprising 2 courses laid with white mortar lying against (050). The remains of a 20th century reinforced concrete floor were

found bonded to the western face of this wall. This and wall (067) in turn appeared to be built on top of a stone wall (064) following the same alignment and constructed from rough sandstone blocks of which only two were visible at the southern end of (067) and two further south within Room 6. Walls (049) and (052) formed the southern and western boundaries respectively of Room 5, both of which were stone walls composed of dressed and rough sandstone blocks laid with a yellowish-brown mortar.

Wall (052) continued southwards beyond Room 5 to form the western boundary of Room 6 and was identified to be overlain by a brick wall (083) within this room. This wall was composed of 2 courses of machine made brick laid in headers with black mortar and measuring 2.10m x 0.25m. To the south of this wall on its eastern face it abutted another machine made brick wall (059) in the same alignment and measuring 3.30m x 0.25m laid with white mortar. The room also shared wall (049) as its northern boundary and (050) as its eastern. Although a similar stone wall was expected to form the southern boundary of the room no evidence of this structure could be found, although this may have been removed by the construction of a stone flagged floor surface (051) extending from this projected line to the southern trench edge. This surface measured 4.00m x 4.25m but was fragmented in its south-western corner. The flags on the eastern side of the surface had been cut by a 20th century brick and concrete drain.



Fig. 15. Detailed view of Room 7. Looking east.

Rooms 8 and 10 were identified to the west of Rooms 5 and 6 respectively and shared wall (052) as an eastern boundary. Room 8 was bounded to the north by the trench

edge and may have originally been bounded to the south by the continuation of (049) however this section of wall had been removed and was only visible again further west in Rooms 9 and 7. Both rooms shared **(061)** as a western boundary which comprised the heavily fragmented remains of a sandstone wall possibly similar to (049). Room 10 was bounded to the south by another stone wall **(060)** almost identical to (049) in form and bonding which continued westwards forming the southern boundary of Room 7 before running beyond the trench edge.

Rooms 9 and 7 were revealed to the west of Rooms 8 and 10 respectively and shared walls (061) and the western extent of (049). Both were bounded to the west by **(065)**, another stone wall comprised of rough and dressed sandstone blocks which abutted (060) to the south and measured 5.50m x 0.30m running north-south. Like Room 8, Room 9 also had no evidence of a northern boundary other than the trench edge, although stone blocks to the west of both (061) and (065) may suggest a position for such a wall that has since been removed.



Fig. 16. Detailed view of Room 9. Looking east.

The far south-western corner of Area 3 to the south of (060) had again been filled by a large deposit of (054) with only two features identified close to the southern trench edge. Wall **(069)** was a single course handmade brick wall with evidence of black mortar which curved round to the northwest to enclose an area of stone setts **(066)**. Evidence in this surface was identified to suggest a change of alignment of the setts between the northern and southern halves of the surface, although both appeared to be contemporary with the enclosing wall. Both surface and wall continued southwards beyond the excavation edge.



Fig. 17. Detailed view of surface (069) and (066). Looking north.

Watching Brief

An archaeological watching brief was carried out during preliminary groundworks on the site of the main Elton Paper Mill building/Barlow's Croft Bleach Works to investigate the potential for remains associated with the early mill structures or evidence of the earlier bleach works. This followed on from an archaeological excavation in 2014 which uncovered fragmentary remains, possibly relating to the early 19th century bleach works lying below the concrete structures which occupied



Fig. 18. Area of watching brief showing the lack of features below the concrete raft floor of the 20th century mill structure.

this part of the mill in the 20th century. The previous excavation was severely hampered by the ingress of groundwater into this part of the site which made full excavation impossible. In addition much of the archaeological record had been removed by the construction of a concrete raft floor, machinery bases and stanchion bases in the later 20th century.

The purpose of the watching brief was to ascertain whether early 19th century features had been preserved further north below this concrete layer. The current works however found that this was not the case and that the concrete layer and associated foundation structures continued northwards and in places, were identified at depths exceeding 3.00m. In addition, a large culvert was found to form the northern boundary of the watching brief area which appears to have been constructed to link the Manchester, Bolton and Bury Canal with the River Irwell to the east. This had also removed all archaeological deposits. As a result the watching brief was only able to identify fragmentary remains of the later paper mill probably dating to no earlier than the 1950s.

5. Archaeological Results

Area 1

The excavation of Area 1 was designed to expand on the findings of the 2013 evaluation by uncovering the full extent of the remains of the Elton Paper Mill chimney. According to historic mapping this feature had been the most consistent in this area throughout the history of the paper mill (**Figs. 20-23**) and is likely to have been situated close to the mill's power systems.

The remains of four structures were identified within Area 1 representing three possible building phases. By far the largest and earliest of these was the circular brick chimney foundation dominating the central part of the excavation area. Although heavily truncated during demolition, the excavation was successful in exposing the full circumference of the chimney including the position and remains of the flue on the southern side. Unfortunately due to waterlogging, the full depth of the chimney could not be excavated.

The wall identified to the north of the chimney, although not seen during the evaluation may be an easterly return of a wall revealed in evaluation Trench 6 (context 035). This is not only suggested by the alignment of the wall but also the great similarities between this and the wall identified in the evaluation. Historic mapping from the early 20th century would indicate that this wall may be an extension to the trapezoidal building to the north of the chimney seen on the 1889 OS map.

The second wall revealed, directly opposite to the south was identified during the evaluation and appears to follow the line of the northern wall of the main paper mill structure (Fig.). Mapping suggests that this wall was contemporary with the chimney however the remains identified are constructed of more recent frogged bricks. This discrepancy may be accounted for by the building phase revealed on the 1908 OS map showing the extension of the wall eastwards to enclose an opening on the northern side of the building. It is possible, therefore that the entire wall was reconstructed at this time.

The final wall in this area, to the east of the chimney, was heavily truncated but the nature of the bricks and mortar would suggest that it may have been part of this early 20th century reconstruction in this area of the mill. The poor quality of preservation makes it difficult to provide any further interpretation for this structure.

It had been hoped to follow these walls in order to possibly reveal the form of buildings associated with an engine house however excavation failed to reveal any archaeological remains other than the chimney base and the truncated walls. The area

had clearly been subject to a comprehensive programme of demolition and removal possibly in order to provide material to infill the nearby canal.

Area 2

The excavation of Area 2 built on the results of the evaluation and revealed information regarding the power systems associated with Victoria Mill which included evidence of two building phases.

The rooms identified in the south-eastern part of the trench appear to be the most complete structures associated with the earlier building phase. In both cases the stone walls forming the boundaries of these rooms have either been reduced in height, in the case of walls (001) and (007), or built over by later brick walls, in the case of walls (005) and (004). Other stone walls were identified in the western part of the trench which also had evidence of such alterations. Evidence of later backfilling was also revealed within these rooms with deposits of what appeared to be re-deposited natural silty clay with patches of 19th century refuse incorporated into it.

Room 2 retained the only evidence of the machinery which occupied this part of the mill during its earlier phase in the form of the two large stone engine beds. There was no evidence however of mountings or fixings on these stone blocks suggesting that upper blocks from this structure were missing, possibly removed prior to the brick building phase. The presence of an engine in this room also suggests the purpose of the opening in the lower part of the stone wall to the north, (005), which may have served as a drain for the engine.

The presence of almost identical stone walls to the west in alignment with those in Rooms 1 and 2 indicate that additional rooms existed in this area although alterations made during the later building phase have made the exact position and dimensions impossible to ascertain. It is likely that wall (019)/(025) was a single construction which formed the northern wall of these possible rooms and that wall (012) was the eastern boundary. However, it is possible that wall (011) may have continued southwards from wall (019) forming a dividing wall for any rooms in this area.

The second phase of building in Area 2 is represented by the introduction of machine made bricks as a construction material and seems to coincide with small scale alterations to the Victoria Mill between the 1890s and 1900s as viewed on the historic mapping. At some point in this period the OS mapping appears to show that an opening is created between the main mill building to the north and the smaller building (still standing) to the south. Such reorganising of the site may have also continued within the building leading to the construction of the brick walls seen in the excavation. It is difficult to say with absolute certainty whether the stone walls were merely foundations for the brick or indeed an earlier building phase, however, the fact that not all the stone walls have evidence of brick courses and that at least one of the

stone walls seems to be cut by brick wall (002) would suggest that these are two distinct and separate phases. The building of the later phase was able to economise on materials by reusing the earlier stone structures as foundations where possible.

This is also likely to be the case in the construction of the two large brick surfaces (008) and (009) to the west of Rooms 1 and 2. The westernmost of these structures was also built over an earlier stone wall and both structures contained a course of dressed stone which is likely to have been re-used from the earlier phase, possibly taken from the engine bed identified in Room 2. The size, configuration and space between these structures suggest that they may have been engine beds for a later, larger engine, fitted sometime in the late 19th/early 20th century. This interpretation is further strengthened by the small, deep holes identified in the surface of each bed which are likely to be access to the engines oil sumps (Nevell, pers. comm.). Based on the size and position of these beds it is likely that the engine fitted was a tandem, possibly compound, horizontal steam engine with the flywheel to the south beyond the edge of excavation. There is no solid indication for the position of boilers for this engine, although it is not unusual for them to be found to the side of the engine. If this is the case there is a possibility that the earlier phase stone beds in Room 2 may have been reused for this purpose and give a reason for the reduction in height of wall (007). The restructuring of this part of the mill clearly continues north with the construction of a wall and column base in the northern part of the trench but the exact layout could not be seen due to their removal by the later 20th century concrete structures in this area of the site.

Area 3

This area was targeted to locate further remains associated with the workers housing and later industrial units on Victoria Row which were revealed during the 2013 evaluation. This work uncovered evidence of three phases of occupation which the current excavation was able to confirm and expand on. The features identified in Area 3 followed almost exactly the structures seen on the historic mapping with the western half of the trench containing predominantly earlier housing structures and the eastern containing a later industrial structure.

The earliest phase of occupation for the area was represented by the truncated stone walls on the eastern side of the trench which correspond with the houses visible on the 1889 OS map and for which the DBA gives a construction date of between 1861 and 1864 (Matrix, 2013). The houses appeared to be of a ‘two up, two down’ configuration with a shared yard/open area to the rear, although the houses were given individual yards by the early 20th century (*Figs. 11, 15 & 16*). The excavation revealed that the houses were uniform in size, each measuring approximately 7.00m x 4.50m with the internal rooms measuring c.4.00m x 3.00m. Despite being heavily truncated, the isolated remains of similar stone walls on the eastern side of the trench do suggest that this room pattern was maintained along Victoria Row, even within the

larger manager's house at the eastern end. No internal features associated with the houses were revealed during the excavation, however patches of stone flags, setts and drains were identified which were able to illustrate the nature of the back yards. Indeed the area laid with setts enclosed by handmade brick to the south of Rooms 7 and 10 appears to occupy the same area as a small outbuilding seen on the 1889 map, possibly indicating the presence of outside toilets (*Fig.17*).

The later phases of occupation of this area coincide with the expansion of Victoria Mill sometime during the 1940s or 50s when the manager's house and easternmost cottage were demolished to make way for a triangular building fronting onto Victoria Row. According to historic mapping this building originally abutted the workers housing to the west. The fragmentary remains of wall (059) and floor surface (051) are likely to represent the western end of the earliest layout of this building. By the 1980s however the remaining cottages had been demolished and the triangular building reduced in length at its western end. This later layout can clearly be seen in the features revealed in the eastern part of Area 3 represented by the three machine made brick walls enclosing the area. It is likely that many of the features enclosed by these Phase 3 walls were in fact in place in the Phase 2 building layout and unaffected by the later alterations to the western wall. The flagged floor dominating the eastern side of the trench is almost certainly one of these earlier features and has clearly been used and altered during the occupation of the building. This is evidenced by wall (043) and feature (057) which have been built on top of and cut into respectively the main flagged surface.

Although the features to the north of the 20th century services cut were heavily truncated and damaged by the later concrete floors of the building, the nature of the bricks and bonding would suggest that they too belonged to the earlier 1940s/50s configuration of the building and were internal structures. A number of these seemed to re-use the earlier stone walls as foundations indicating that the demolition of the houses and expansion of the mill were part of a single episode of remodelling on the site.

During the later 20th century, as a result of the laying of drains and other services as well as the addition of concrete internal and external surfaces, much of the earlier remains were either removed, truncated or displaced.

6. Discussion

The excavation was able to uncover significant remains associated with the history of the site in the industrial period and reveals a picture of a busy, thriving, predominantly manufacturing area. Indeed it was one of the earliest textile factory sites in Bury and was part of the town's industrial growth from an early date. Despite lying outside the main town centre, it is unsurprising that the area became as industrially important as its location close to the main turnpike road between Bolton and Bury and its proximity to both the River Irwell and the Elton Brook was able to supply everything needed for industrial expansion. Unlike those in a town centre location the businesses occupying the study area were not constrained by the pressures of space and were able to expand their operations throughout the early 19th century onwards.

The Barlow's Croft Bleach Works certainly benefitted from these factors and they are almost certainly the reason that the younger Robert Peel's newly formed partnership with William Yates moved to the site sometime in the 1770s as an addition to their expanding portfolio of textile factories (Miller & Gregory, 2010). The company had a number of other factories around Bury operating in various aspects of textile production initially printing, but later diversifying into bleaching and spinning. This rapid expansion led to an urgent need for workers across Bury which in turn led to a vast increase in population from 2090 in 1773 when Peel and Yates first factory opened to 7022 just 28 years later in 1801. The company's profile continued to grow throughout the early 19th century until Peel's retirement in 1817 when it continued to prosper under the ownership of his former employees Messer's Howarth, Hardman, Norris and Hamer (Matrix, 2013).

The success of the wider company coupled with the growth of other cotton mills in the immediate area indicates that Barlow's Croft Bleach Works was part of a thriving industrial district providing work for a large number of people. As one of the Peel & Yates factories the bleach works is likely to have been appointed with the most up to date, efficient machinery and systems and any archaeological findings to confirm this would have been highly significant. It is therefore unfortunate, though not surprising given the continued growth of the area, that later occupation has removed the remains pertaining to this early establishment.

The industrial expansion of the site from the mid-19th century follows the wider pattern seen across Bury at this time with industrial units of all sizes appearing throughout the town. This expansion was largely due to the reliance on water power being removed by the increased use of steam to drive machinery. Previously mills were located close to one of the town's rivers or brooks in order to feed their water wheels however the advances in steam engineering in the early 19th century resulted in the ability of mill owners to locate their factories within the town and closer to

transport and trade links to maximise profit. These links were further boosted in the case of the study area by the opening in the early 1800s of the Manchester, Bolton and Bury Canal meaning that the site was now close to the main road and water links with the important centres of Bolton and Manchester. It is therefore clear why the site did not experience any periods of vacancy during its transition between owners throughout the 19th century.

Following its closure in the early 1850s the bleach works was sold at first to Robert Hughes from 1853-5 and then to Ralph Crompton in whose family it remained until the late 20th century. The earlier factory was demolished and replaced by the Elton Paper Mill. This was a complete remodelling of the land between the river and canal and the archaeological evidence suggests that a comprehensive clearance was undertaken before the construction of the mill. Any earlier remnants of the bleach works that did survive this programme seemed to be removed or truncated later as a result of the expansion or alteration of the building.

The paper mill enjoyed a long and prosperous history until its closure in the 1990s. The results of the watching brief suggests that although the external structure remained unchanged from the 19th century, internal structures relating to machinery installations and layout appeared to be subject to alterations well into the 20th century. This is borne out by the changing nature of the paper products manufactured there throughout its history which are likely to have required new equipment or changes to existing machines. Such changes will also have affected the power systems of the mill depending on the power requirements of different machines or increases in production, particularly in the late 1880s when the mill was described as the largest producer worldwide of coloured tissues (Matrix, 2013). This would be a reasonable explanation for the periodic alterations seen in the historic mapping to the buildings situated around the main chimney, the largest of which occurs sometime between the editions of 1939 and 1957.

As mentioned above, the mill was constructed at a time when steam power was outstripping the productivity of water and engines and machinery were constantly being improved and replaced. As a result the features and phasing within an engine house can be an indicator of major changes across the mill or factory as a whole. Although the paper mill's engine house was not revealed, the phasing of the structures around the chimney does follow the cartographic evidence and hint at possible changes associated with the power systems located in this area of the site. This again may be due to the changing power requirements of the mill machinery.

In the case of Victoria Mill this change of engine came about as a result of the rebuilding of the mill following its partial destruction by fire in 1871. The original structure was built between 1858 and 1864 as a cotton spinning mill and was recorded as having two engine houses and one boiler house, although their exact location is unknown. Historic mapping does not show this earlier building, although the

archaeological evidence found in Area 2 does indicate two phases of engine bases, the earlier of which may be related to the pre-1871 mill. Documents from the sale of the mill site in 1871 lists two ‘60 horse boilers, one 30 horse beam engine and one 34 horse horizontal engine’ all unaffected by the fire and obviously in a saleable condition (Matrix, 2013). The advertisement appears to infer that the structural fabric of the engine houses was still intact following the fire, with the engines left *in-situ* inside. This fact would explain the well preserved condition of the features in Area 2 and the lack of evidence for heat/fire damage. The configuration of the stone engine blocks attributed to this original mill are more than likely the lower of several courses forming an engine bed for the advertised beam engine.

A contemporary example of a similar engine can be found at Higher Woodhill Mill to the north of Bury adjacent to Burrs mill, now in Burrs Country Park. The beam engine bed here, although in a better state of preservation, appears to share the layout of a smaller block to support the cylinder and a larger on which to attach the flywheel, the opposite anchor point being located in the adjacent wall (Fletcher, 1994). The engine at Higher Woodhill is a slightly earlier example and was considerably larger at 100 horse power, however the base function would have been broadly the same. There was no evidence of the condenser found, however the opening discovered in the north wall of the engine room may have been the cold water drain and if so is in a similar location to that at Higher Woodhill (Fletcher, 1994).

Following the fire at Victoria Mill the site was sold off with the mill being rebuilt by a new company, the New Victoria Cotton Spinning & Manufacturing Co. Ltd. Despite the lingering effects of the cotton famine 10 years earlier and the rapid growth of the textile industry inside and outside Bury leading to increased competition, the New Victoria Co. expanded the business to include weaving as well as spinning. This was part of a wider trend within Bury for mills to diversify production away from the traditional occupation of spinning and into other parts of the textile industry (Miller & Gregory, 2010). This additional activity would have required a change to the power systems with greater output needed by a new set of machinery. By the late 19th century the expansion of the mill was such that the 1887 Elton poor rate valuation lists it as having three engine houses, two in the spinning mill and one in the weaving shed as opposed to only the two listed in the spinning mill in 1876, indicating the success of the weaving arm of the business (Matrix, 2013). It is probable that the spinning mill was the standing building still existing to the south of the study area with the weaving shed lying within the southern part of the study area to the west of the former canal course. This would therefore suggest that the second phase of engine beds identified in Area 2 belong to the later 19th century weaving shed engine. The shape and size of the brick beds revealed suggests that the engine which occupied them may have been a horizontal twin tandem compound engine which was common for larger mills of this date, although it is not clear if the compounding of the engine was part of the original design or a later adjustment (Glithero, 2011).

Compounding an engine involved the addition of a second cylinder for high pressure steam to an engine with an existing low pressure cylinder. In doing this steam could first be expanded at a high pressure then the remaining cooler steam passed to the low pressure cylinder for a second, albeit reduced, expansion. This process enabled greater power to be derived from a smaller amount of coal. By the later part of the 19th century the practice of compounding engines was commonplace as factories strove for the maximum output for the minimum of fuel.

Another common practice to minimise costs was to fit rope driven rather than crankshaft transmission (Glithero, 2011). This used hemp or cotton ropes set into grooves on the flywheel to drive the transmission lines for each of the mills floors. This was both slightly more efficient and cut down on expensive shut downs due to repairs, as damage to the ropes was easier to spot and fix quickly than geared drive shafts which could break without warning (Glithero, 2011). Generally rope driven systems tended to use wider flywheels to accommodate a number of rope grooves. If this was the case at Victoria Mill it may explain the increased width of the possible flywheel pit between the brick beds in Area 2. The brick beds themselves are reasonably unusual as these structures are more often constructed from gritstone for its strength and loadbearing qualities. The fact that these are constructed from brick, a less durable material, may suggest another property of the engine that occupied them, namely that they were fitted with a Corliss system. This was developed by the Corliss Steam Engine Co. of Providence, Rhode Island and was designed to reduce the forces transmitted to the engine bed as a result of the engine's movement during operation (Glithero, 2011). By bracing the crankshaft straight onto the cylinders the engine beds acted solely as support for the weight of the machinery, enabling the possibility of other materials to be used for the beds.

The final area of excavation centred on the remains of the workers housing along Victoria Row. These were built around 1864 as two storey workers cottages with a larger manager's house at the eastern end. They are mentioned in the Victoria Mill sale document of 1871 as part of the mill site but unaffected by the fire. Presumably the houses were transferred to the new Mill owners either for their own workers or letting to others. The archaeological remains indicate that the cottages were constructed of stone as 'double depth dwellings' i.e. two rooms per house on the ground floor. It is likely that the room fronting onto the street would have been used as a parlour/living room with the kitchen behind opening onto the yard. Workers housing at this time varies dramatically from the single room cellar dwellings found in the most densely populated, poorer areas of the town centres to two up two down cottages with yards and access to toilets at the rear such as the ones identified on Victoria Row. There are examples of other excavated workers housing in Bury town centre of a similar date. Evidence was found for both cellar dwellings and back to back houses prior to the construction of the Rock shopping centre which were located in a far more built up area with much tighter constraints on space that the area around Wellington street (Miller & Gregory, 2010). They were however constructed from

similar materials with comparable room sizes indicating the average proportions of residential accommodation in mid-19th century Bury. Unlike their town centre counterparts the houses on Victoria Row continued in use well into the 20th century, although whether this was as part of the Victoria Mill's assets or sold to a third party is unclear. Whatever the case, the historic mapping from the early 20th century onwards indicates that they were subject to ongoing improvements with at first outside toilets provided in the rear shared yard and later the dividing of that yard into individual spaces for each house. The removal of the toilet blocks at this time also suggests that these facilities were possibly moved closer to or even inside the houses following wider trends for terraced housing during this period.

The excavation of the site at Wellington Street has shown that industrial areas outside town centres can be as diverse and varied as those within. The history of the site as confirmed by the archaeological evidence illustrates an excellent example of the evolution of industrial centres from their initial reliance on locations close to water courses, more often in rural settings, through expansion as a result of productivity and technological advances to their amalgamation into the rapidly spreading industrial towns.

7. Archive

The archive comprises a historical map regression, archaeological photographs and archaeological research notes. This archive is currently held by Salford Archaeology and a copy of this report will be forwarded to the client following the publication of the site report.

A copy of this report will be deposited with the Greater Manchester Historic Environment Record held by the Greater Manchester Archaeological Advisory Service.

8. Acknowledgements

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Mapping.

1843 Benson's Map of the Town of Bury 1:2000 original scale.
1889 1st edition, County Series OS map 1:2500 original scale.
1908 1st edition, County Series OS map 1:2500 original scale.
1939 1st edition, County Series OS map 1:2500 original scale.
1957-62 1st edition, County Series OS map 1:2500 original scale.

OS licence No: 100050261.

Appendix 1: Figures

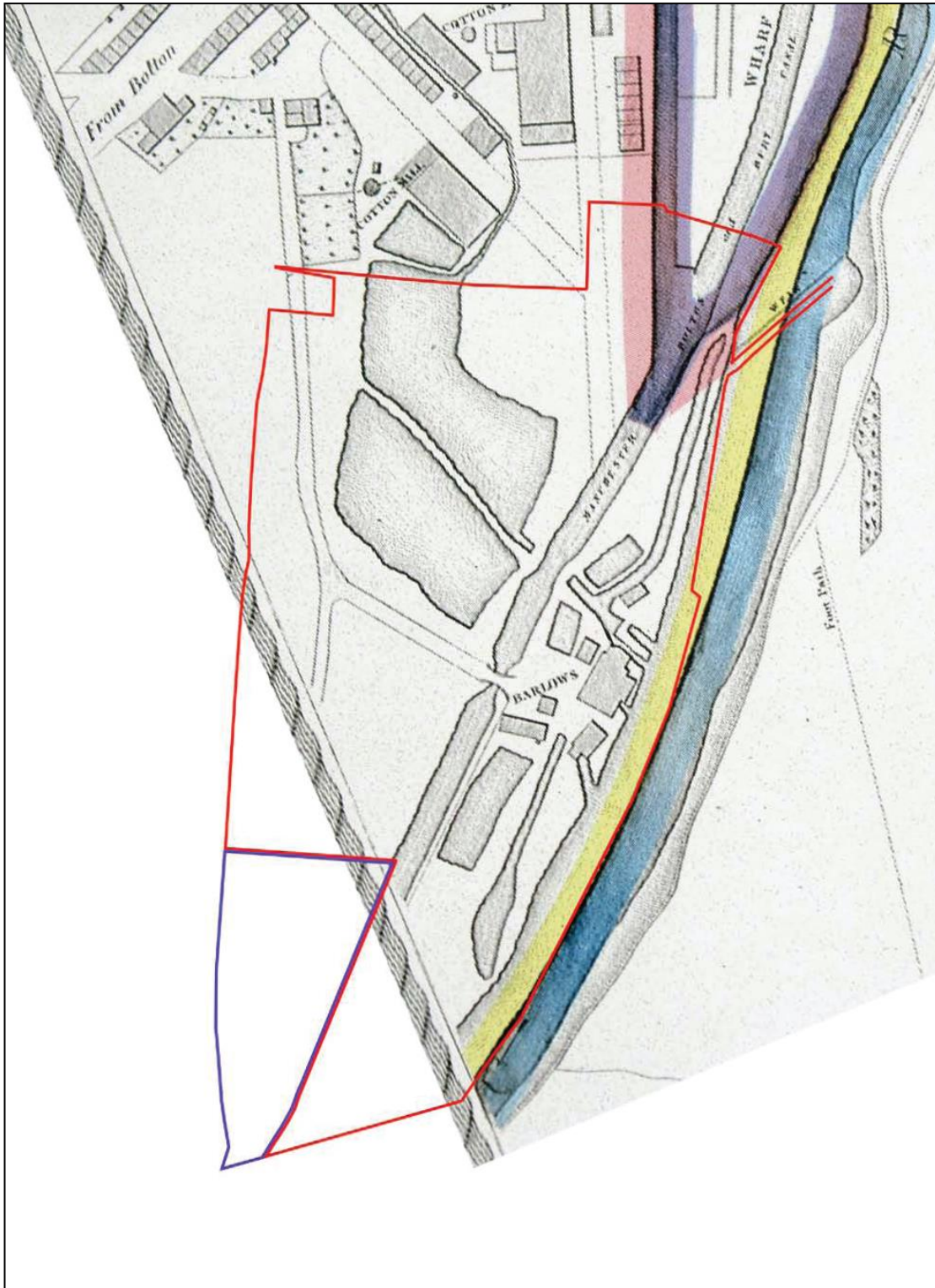


Fig. 19. Detail of W. Benson's map of the Town of Bury 1843.

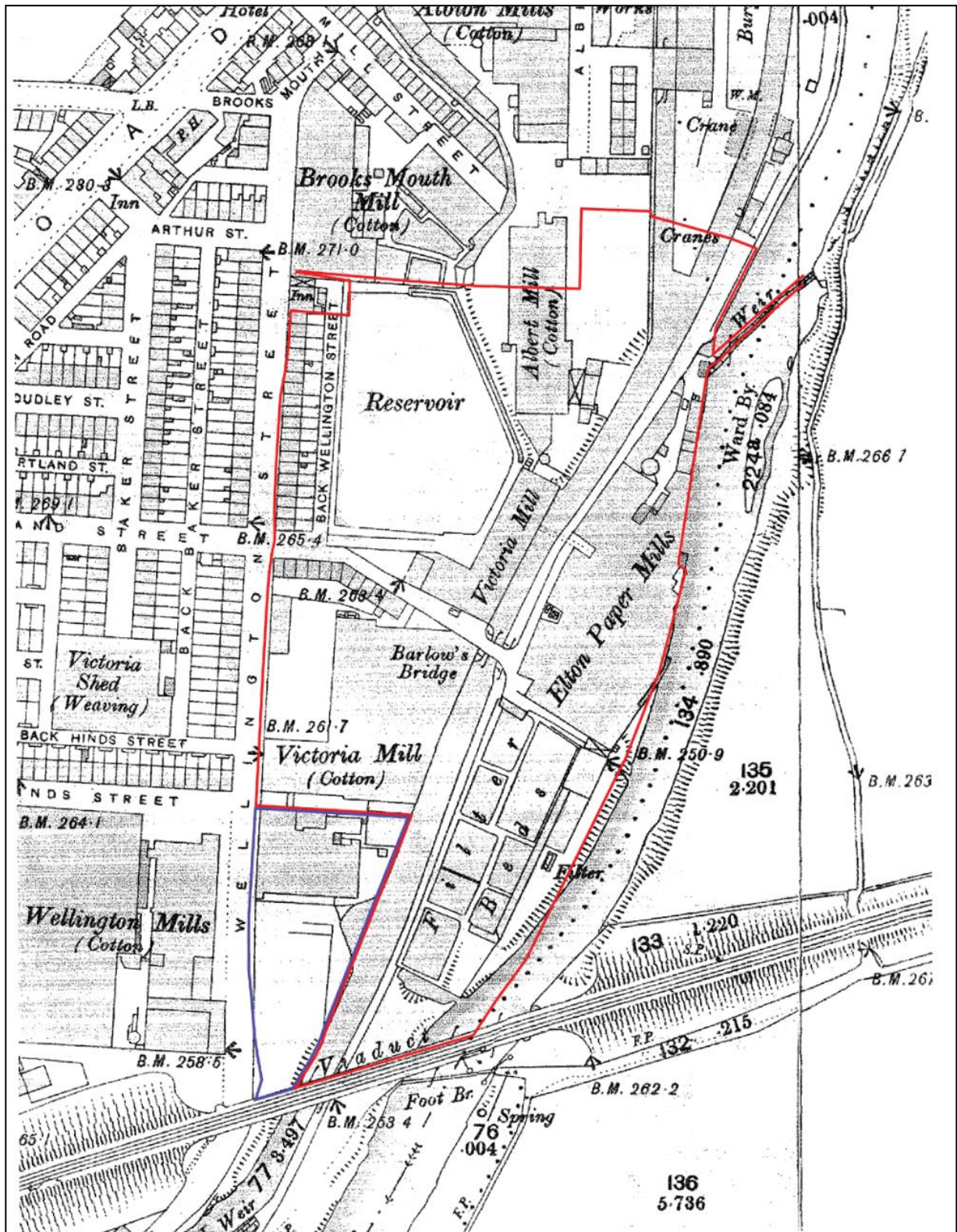


Fig. 20. Detail of OS 1:2500 map. Surveyed 1889

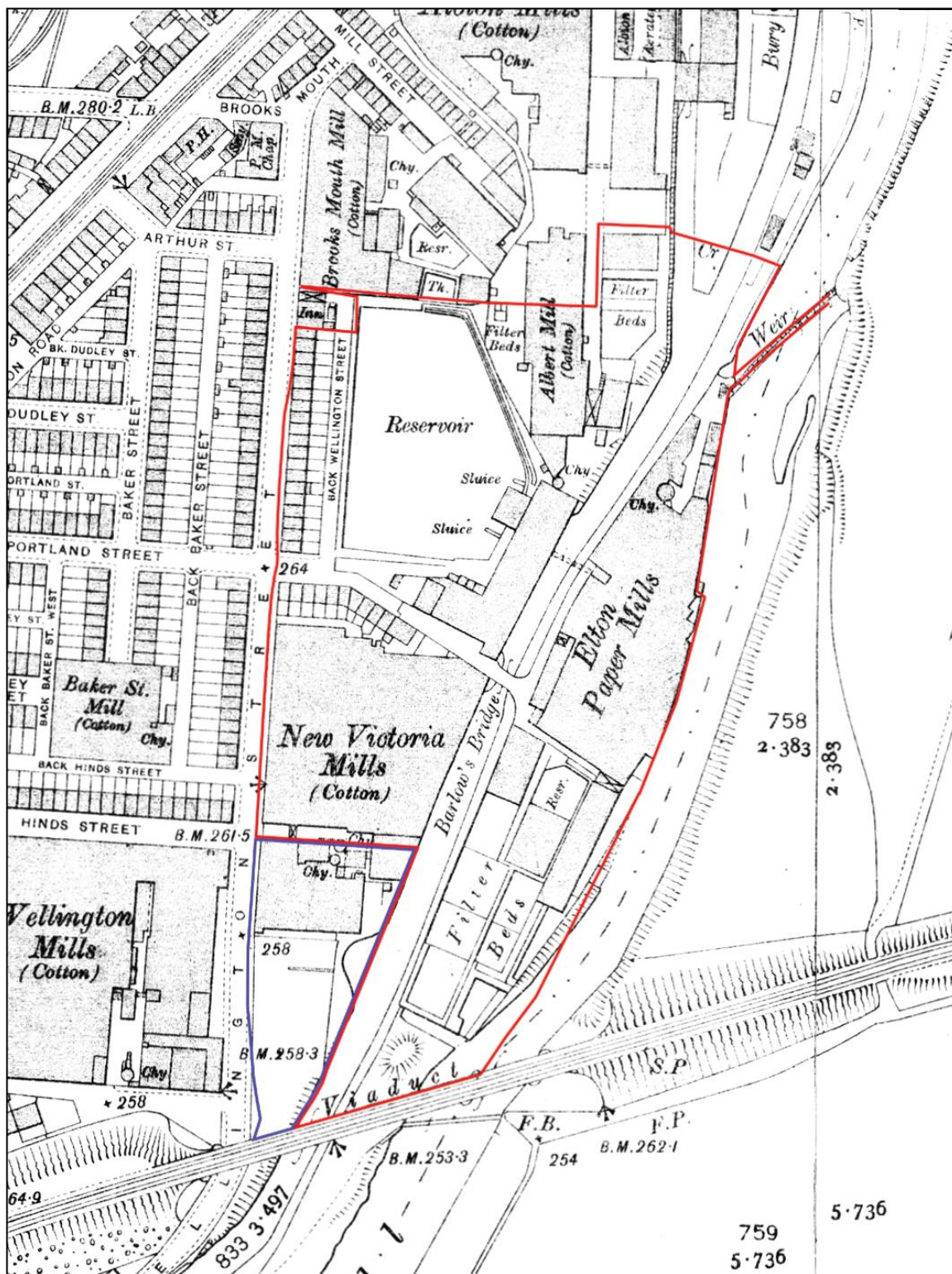


Fig. 21. Detail of OS 1:2500 map. Surveyed 1908.

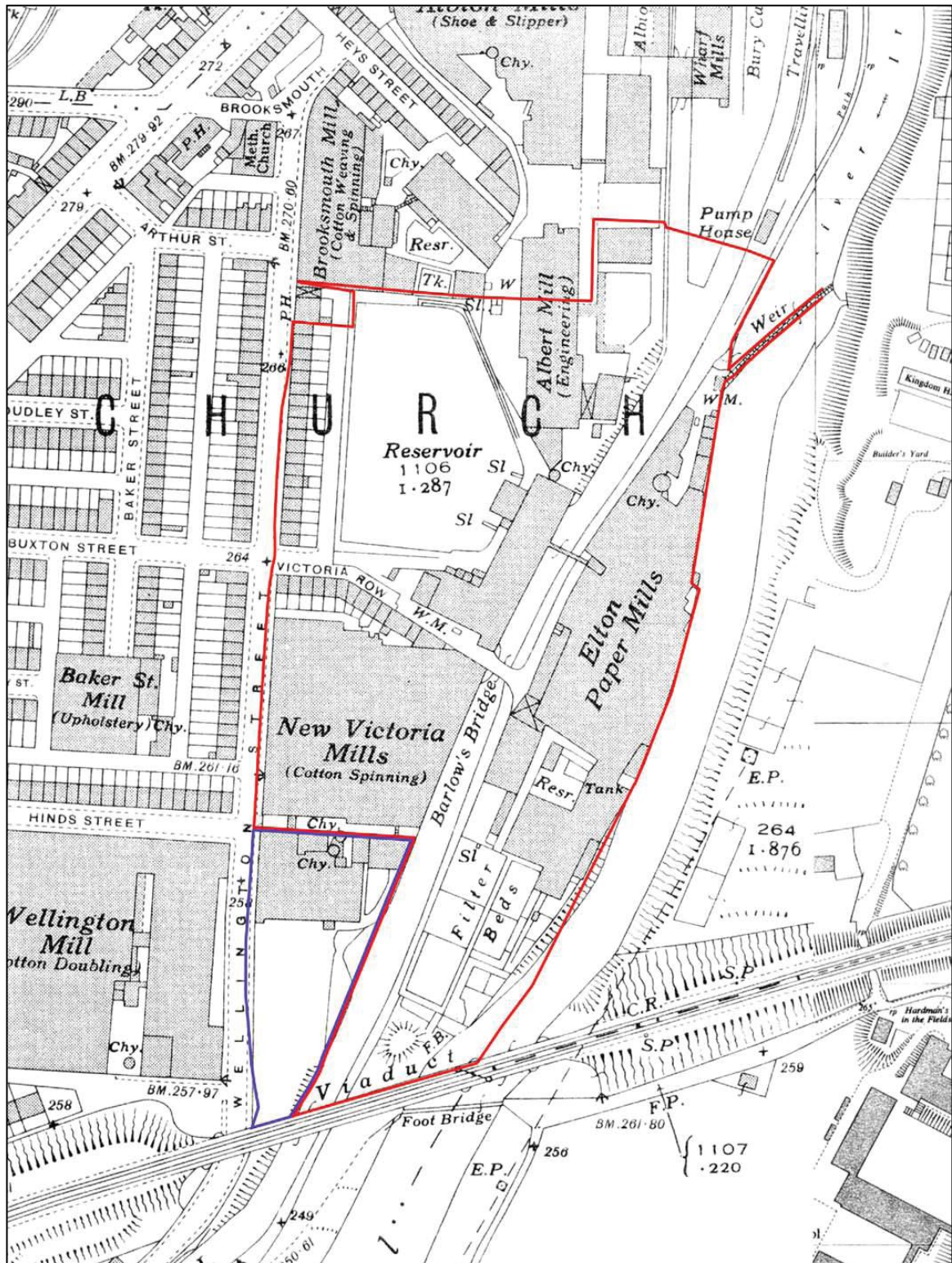


Fig. 22. Detail of OS 1:2500 map. Surveyed 1939.

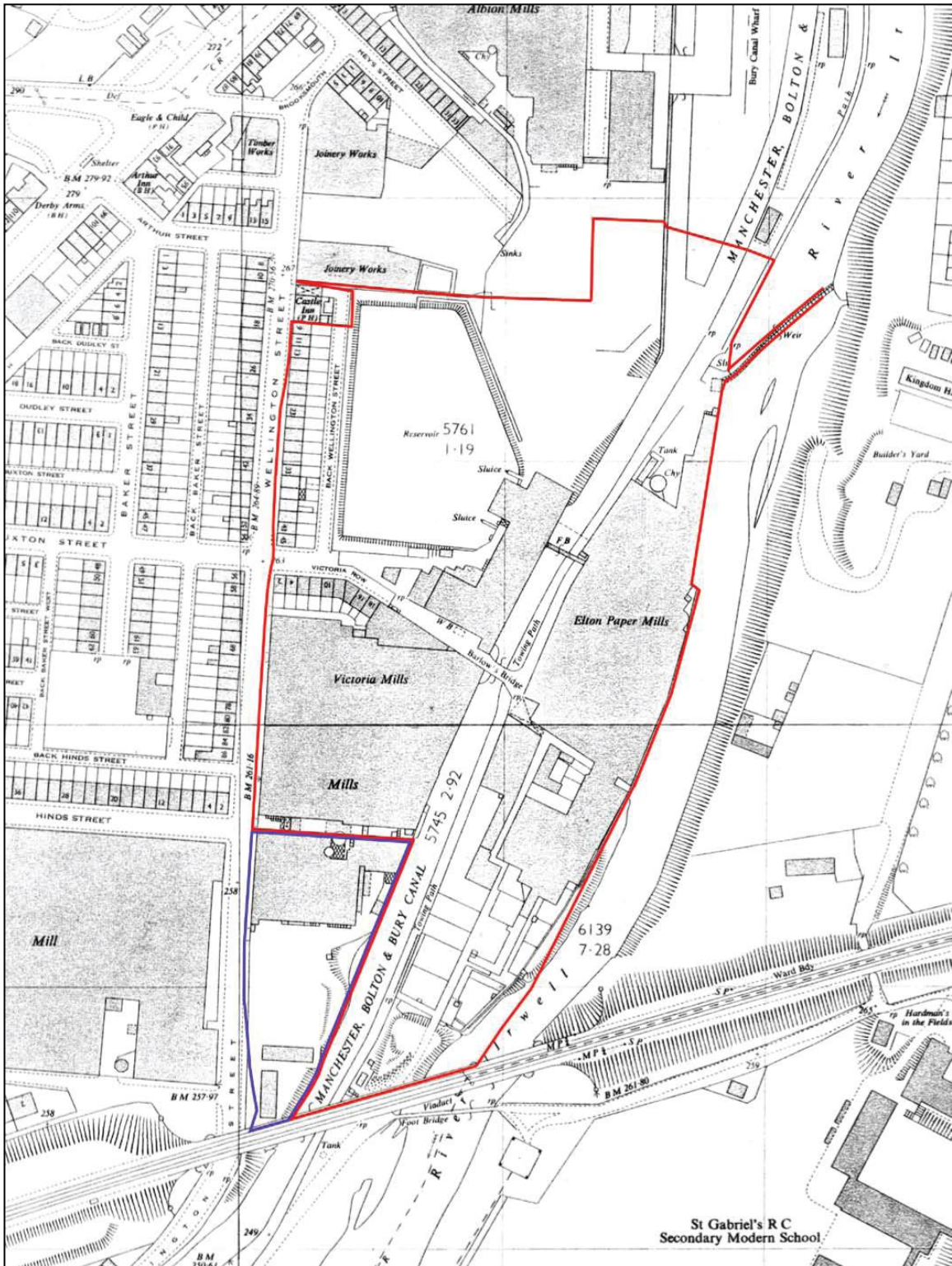


Fig. 23. Detail of OS 1:2500 map. Surveyed 1957

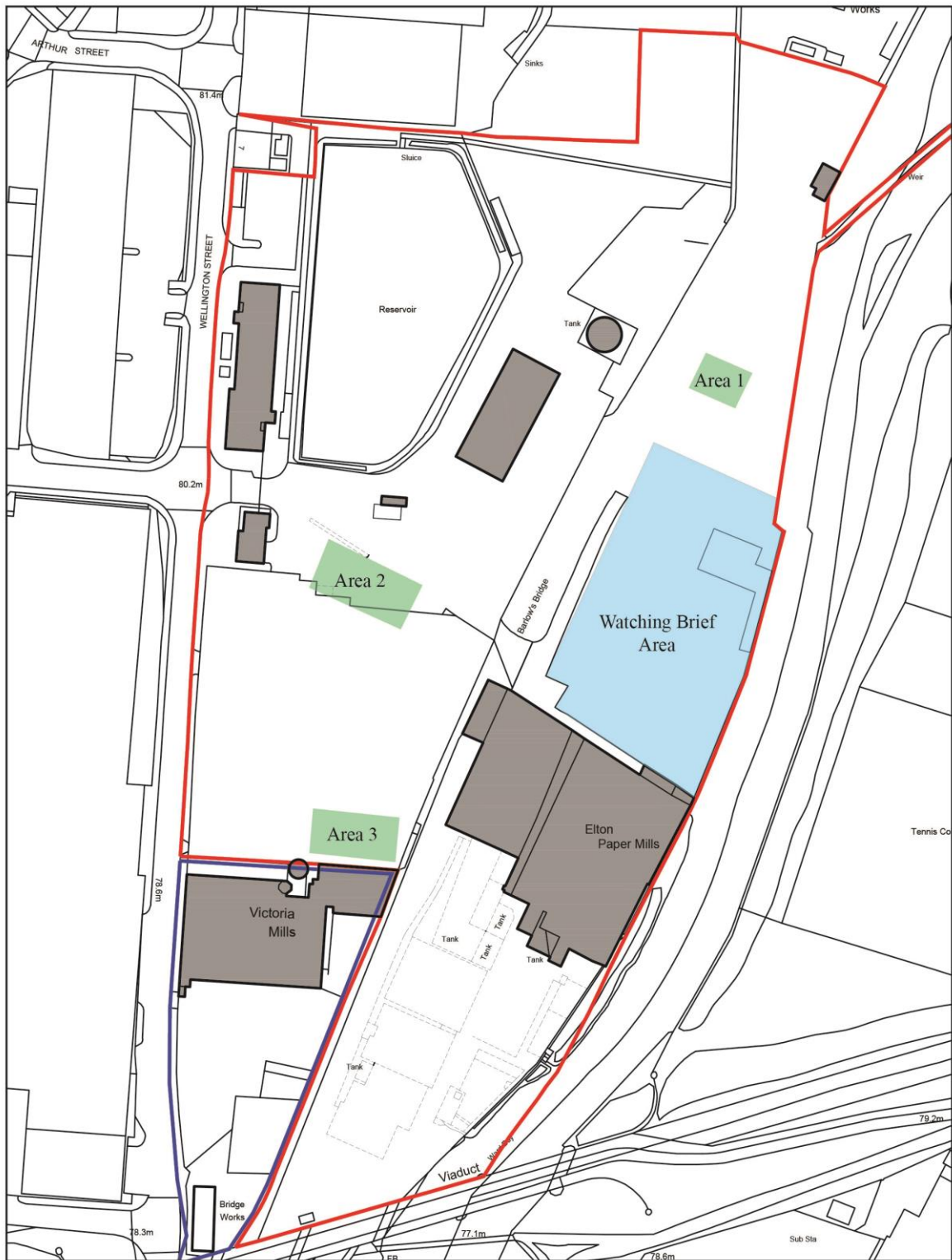
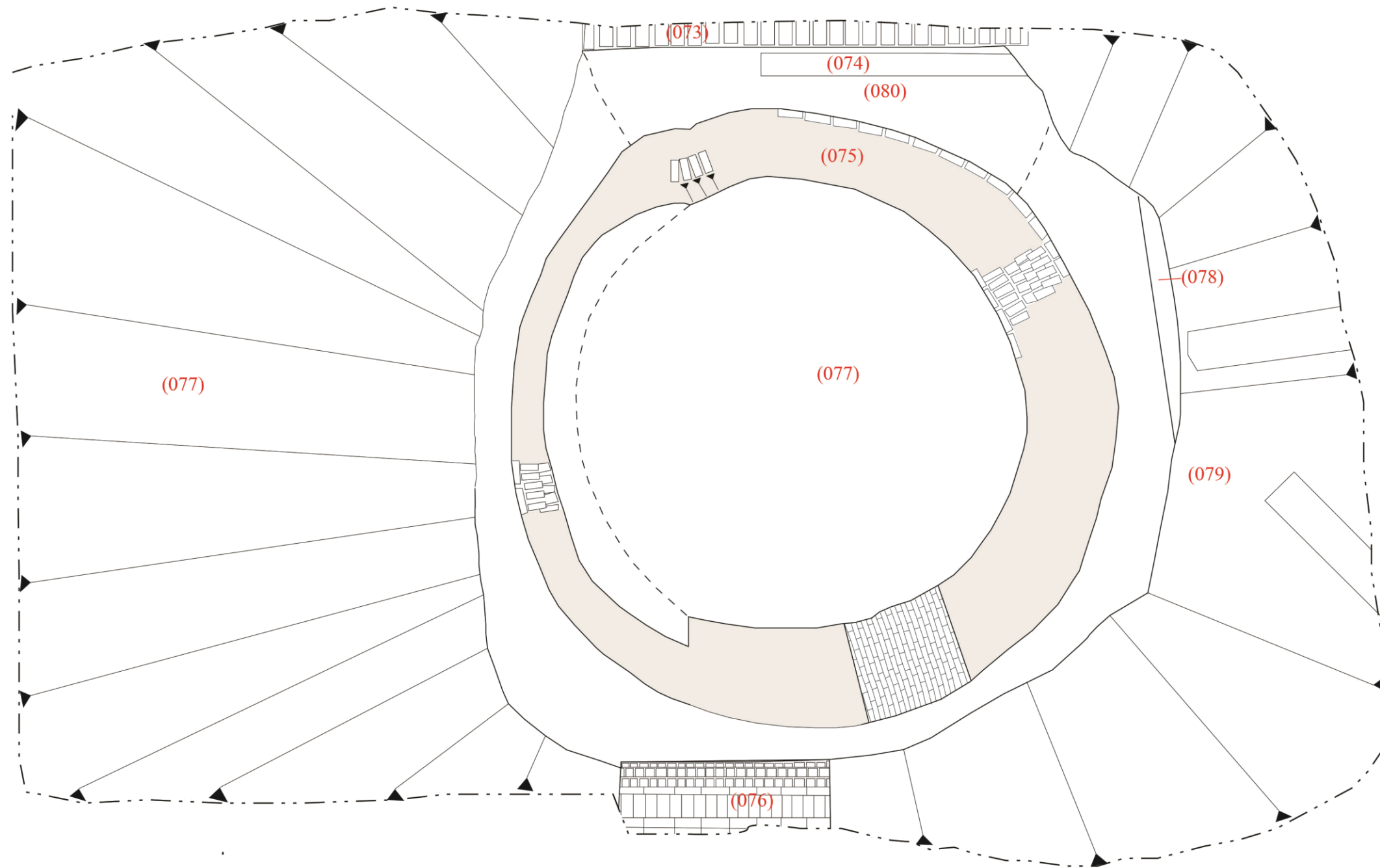





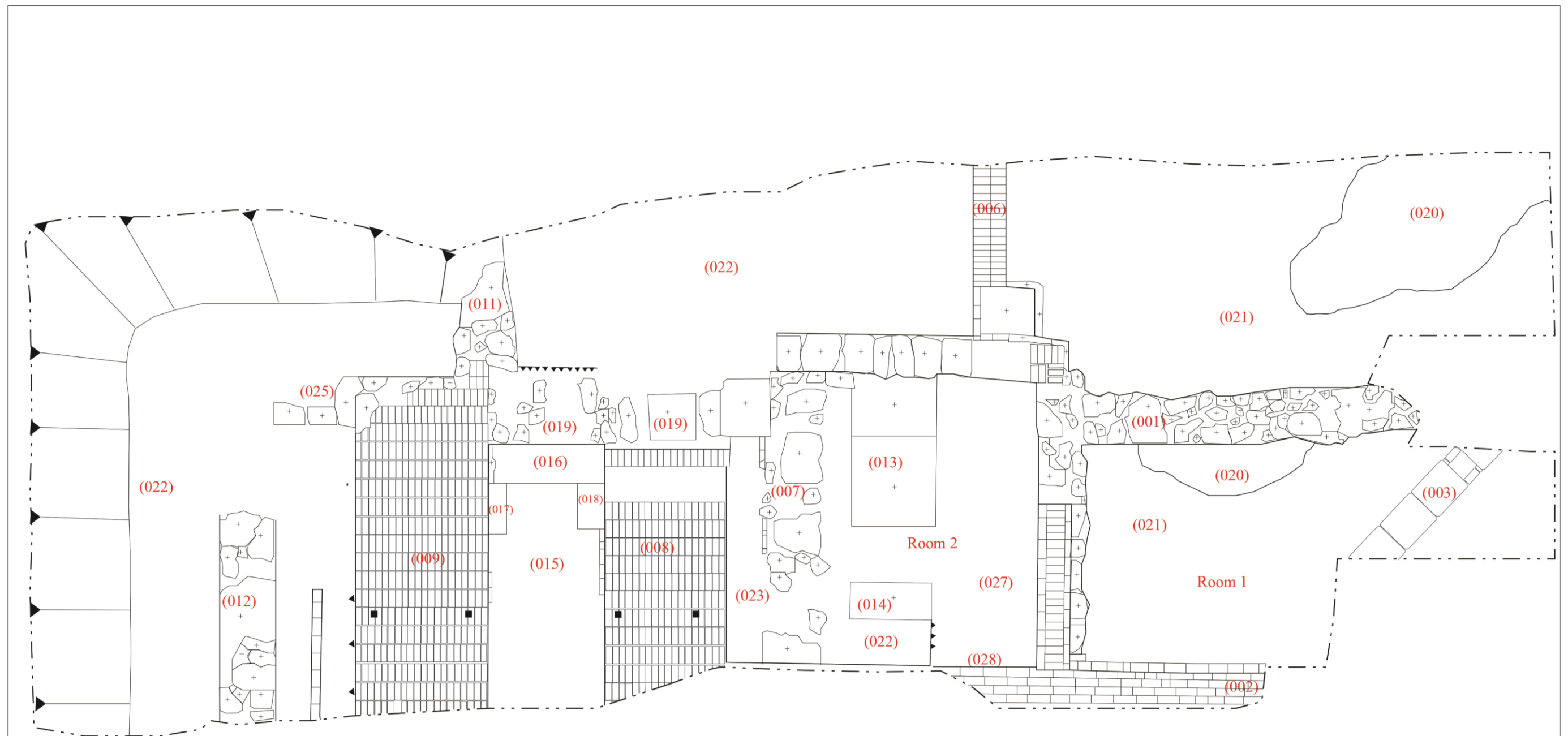


Fig. 24. Trench location plan. Overlaid onto clients architectural plan.





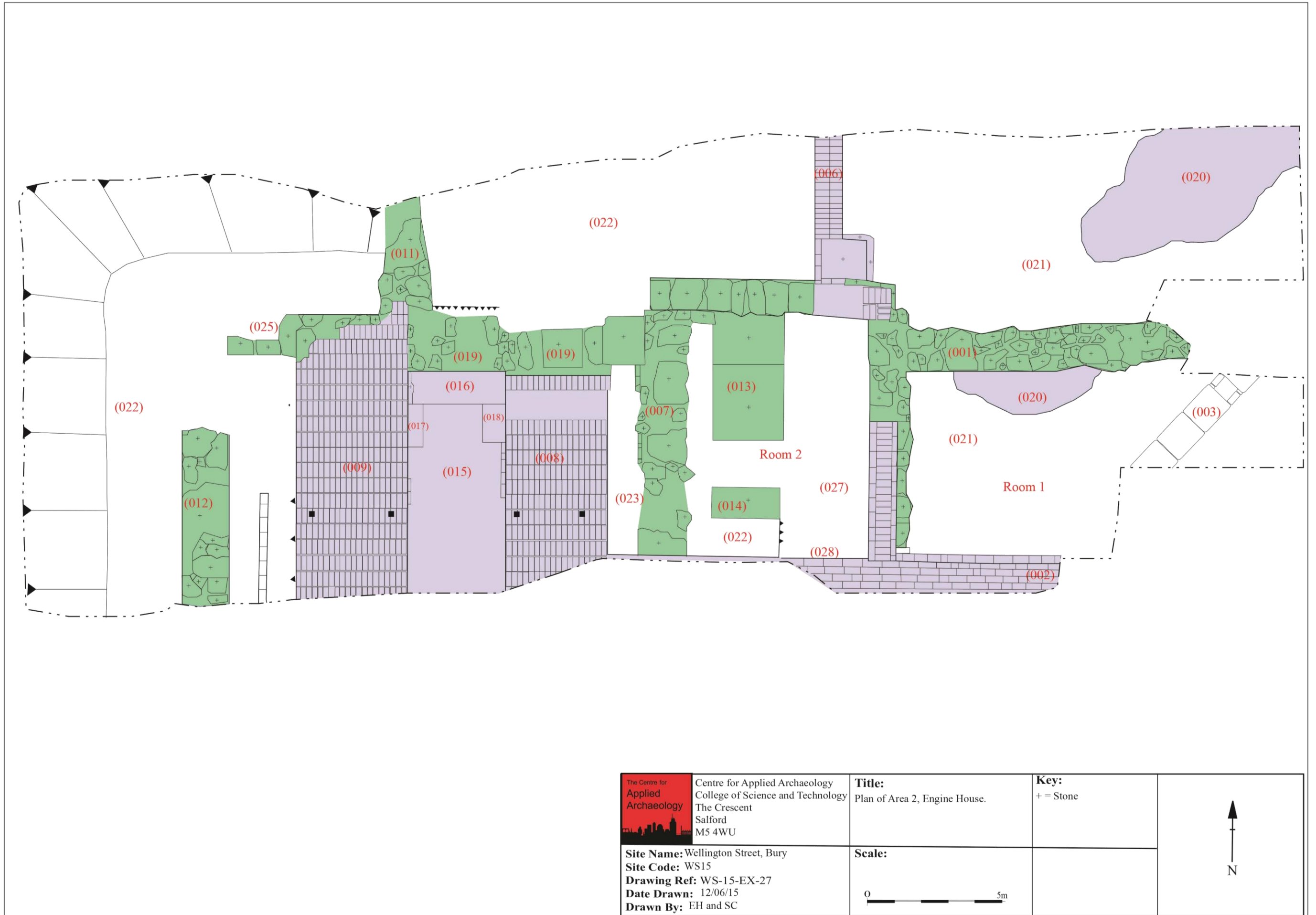
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|--|---|--------------------------------------|--|--|
| <p>The Centre for Applied Archaeology</p> | <p>Centre for Applied Archaeology College of Science and Technology The Crescent Salford M5 4WU</p> | <p>Title: Plan of Area 1.</p> | <p>Key:  Degraded Brick  (077) Context number  Direction of Slope</p> |  <p>N</p> |
| <p>Site Name: Wellington Street, Bury Site Code: WS15 Drawing Ref: WS-15-EX-25 Date Drawn: 08/06/15 Drawn By: E.H</p> | <p>Scale: </p> | | | |





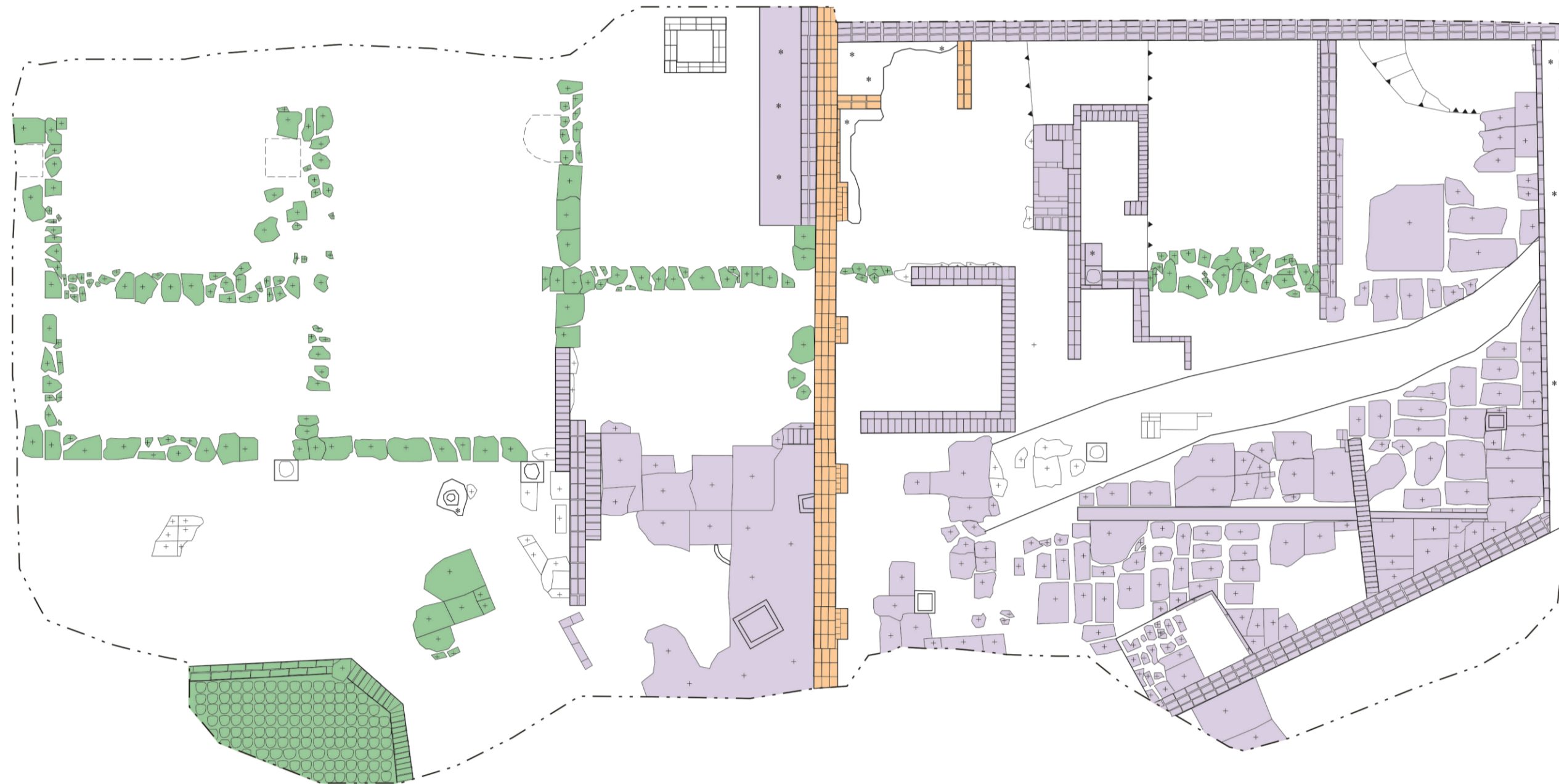
| | | | | |
|--|---|--|----------------------------------|--|
| | <p>Centre for Applied Archaeology College of Science and Technology The Crescent Salford M5 4WU</p> | <p>Title: Plan of Area 2, Engine House.</p> | <p>Key: + = Stone</p> | |
| <p>Site Name: Wellington Street, Bury Site Code: WS15 Drawing Ref: WS-15-EX-26 Date Drawn: 12/06/15 Drawn By: EH and SC</p> | | <p>Scale: 0 ————— 5m</p> | | |



| | | | |
|---|--|--|---|
|  <p>The Centre for Applied Archaeology College of Science and Technology The Crescent Salford M5 4WU</p> | <p>Title: Phased plan of Area 3.</p> | <p>Key: + Stone * Concrete (051) Context no.</p> |  |
| | <p>Site Name: Wellington Street, Bury Site Code: WS15 Drawing Ref: WS-15-EX-28 Date Drawn: 12/06/15 Drawn By: EH & ES</p> | | |



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|  <p>The Centre for Applied Archaeology Centre for Applied Archaeology College of Science and Technology The Crescent Salford M5 4WU</p> | <p>Title: Plan of Area 2, Engine House.</p> | <p>Key: + = Stone</p> |
| | <p>Site Name: Wellington Street, Bury Site Code: WS15 Drawing Ref: WS-15-EX-27 Date Drawn: 12/06/15 Drawn By: EH and SC</p> | <p>Scale:</p>  |



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| <p>The Centre for Applied Archaeology</p> | <p>Centre for Applied Archaeology College of Science and Technology The Crescent Salford M5 4WU</p> | <p>Title: Phased plan of Area 3.</p> | <p>Key: + Stone * Concrete Green Early 1860s Purple 1940s/50s Orange 1980s</p> | |
| <p>Site Name: Wellington Street, Bury Site Code: WS15 Drawing Ref: WS-15-EX-29 Date Drawn: 12/06/15 Drawn By: EH & ES</p> | | <p>Scale: 1:50</p> | | |



Fig. 30. Detail of wall (076) in Area 1. Looking south.



Fig. 31. Detail of wall (073) in Area 1. Looking north.



Fig. 32. Area 2, Room 2 showing detail of wall (007) and possible oil sump hole in (008). Looking east.



Fig. 33. Detail of stone block within wall (002), Room 2, Area 2. Looking south.



Fig. 34. Room 2, Area 2, detail of opening within wall (005). Looking north.



Fig. 35. Detail of space between (008) and (009) showing west facing section of (008). Looking east.



Fig. 36. Detail of wall (011).
Looking east.



Fig. 37. Area 2 showing wall (006) with inset stone pillar base. Looking west.



Fig. 38. Area 3 showing detail of (046). Looking south.



Fig. 39. Area 3 showing detail of wall (042). Looking northwest.



Fig. 40. Area 3 showing detail of drainage channel within floor (038). Looking east.



Fig. 41. Northern side of watching brief area showing an extension of the concrete floor revealed during the 2014 evaluation. Looking north.



Fig. 42. Stone and concrete wall identified in the northern end of the watching brief area. Looking south.

Appendix 2: Context List

| Context Number | Area | Description |
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| (001) | 2 | Wall made up of large stones, running E – W, connecting to walls (005) and (004). (048) in evaluation. |
| (002) | 2 | Handmade brick wall that abuts (003) and (004). Continues east into the trench baulk. |
| (003) | 2 | See (050) in evaluation record. |
| (004) | 2 | Stone brick wall running N – S, (051) in evaluation. Joins to (005)/(051b) in evaluation. |
| (005) | 2 | Sandstone wall running NW – SE between (003) and (004). 1 course of handmade brick on top. (051b) in evaluation. |
| (006) | 2 | Brick wall running N – S, continues N into baulk. Abuts (021) and (005). 5 projecting foundation courses and stone pillar base at the south with bolts. |
| (007) | 2 | N – S running wall, abuts (005) and (002) with a brick layer to the west. (051c) in evaluation. |
| (008) | 2 | Red brick structure. Runs N – S and continues south into baulk. Similar to (009). Possibly base for water tanks. (055) in evaluation. |
| (009) | 2 | Brick structure similar to (008), runs on the same alignment as (008). Possible boiler bed. |
| (010) | 2 | Same as (056) in evaluation. |
| (011) | 2 | Sandstone wall running N – S and then E – W. Runs along the edge of (009). Same as (057) in evaluation. |
| (012) | 2 | Sandstone wall runs N – S at a depth of 0.70m. Continues beyond excavation to the south with an E – W return at the northern end (025). Has a rubble core with dressed faces and very thick yellow brown mortar. |
| (013) | 2 | Possible sandstone machine bases running N – S, abuts (005). |
| (014) | 2 | Possible sandstone machine bases, similar to (013), abuts (023). |
| (015) | 2 | Rough stone floor between (008) and (009). Starts c. 1m south of (019) and continues beyond the limit of excavation. Is dressed. |
| (016) | 2 | Dark yellow brown silty sand lying between (015) and (019) with occasional lenses of black clinker material and frequent inclusions of brick, mortar, stone and river |

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| | | pebbles. |
| (017) | 2 | Dressed sandstone block sitting within (016) and lying against the east edge of (009) and north edge of (015). |
| (018) | 2 | Same as (017), lying against west edge of (008) and north of (015). |
| (019) | 2 | Yellow sandstone wall with dressed faces and a rubble core. Abuts the northern edges of (008) and (001). Bonded by yellow brown mortar, frequent stone and wood fragments, very thick and very compacted to the east and black. |
| (020) | 2 | Loose black ash/cinder deposit seen in lenses either side of (001). Frequent inclusions of brick, pebbles and 19 th century pottery. |
| (021) | 2 | Mid yellow brown silty clay with occasional small, (<0.10m), river pebbles and lenses of (020), very soft in places. |
| (022) | 2 | Grey brown demolition debris with frequent inclusions of stone, brick, concrete and mortar etc. Surrounds most features. |
| (023) | 2 | Reddish black brown demolition debris lying between (007) and (008). Compact with frequent inclusions of brick and black mortar. |
| (024) | 2 | Upper fill of channel between (008) and (009) directly below (022). Yellow sand with occasional flecks of manganese – c. 0.45m thick. |
| (025) | 2 | West continuation of (019), linking (012) and (011). Identical to (019) – same wall runs under the west extent of (009) which is built against (019) and (025). |
| (026) | 2 | Lower fill of channel between (008) and (009) directly below (024). Brick demolition debris. Black gritty matrix. |
| (027) | 2 | Rough stone floor. Same as (052) in evaluation. Stops c. 0.30m short of wall (002). |
| (028) | 2 | Yellow brown sandy demolition layer between (002) and (027) with frequent bricks and mortar inclusions. |
| (029) | 2 | Six rough hewn stone blocks. 3 visible below (008) and 3 visible below (009). |
| (030) | 2 | Below stones (008) and (009) and seems to predate (015). |
| (031) | 2 | Large stones to the north of (030) and (015) – Same as (017) and (018). Duplicate number. |
| (032) | 2 | Stone and gravel rubble. Infill below (029). |
| [033] | 2 | Cut of linear feature extending north from end of (019) at upper level. |
| (034) | 2 | Upper fill of [033]. Very compact yellow sandy silt and |

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| | | similar to mortar of stone walls. Frequent inclusions of small river pebbles. c. 0.15m thick. |
| (035) | 2 | Lower fill of [033], possibly the same as (022). Mid grey brown silt with moderate inclusions of brick, mortar etc. |
| (036) | 3 | H/M 3 course brick wall standing 7 courses high between floors (053) and (038). |
| (037) | 3 | Machine made brick wall (last phase) associated with the concrete floor at surface level. Lies against flagged floor (038). |
| (038) | 3 | Flagged floor between walls (037) and (043). Cut by [039] and truncated to the north. Drainage channel in centre runs under (043). |
| [039] | 3 | Cut of 20 th century services trench. Cuts through (038), (044), (043) and (042). |
| (040) | 3 | Demolition debris below (038) lying against (041) and (037). Black with frequent inclusions of brick etc. |
| (041) | 3 | Machine made brick wall with black mortar. |
| (042) | 3 | Stone and brick wall runs N – S. Stone to the east and brick to the west. Section to north of [039]. |
| (043) | 3 | H/M brick wall to south of [039]. White mortar lies on top of (038) and (044). |
| (044) | 3 | Stone flagged floor probably the same as (038). Runs under (043) and is truncated by [039] and to north central drain and two round drains. |
| (045) | 3 | Stone wall runs E – W along line of (045), (048) and (049). Yellow sandstone and yellow mortar. |
| (046) | 3 | L shaped H/M brick wall (headers) on the north side of trench. |
| (047) | 3 | Brick wall running N – S 2 courses wide. An extension protrudes east –not excavated. Possibly a fireplace at the same point a protuberance to the west – function unknown. |
| (048) | 3 | Brick wall running E – W forming the south boundary of room 3 but does not run as far as (047). Possible entrance. Bonded with wall (052). Relationship with (050) unclear. Above (053). |
| (049) | 3 | Probable stone wall running E – W towards (064) in the east end and (052) in the west. It is almost certain that it would have continued west to join (065). Appears to be built after (052) – same phase. Continues west beyond (065) running beneath trench edge. |
| (050) | 3 | Brick wall running N –S across entire width of 3. It appears that a later wall was built alongside it over 2/3rds. |

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| | | It is this wall that sits above (064). |
| (051) | 3 | Flagged area to south of room 6 and between walls (050) and (059). |
| (052) | 3 | Stone wall running N – S joins E – W stone wall (049). Appears to be later than it but probable same phase. Below brick wall (059). (059) and a drain mark the relationship towards (052) and (050). |
| (053) | 3 | Stone flags to the south of (050) and west of (059). Heavily truncated by drains. Possibly re-laid at some time as orientation is off set from wall lines. |
| (054) | 3 | Dark ashy cinder with brick and stone fragments. This appears to be material used to infill around stone walls and level up the area in order to lay flags and build on flood bearing walls and features associated with the brick phase. |
| (055) | 3 | Same as (054). |
| (056) | 3 | Rectangular feature butting wall (036). Flags (038) and (044) are laid in alignment with the majority of E – W and N – S walls. Wall (036) is on a different alignment nevertheless the flags are well laid and flush against it. Where (056) lies against flags (044) it appears to have been punched through then (056) has clearly fallen out of use, been in filled and flagged over with smaller flags laid in alignment with (036). |
| (057) | 3 | On edge stones associated with (056). Possibly represent lining for a water tank. |
| (058) | 3 | Modern drain which has removed brick wall (041). |
| (059) | 3 | Brick wall running N – S. Only survives in south part of site but almost certainly would have sat on top of stone wall (052) in north part. (05) and (064); (048) and (063) beg the question are the brick walls rebuilt on the same alignment as earlier stone walls or does the stone merely represent the foundations for the brick walls. |
| (060) | 3 | Stone wall running E – W from brick wall (059) to west edge of site. Forms function with (061) and (065). Continues beyond western edge of excavation. |
| (061) | 3 | Stone wall running N – S from north edge of trench to (060) in the south. Heavily truncated at north end. Possible foundation cut visible, seemingly filled with small to medium sub angular stones and brick fragments. Possibly remnant of the stone internal wall. Possible brick fragments originate from a later brick feature set against the west face of (061). This feature is only represented as a smear although definitely square in shape of red brick. |

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| (062) | 3 | Single course handmade brick wall laid in headers measuring 2.20m x 0.25m. forms eastern wall of Room 4. |
| (063) | 3 | Stonework running E – W below brick wall (048). Only north face exposed. Rough facing not obviously dressed. Below (048) but separated from it by a thin course of slate. The stones of (049) and (064) to the west of (050) are much more regular and show origins of being rough hewn. They are also at a slightly higher level, the same level as (048). Perhaps (063) is the remnant of stone foundations from stone buildings has been levelled using slate to take wall (048). |
| (064) | 3 | Stone wall running N – S. Immediately west of brick wall (050). Exposed after removal of part of brick wall (067). |
| (065) | 3 | Stone wall running N – S adjacent to west end of trench. Junctions with E – W walls (060) and (049) although frustratingly no E – W wall jointing north end of (065) to form a possible north frontage for the buildings. However at the north end on its west side there is a possible stone protuberance or perhaps remnant of a wall running west under the trench edge. |
| (066) | 3 | Stone setts in the south west corner of trench. Disturbed and possibly truncated by wall (069). Not aligned with majority of walls. |
| (067) | 3 | Brick wall running parallel and to west of (050). Above (064). |
| (068) | 3 | Stone wall visible in the north east corner of the trench and the west facing section, below flags (038) and after part excavation of (040). Would suggest that the regular face of (067) is evidence of cellarage during the stone built phase and that (040) and (054) represent the deliberate in filling of these cellars prior to the laying of flags and building of brick phase. |
| (069) | 3 | Curving brick wall. |
| (070) | 3 | Surface to the south of wall (036). Some 0.40m below the level of flags (038). Difficult to ascertain material, possibly stone but perhaps more likely cement. |
| (071) | 3 | Compact dark blue grey clay. Possibly natural discoloured clay. The east and west halves of site differed in that main room infill to east was loose cinder and to west was hard clay and no brick walls to west of (059). |
| (072) | 3 | E- W brick wall running off (041). |
| (073) | 1 | Machine made brick wall to north of chimney. English garden wall bond with black mortar, runs E – W. Lies |

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| | | against pipe (074). |
| (074) | 1 | Ceramic drain pipe between chimney (075) and wall (073). Lies within (080). |
| (075) | 1 | Chimney base. 7m in diameter H/M red brick, 5 course wide in varying header and stretcher bond. Remains of flue to south east. Heavily truncated to west side and water retaining. |
| (076) | 1 | Machine made frogged brick wall to south of chimney laid in stretcher bond with 3 foundation courses in header bond. |
| (077) | 1 | Mid grey brown demolition layer with frequent inclusions of brick, slate, mortar and concrete etc. Also has lenses of yellowish and greyish clayey material stained black directly over (075). |
| (078) | 1 | Heavily truncated brick wall. Machine made with white mortar to east of (075). 2 reinforced steel joist set within. |
| (079) | 1 | 20 th century concrete slab covering area 1. |
| (080) | 1 | Dark black brown silt to north of (075) with frequent small lenses of yellow clay. Compacted yet loose when trowelled. |
| (081) | 3 | Concrete surface overlying (037) at far eastern end of Area 3. Only a small area visible. |
| (082) | 3 | Degraded handmade brick wall with white mortar. Forms southern wall of Room 4 |
| (083) | 3 | Machine made brick wall 2 courses laid in headers with black mortar and measuring 2.10m x 0.25m. Abuts (059). |