Standing Remains of the Former Lace Works, Emerys Road, Gedling, Nottinghamshire

An Archaeological Building Record, 2004

P.N. 1259 January 2004

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for

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Summary

Archaeological building recording was carried out at the site of the former Works of Speedo International Ltd, on Emerys Road, Gedling, Nottinghamshire. The site was a former lace works opened in the early-20th-century. Four phases of development were identified. The first related to a series of five structures in four main buildings, a dye works, an engine house and the main factory building. The second phase was an expansion towards the road of the initial buildings. Phase 3 related to a post-war expansion by the company Robert Shaw and Company Ltd. The final phase was associated with the development of the site until its final form during its occupation by Speedo International Ltd. The work gave an insight into the workings of a 20th-century lace works as well as revealing the structural development of factory buildings in the immediate area.

1.0 Introduction

In November 2004 Birmingham Archaeology undertook the archaeological building recording of a range of early-20th century industrial buildings that constituted the former Speedo Works on Emerys Road, Gedling, Nottinghamshire. The work was commissioned by Fairclough Homes and was a condition of the planning permission for demolition and redevelopment of the site. The specific purpose of the project was to record the structure, and, in so doing, gain a full understanding of the building fabric that was to be demolished, within the context of the building as a whole. This report outlines the architectural development of the building as recorded.

2.0 Site Location

The site was located on the north-west side of Emery's Road, Gedling, Nottinghamshire (NGR 462625 341743) on a plot of land between the mainline railway and the former mineral railway (Fig. 1 & 2). It was latterly the works for Speedo U.K. Limited. The topography of the land was flat in common with the surrounding area that lies within the flood plain of the Trent Valley.

3.0 Objective

The objective of the archaeological recording was to provide a permanent record of the principal upstanding architecture, and through enabled investigation and interpretation of the building fabric, to establish the structural development of the property.

4.0 Methods

The survey was undertaken to RCHME Level 3 as defined in *Recording Historic Buildings: A Descriptive Specification* (RCHME 1996), of the principal structures of architectural and archaeological interest. A lower RCHME Level 2 survey was deemed adequate for the mid-20th century buildings. A measured, phased plan of the buildings was produced at a scale of 1:200. This was supplemented by recording of the principal elevations and cross-sections by use of Reflectorless EDM.

In addition to the drawn record, a referenced photographic survey was produced using digital, monochrome and colour transparencies. Interpretation of the building was assisted by written notes detailing the evolution of the structure into its final form.

The record included the external walls and roofs, noting the fabrics used and the forms of main architectural features such as doors and windows.

The site-based recording work was supplemented by examination of historical material including maps, photographs and written documentation held by the Nottinghamshire Archive, Birmingham City Archive and those held with Speedo International Ltd.

5.0 Historical Background

Nottingham Lace: An Overview

Lace manufacture in the East Midlands has a long history. Initially the manufacture of hose and lace was by hand. However, by 1589 the stocking frame had been invented by William Lee in Calverton. The popularity of the stocking frame meant that by the mid-18th century around 1800 frames existed in Britain the majority around the East Midlands (Mason 2005, 1). The village of Calverton lies approximately 10 miles to the north-east of Gedling and it is clear that the use of the knitting frame had spread by an early date to the area. However, lace manufacturing remained an unpopular industry in Gedling itself with only 12 knitting frames in use in the mid-19th century compared to the neighbouring suburb of Carlton where 426 were in use at this time. The rapid increase in population occasioned by industrialisation led to the division of Gedling into two parishes with Carlton becoming a separate entity (Swann 1979, 2).

The industry that revolved around the stocking frame was small scale, with the early lace net frames operated by hand and located within a domestic setting. The whole family was involved in the manufacture, the man operating the machine whilst the women and children undertook auxiliary tasks (Mason 2005, 1). The late-eighteenth century saw the increased mechanisation of the industry with new machines coming onto the market such as 'The Warp Hosiery and Lace Machine', 'Brown's Fishing Net Machine' and 'Horizontal Lace Platting Machines'. However, it was the advent of John Heathcott's 'Traverse Bobbin Net Machine' and the subsequent development of its predecessor 'The

Single Tier Leaver's Bobbin Net Machine' that led to the wholescale mechanisation and industrialisation of the industry in the 19th century and the gradual replacement of hand-frames by steam driven factory-based machinery (Felkin 1867). It was at this time that Nottingham established its prominence in lace manufacture.

"Nottingham became from this time the emporium for the English machine-wrought lace" (Felkin 1867, 333)

By the late-19th-century the majority of lace would have been produced in purpose-built factories with the cottage industry that revolved around the 'Stocking Frame' almost entirely disappeared. The trade reached its peak by the turn of the century when around 16,000 men were employed in the industry throughout the country (Mason 2005, 3). This does not include the women who worked in the auxiliary industries finishing and dying the lace. The 20th century saw the slow decline of the industry although several lace manufacturers still survive in Nottingham today.

The History of Gedling

The borough of Gedling initially consisted of Gedling, Carlton and Stoke Bardolph. It was first noted in the Domesday book with valuations for the rectory and the vicarage (White 1853). At this time it appears to have been within the jurisdiction of Roger de Busli and William Peveril the bastard son of William the Conquerer (Swann 1979). Much of the land later passed to the Monastery at Shelford before it was removed by the crown during the dissolution of the monasteries. By the time of the Enclosure Act of 1772 much of Gedling had passed into the hands of the Earl of Chesterfield.

Even in the early-19th century Gedling was still largely rural and had not seen much industrial expansion. The population did not alter greatly in the 19th-century staying at around 500 people. The most significant change was the arrival of the railway, the Nottingham & Lincoln and Staffordshire lines that opened in the mid-19th-century. The Staffordshire line was closed later in the 20th-century but continued to serve as a mineral railway for the Gedling Mine. The mine opened in 1899 but eventually closed in 1991.

The Development of the Site

Prior to the construction of the works, the plot was vacant land, adjacent to the railway. The laying out of Emerys Road coincided with the construction of the Lace Works and the two were probably part of the same development. The works were constructed between 1900 and 1914 according to cartographic evidence (Fig. 3) and were initially called the Brooklyn Works. At this time they consisted of Structures A-E and the detached house that faced Emerys Road, as well as several small outhouses that have now been replaced. On the opposite side of the street a short terrace probably represented workers houses associated with the factory. No details of the early history of the site have been located in the trade directories. Although Kelly's trade directories for the 1920s and

1930s list extensive residential and commercial addresses within Gedling, Carlton and Stoke Bardolph none refers to a Lace or Hosiery Works located on Emerys Road.

By the post-war period the site was under the ownership of Robert Shaw and Company Ltd. (former employees *per comm*.). They were established in 1927 and were clearly not the first owners of the Brooklyn Works. Expansion of the site had led to the development of Structures F - L by the post-war period (Plate 8). They are listed in the Skinner's Hosiery and Knitgoods Directory for 1956 as manufacturers of Hair Nets, Plain Nets, Mosquito Nets and Interlock Underwear (Skinner 1956, 91). However, they are also listed as manufacture's of hosiery with the address given as the Ascot Works, Ascot Road, Nottingham. This suggests that the site at Emerys Road was merely a subsidiary site. The machinery owned by the company is listed as 20 Mellor Bromley, 32 Levers, 8 Plain and 100 making-up machines.

The site was taken over by Speedo International Limited in the late-1960s and began to produce swim-wear (Plate 9). They expanded the site until it incorporated its present size.

6.0 Description

Phase 1 (Early-20th Century)

The earliest phase consisted of Structures A - E and the house that dated to between 1900 and 1914.

Structure A: The Dye House (Fig. 5, Plate 1, 4, 5)

A free-standing pitched roof factory building, orientated SE-NW. The southern part of the building was open plan with the northern quarter split into a two storey room.

The principal façade faced north-east onto the factory compound. Two wide openings were located, one at either end of the building with five segmental-arched windows with 12-pane casement frames inbetween. The gables were ostentatiously decorated each with a shaped-pediment at the apex, flanked by stone coping. The north-western gable had a single window at ground floor level, and a lunette flanked by two square lights at the first floor. The south-eastern gable had a single high circular light. The rear, south-western façade was plain and the eaves were undecorated. The roof was pitched and had been recently replaced with corrugated iron.

The principal room within the interior was open to the roof trusses (Plates 4 & 5). The floor was of concrete with discontinuous survival of patterned quarry tiles. The walls were constructed of glazed bricks running to just above the sill level in a green-glaze before continuing above in white-glaze. The window surrounds had moulded decoration. The smaller northern room was plain with vehicular openings to the north-east and pedestrian entrance to the south-west. A beam that ran SE – NW supported the low

ceiling. The first floor was of two varying levels suggesting it was altered at a later date. Access was via a narrow central opening and a ladder. Access between the two rooms was originally by a central doorway but had been altered by a later cut-doorway.

The roof of Structure A was supported by three ornamented trusses (Fig. 10A). These were of king-post truss design with large arch braces and collar the strength augmented by a further tie-beam. The king-post was decorated with heart motif and globe pendants, and flanked by mock-columns on either side. The arch-braces were supported at the wall by sandstone corbels.

Structure B: The Engine House (Fig. 6 & 7, Plate 2)

Another free-standing pitched roof factory building orientated NE - SW. The building was constructed in the same form as Structure A. The plan was a single room and entirely open.

The main entrance was via the south-west facing gable, a single large gateway entrance that had subsequently been in-filled by a steel shuttering. A single circular light with casement frame was located centrally above. The eaves were decorated with a moulded terracotta dentil design as seen in Structure A (Fig. 10C). The opposing gable mirrored this but had three low openings at the base. The south-east facing elevation had four half-moon lights with open grills in each and the eaves decoration continued from the gables. The rear, north-west elevation that faced the railway track was plain. The roof was pitched and of grey slate. Along the roof line was a raised vent-stack.

The interior was plain and undecorated. All fittings had been stripped from the interior. The roof was supported by three trusses. These were of a plain king-post design with braces either side.

Structure C/D (Figs. 8 & 9, Plates 3 & 6)

A large twin factory building with its principal façade to the south-east and facing the road. The building was constructed of red brick in English bond with eaves decoration that was identical to Structures A and B. Although the structure comprised two parallel ranges the entire interior was open plan.

The south-eastern façade consisted of twin gables that were undecorated. The opposing façade was identical in form. A large lunette with casement frame within dominated each gable with high circular lights either side that acted as vents. At the apex of the gable a small rectangular opening would appear to have been a pigeon loft. At ground level the façade had been obscured by the construction of modern toilets. The south-western and north-eastern elevations were of pier and panel construction. The piers were sloped and acted as buttresses to support the weight of the roof trusses above. Between the piers of the south-western elevation were three double-doorways and five large segmental-arched windows with 30-pane casement frames.

The interior was a large open space. Access to the building was via a double-doorway entrance and blocked access to Structure E in the south-eastern façade. To the south-west where three double-doorways that faced Structure A. A segmental-arched single-doorway led to the rear of the building. Later-cut doorways led to the toilet blocks at the rear of the building.

The roof of each structure was supported by seven roof trusses. These were in line with the buttress piers at the exterior walls and were supported in the centre by a large central I-Beam that ran north — south. Three cast-iron columns with octagonal bases and moulded capitals supported this (Fig. 10B). The trusses were constructed in pine and of simple queen-post design with the principal joints strengthened using iron straps.

Structure E

Structure E was located on the south-eastern façade of Structure C/D. It consisted of a simple, narrow, pitched-roof building designed as an entrance hall to the main factory workshop. The building was constructed in red-brick in English bond in common with Structure C/D. The plan was a narrow building running NW – SE containing a small entrance hall prior to a single doorway into Structure C/D.

The building had been extensively altered to form a canteen serving bay. The south-eastern gable façade was an open walk-through bay at the time of the survey whilst the north-eastern elevation acted as the serving counter for the canteen, but retained survival of doorways at either end. The south-western elevation was plain.

The interior consisted of two rooms, a long narrow cloak room with a single entrance to the north-east and a smaller reception room with doorways in all four cardinal directions. That which connected with Structures C/D had subsequently been blocked. No trusses supported the roof structure with the weight supported by the gables at either end.

The House

Two-storey Edwardian period house that faces Emerys Road. Constructed in red-brick in Flemish bond, the upper storey was pebble-dash rendered. Access to the building was unavailable so the plan is unknown. Principle façade faced the street and consisted of two bays with a central doorway. The ground-floor openings were a hipped-roof bay window, the central doorway with projecting roof-hood and a segmental-arched window with terracotta voussoirs. The first floor had two windows both boarded. The roof was hipped with three tall chimney stacks, two pots on each stack. The other façades were plain with minimal decoration.

Phase 2 (Inter-War Period)

Structure F

This was an extension of the factory complex to the south-east. It consisted of a single pitched-roof factory building constructed of machine-cut red-brick in English bond against the southern façade of Structure C. It was rectangular in plan, encompassing the space between Structures C and E. The principle façade was the gable facing Emerys Road. It was plain with a single high circular light, containing an electric extractor fan at the time of survey. At the ground level was a single doorway with two rectangular windows either side. The side elevations were of plain pier and panel construction with rectangular casement windows located within the panels. The roof was pitched and had been replaced by corrugated-iron. The interior plan was open with a single doorway towards the street, Structure E and a later cut door to Structure C. Double-doorway access was provided towards the west and the dye-house (Structure A). The roof structure was two trusses constructed of L-form steel, with a principal king-post and a series of sloped braces.

Structure G

This structure was identical in construction and form to Structure F. However, it was slightly larger extending further to the south-east and Emerys Road. The interior was open plan with the principal access towards Emerys Road. Although there were windows to the street there were none in the side façades. Access passed to all cardinal directions with that to Structure D via a double-doorway.

Structure K

This structure represented a continuation of the extension of existing factory buildings towards Emerys Road. It was a pitched roof factory building constructed in machine-cut red-brick in the English bond. The building was rectangular in plan and was originally open. The gable was plain and the side walls were of pier and panel construction. The principal façade faced north-east and had a single doorway and rectangular window, with a later-cut double-doorway in-between. The interior had been sub-divided into small offices by plaster-board sub-partitioning. The roof was supported by two roof-trusses of pre-fabricated L-form steel in a Queen-post design.

Phase 3 (Mid-20th Century)

Structure H

A factory building that represented an extension of the complex to the south-east of the site. Constructed in machine-cut brick in the Flemish bond. The plan is a large, long, open room forming an L-shape, becoming wider towards the front of the complex. The

principal façade consisted of the gable end that directly faced Emerys Road. It was five bays, a central double-doorway flanked by two windows either side. The heads and sills were of plain cement. The north-eastern façade was also extensively lit with a series of identical windows one to each panel and three double-doorways evenly spaced along the façade. The other facades were plain.

The interior was originally open with a single small room providing porch access to the west and the forecourt of the factory. Later plaster-board sub-division was undertaken to provide office space. The roof trusses were constructed of pre-fabricated L-form steel in a similar style to Structures F and G. However, these were supported by steel posts around which the pier and panel wall was built.

Structure L

This was a covered yard area of steel-frame construction. It formed a linear plan area between Structures A and K, and C and F. Access to the front of the complex was originally open but has been closed by breeze-blocks whilst the rear was enclosed. The construction was of I cross-section steel posts supporting a framework of six simple L-form steel trusses. This was later extended further to the rear with similar construction.

Phase 4 (Late-20th Century)

The remainder of the construction phases within the complex occurred in the post-war period. The last major construction within the study area was Structure J. This was a large double-pitched roof factory building of box-girder construction with brick in-filling and a low single-storey, flat-roofed office block that encompassed the remaining yard space. Contemporary with this phase were the sympathetic extensions of Structures H and L to the rear of the complex. A series of low single-storey, flat-roofed buildings in-filled the remainder of the yard space. A number of these had distinctive hipped-roof skylights. To the rear of the structures C and D a series of flat-roofed toilet blocks were constructed.

The ultimate phase of construction appeared to be the late expansion of the site onto the adjacent land plot to the south-west and the construction of a massive factory building. This appeared to have post-dated the 1960s and the sale to Speedo International Ltd.

6.0 Discussion

The earliest phase of the building dates to the early-20th-century between 1900-1914. At this time the complex was represented by Structures A - E and the house set within the land plot. This seems to represent a purpose built factory complex, described on the Ordnance Survey Map of 1914 as the Brooklyn Lace Works. The individual structures had varying functions.

Structure A was still referred to as the Dye-House at the date of closure. The use of glazed bricks in the interior of the building and tiled floor would support this supposition. What is not clear was how the smaller two-floor room functioned. It was possibly a store room within which the lace was stored prior to the dying process. Alternatively the space may have been used for the drying of the lace.

Structure B appeared to be an engine house. The photographs from the mid-20th century show the remains of a chimney stack (now demolished) to the rear of the building. This theory is also supported by the presence of a vent-stack on the roof and the use of open grills on the lunettes allowing good ventilation for the machinery whilst providing protection from the elements. Photographic evidence suggests this was a coal-powered engine (Plate 9) possibly a steam-engine although there was widespread change towards alternative power at the turn of the century.

The large building of Structure C/D represented the main arena of the Works. The staff entrance would appear to be through Structure E with this acting as a cloak room for the factory workers. The internal layout of Structure C/D implies two things. Firstly natural light is restricted to the western side of the building. This suggests that delicate work was restricted to this area. Secondly the eastern side of the complex as well as having restricted light sources was also closest to the engine house and therefore the power supply. This may suggest machinery was used predominantly in the eastern side.

However, there are still two key questions that arise.

- 1. Where was the linen stored during drying after the dying process?
- 2. How was the power from the engine house transferred to the machinery?

There are no clear answers to either question. However, the engine house, Structure B (Fig. 4), clearly displays an orientation that varies from the other structures and this may be significant in the use of crankshaft technology as it would suggest that any linear rod was entering the main factory building at an angle.

The large open nature of the factory, the presence of a dye-house and the problematic nature of the power transferral may suggest this was a factory purely for finishing the products and did not manufacture lace from the raw materials. The provision of lighted areas for finishing and large warehouse space would support the idea the factory was purpose built for the lace-finishing industry with the raw material imported.

By Phase 2, probably dating to the inter-war period, some of these questions may have been resolved. Structure K adjacent to the dye-house (Structure A) may have represented a drying room. Structure F had good light sources to the south-west and south-east and may have been used as a finishing room. Structure G could have been an extension of the factory rooms or alternatively a storage room.

In Phase 3 the change in ownership to Robert Shaw and Company Ltd. presumably coincided with the expansion and construction of Structure H. Its final use was as the needle room and the quantity of available natural light provided along the eastern façade would support the theory that this was its original function. The factory probably produced hair-nets and mosquito nets at this time and would have required finishing in order to produce these items from the raw lace net.

The covering of the yard by Structure L would support the supposition that Structure K acted as a drying room and that material was passing from there directly to Structure F for finishing.

The constructional development of the buildings was also interesting. In the first instance construction is in brick with wood roof trusses. In the case of Structure A these are highly ornamented, particularly in view of the status of the building. This suggests that the facility to dye the lace in-house was a relatively recent development and therefore a prestigious element of the factory. By Phase 2 the use of steel trusses began to be used. These were stronger and lighter therefore allowing greater spans whilst reducing stresses on the load-bearing walls. By Phase 3 these had been abandoned completely and girder posts were being used removing the majority of the load from the brick-wall and reducing this to a shell for the construction of the factory building. These were the early examples of the box-girder construction buildings that are common today.

The site represented an interesting example of 20th-century factory buildings that illustrate the role of the 20th-century lace-making industry in Nottingham as well as providing a chronology for the development of industrial factory units within the immediate area.

Acknowledgements

The work was commissioned by Fairclough Homes. Thanks to the staff of Speedo International Ltd for their on-site assistance and provision of useful archive material. This report was written by Chris Hewitson and edited by Malcolm Hislop who also managed the project. Chris Hewitson and Leonie Driver carried out the site-based recording. The illustrations were prepared by Chris Hewitson, Leonie Driver and Nigel Dodds.

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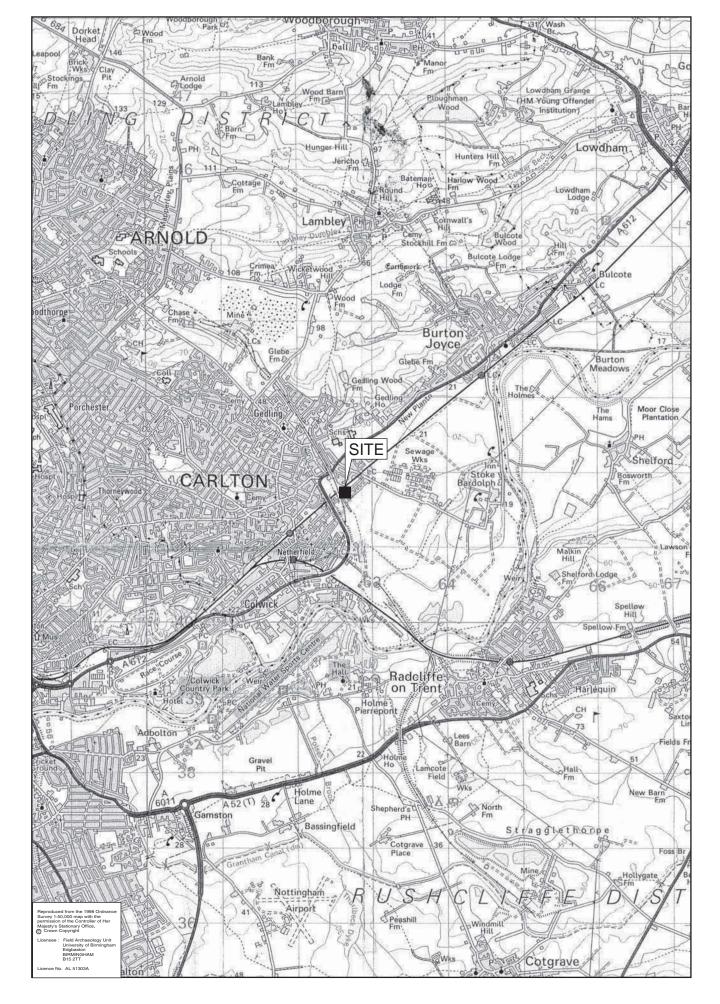


Fig.1

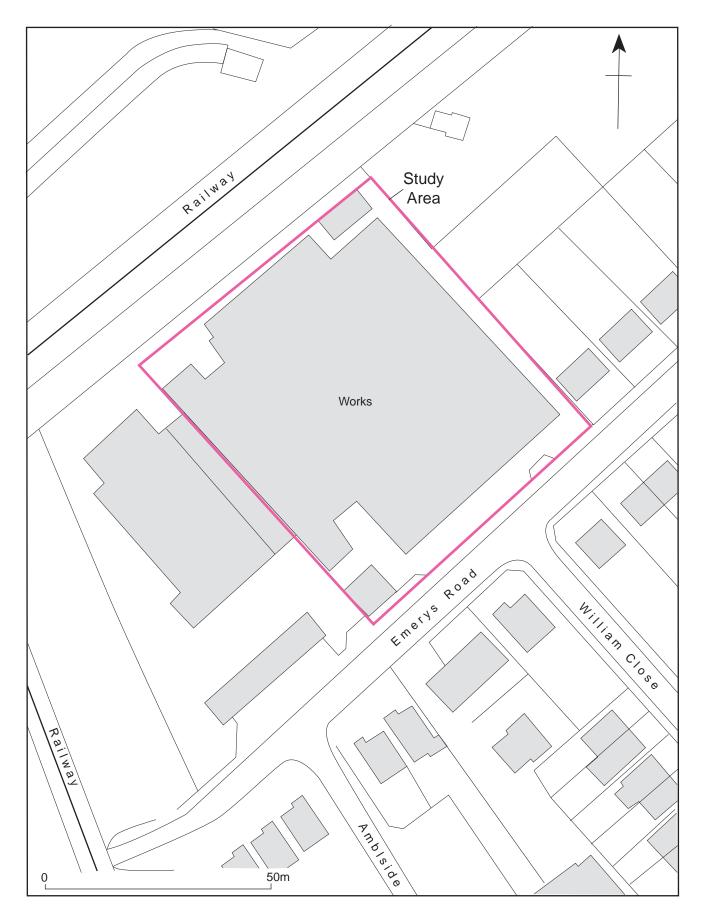
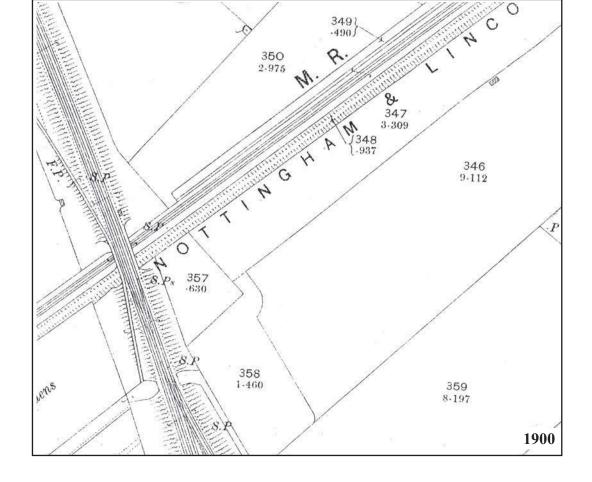


Fig.2



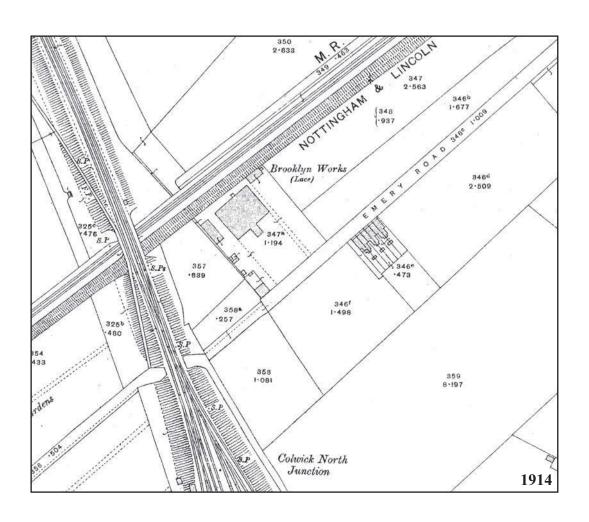


Fig.3

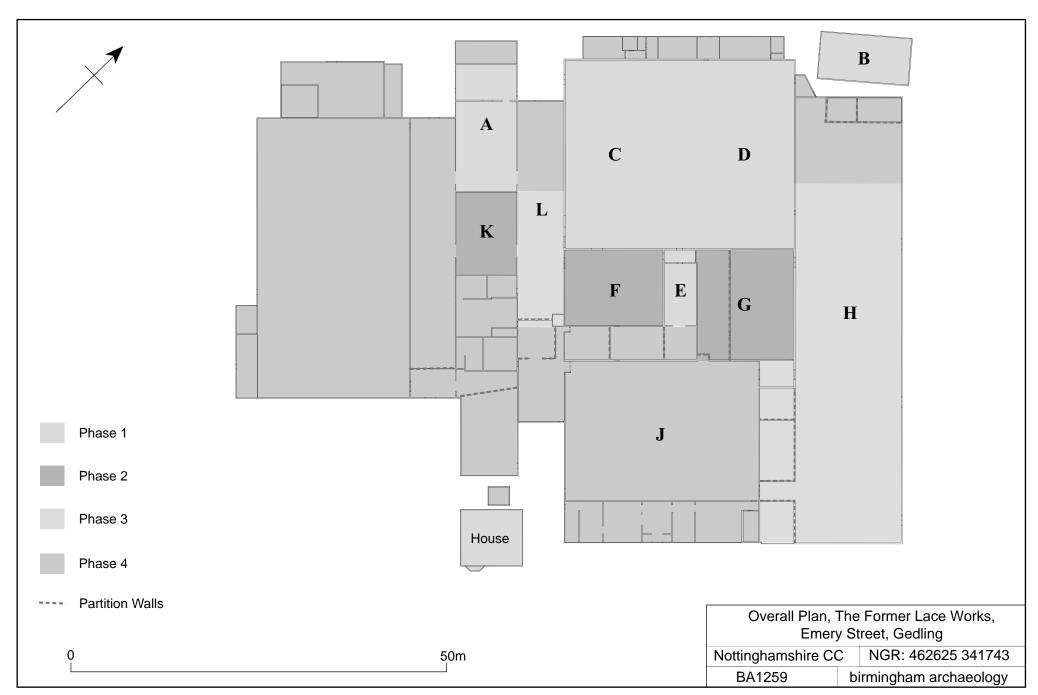


Fig. 4

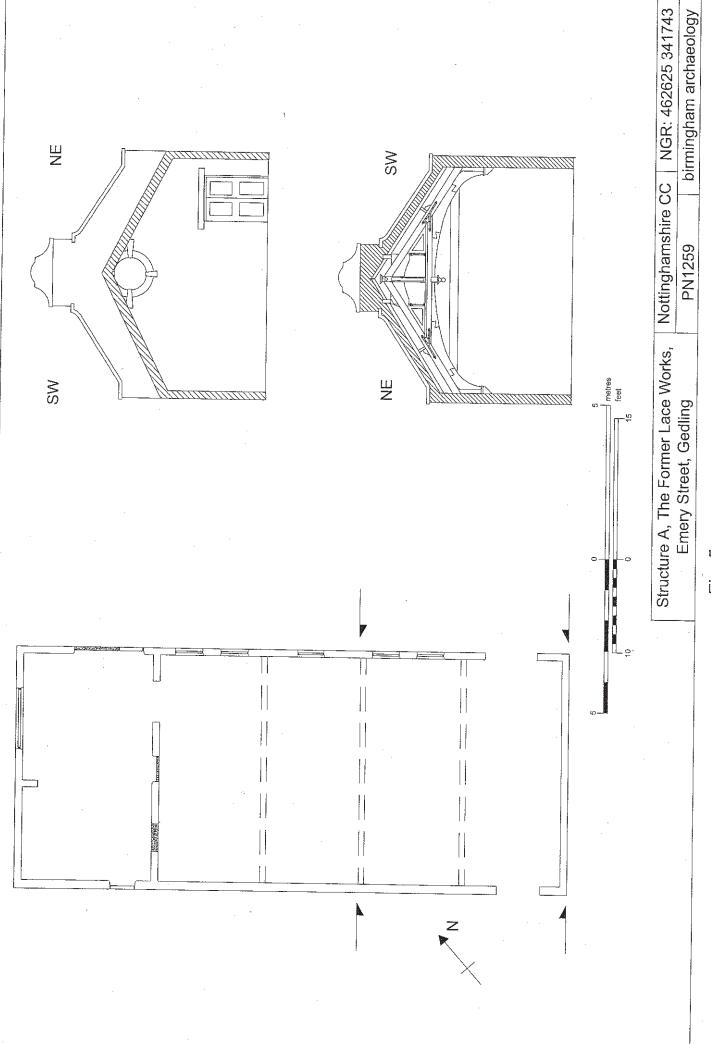


Fig. 5

Fig. 6

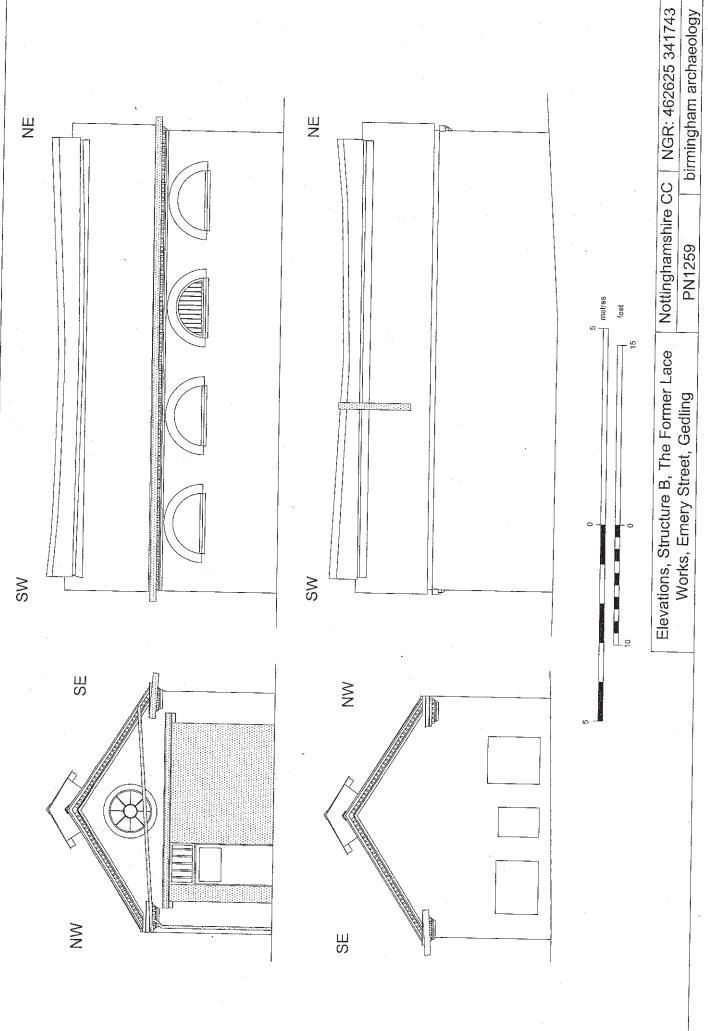


Fig. 7

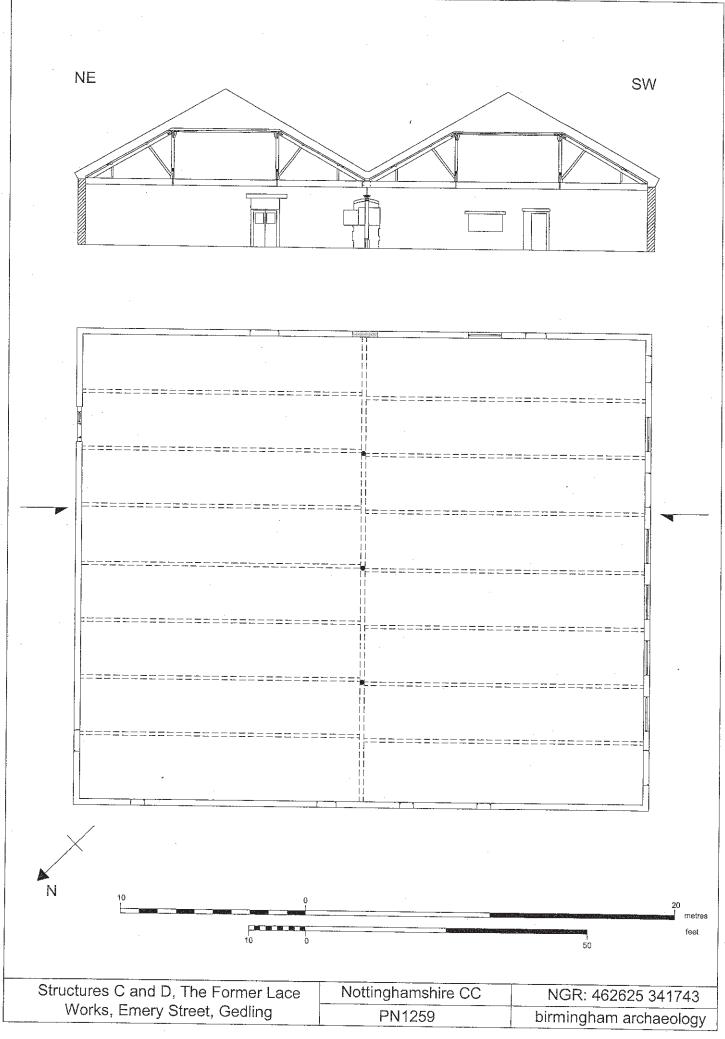


Fig. 8

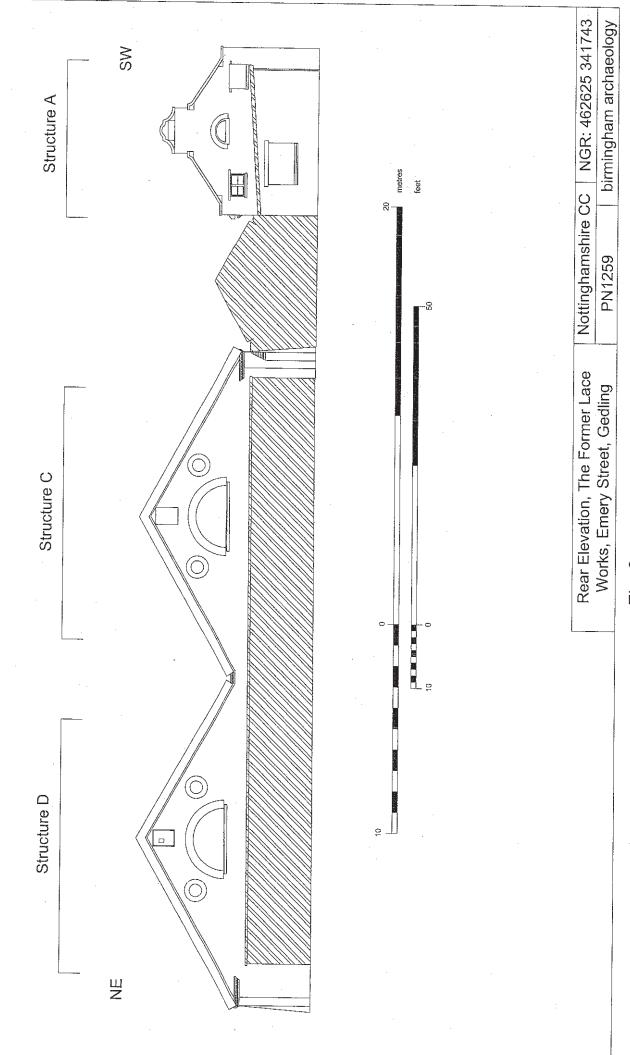


Fig. 9

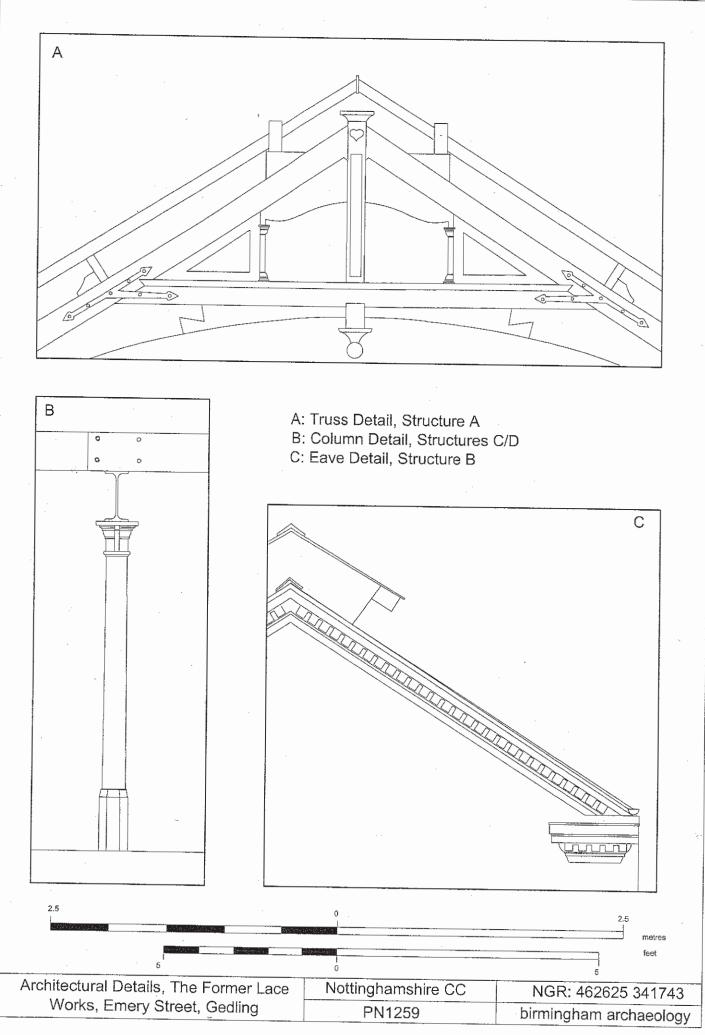


Fig. 10



Plate 1



Plate 3



Plate 2



Plate 4



Plate 5



Plate 6



Plate 7

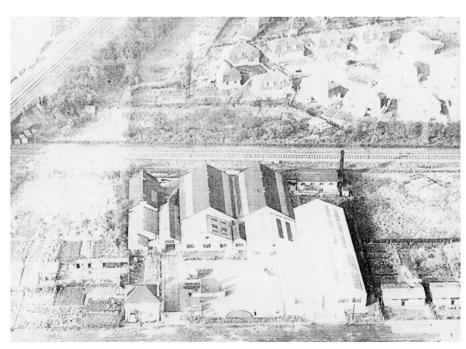




Plate 8 Plate 9