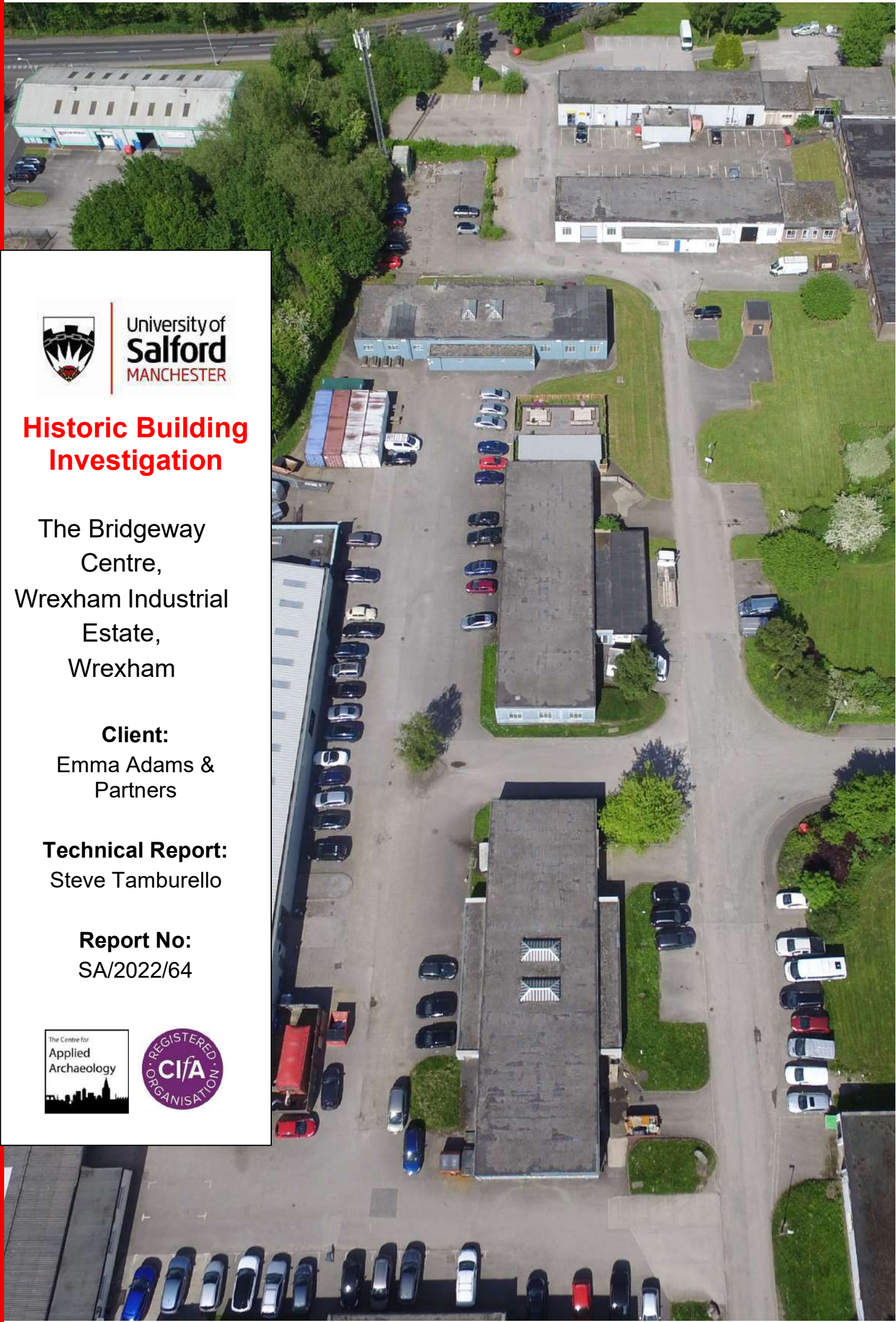


University of Salford MANCHESTER

Historic Building Investigation

The Bridgeway Centre,
Wrexham Industrial Estate,
Wrexham

Client:
Emma Adams & Partners

Technical Report:
Steve Tamburello

Report No:
SA/2022/64

The Centre for Applied Archaeology

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Contents

Summary 1

1. Introduction 2

1.1 Planning Background 2
1.2 Methodology 3
1.3 Site location, topography and geology 3
1.4 Designations 3

4. Historical Background 5

5. Building Investigation 13

5.1 Introduction 13
5.2 Building 1 13
5.3 Building 2 18
5.4 Building 3 28
5.5 Building 4 31
5.6 Building 5 35
5.7 Building 6 42
5.8 Building 7 48
5.9 Building 8 53
5.10 Building 9 62

6. Discussion 67

6.1 Introduction 67
6.2 Building Type summary 67
6.3 Discussion 69

8. Sources 71

Acknowledgements 73

Appendix 1: Figures 74

Summary

In May 2022 Salford Archaeology were commissioned by Emma Adams and Partners on behalf of FI Real Estate Management Ltd to undertake an Historic Building Investigation on buildings within The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham. Fi Real Estate Management Ltd have submitted a hybrid planning application to Wrexham Council seeking permission to demolish the current buildings within the Site and erect 33 units for commercial/ industrial use and outline permission for a up to 19 further units (Ref: P/2022/0065)

The Development Control Archaeologist of Clwyd-Powys Archaeological Trust (CPAT) as advisors to Wrexham Council judged that the structures were of archaeological and historical interest and recommended that a Level 3 type Historic Building Survey be undertaken on the structures, relating to the ROF Marchwiel Wrexham works, in advance of any development work.

The building investigation demonstrated that the nine single storey, brick buildings within the site of The Bridgeway Centre were originally constructed in 1940/1 as part of the wider Royal Ordnance Factory works whose main purpose was to produce cordite and other propellants to assist in the war effort. Although these buildings fell into three types, they generally shared the same steel frame structure, infilled with brick with flat concrete slab roofs. Many of the buildings also had projecting lean-tos on one or both sides.

Production at ROF Marchwiel ceased following the end of the was in 1945, after which the buildings within the Site and across the wider works were decommissioned and stripped of any distinguishing features. It is also thought that many of the records relating to the site were destroyed at this point.

There are no firm indications as to the function of buildings within the Site. The close proximity of all buildings suggests that they were not used for the direct manufacture of volatile substances. They also lacked the distinctive protective earth bunds surrounding them like the larger units, which were originally were located to the west and south and across Bridge Road.

The buildings appeared to be arranged to allow for adequate access to the roadway that branched through the Site from Bridge Road, with many of the building comprising at least one large vehicle entrances from the road. The high proportion of vehicle entrances and the proximity of the Site to the main arterial route of Bridge Road may suggest that the various buildings functioned as storage and loading points for the conveyance of the products by road or for receiving non-hazardous materials for distribution with the works. This is reinforced by the presence of trolley cranes and lifting hooks attached to the steel beams within two of the buildings.

The investigation has provided an invaluable opportunity to record some of the last remaining buildings from a vital wartime site in Wrexham.

1. Introduction

1.1 Planning Background

In May 2022 Salford Archaeology were commissioned by Emma Adams and Partners on behalf of FI Real Estate Management Ltd to undertake an Historic Building Investigation on buildings within The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham (hereafter known as the Site)

Fi Real Estate Management Ltd have submitted a hybrid planning application to Wrexham Council seeking permission to demolish the current buildings within the Site and erect 33 units for commercial/ industrial use and outline permission for a up to 19 further units (Ref: P/2022/0065)

The Development Control Archaeologist of Clwyd-Powys Archaeological Trust (CPAT) as advisors to Wrexham Council judged that the structures were of archaeological and historical interest and recommended that a Level 3 type Historic Building Survey be undertaken on the structures, relating to the ROF Marchwiel Wrexham works, in advance of any development work.

This investigation has been undertaken according to guidelines set out in Planning Policy Wales (Edition 11 February 2021). Paragraph 6.1.5 states that the planning system must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being of present and future generations. This is supported by the Conservation Principles laid out in Paragraph 1.11 of the Technical Advice Note (TAN) 24 (May 2017) which should be used to assess the potential impacts of a development proposal on the significance of any historic asset to assist in the decision making where the historic environment is affected by the planning process.

Paragraph 1.11 states:

1. *Historic assets will be managed to sustain their values.*
2. *Understanding the significance of historic assets is vital.*
3. *The historic environment is a shared resource.*
4. *Everyone will be able to participate in sustaining the historic environment.*
5. *Decisions about change must be reasonable, transparent and consistent.*
6. *Documenting and learning from decisions is essential.*

© SA: The Bridgeway Centre, Bridge Road, Wrexham: Historic Building Investigation

1.2 Methodology

The Historic Building Investigation was conducted following the CIfA Standards and guidance for archaeological building surveys (updated December 2014), and was commensurate with a Historic England Level 3-type survey (Historic England 2016).

Photographic Archive: a comprehensive photographic archive for the buildings was produced utilising a high-resolution digital camera with a sensor size of at least 15 megapixels. All frames, excluding general contextual views, incorporated a graduated metric scale.

Site Drawings: A set of measured survey drawings of the building were produced utilising measurements captured using by 3D laser scanner where accessible and features of archaeological significance were annotated onto the drawings. The resultant data was used as the basis of CAD drawings, which were included within this report, where appropriate, as Figures.

Written Description: a description of the historic structures was maintained to Historic England Level 3 standards, as appropriate. The Level 3 records were descriptive and provided a systematic and analytical account of the origin, development and use of the building, which included a description of the plan, form, fabric, function, age and development sequence. The written description included an account of any key architectural features, fixtures and fittings, and a discussion.

1.3 Site location, topography and geology

The Site lies on the south side of Wrexham Industrial Estate, approximately 3 miles to the east of Wrexham. The Site is bounded by Coed Aben Road and the inner core of the Industrial Estate to the north and Bridge Road and the grounds of HMP Berwyn to the east. The Site is bounded by Clywedog Road East and the residential area of Pentre Maelor to the south and Clywedog Road North and further industrial premises to the west (Figs 1 and 2, and Plate 1).

The Site is currently in use as a managed industrial park, with units occupied by a variety of business and services.

The site lies at a height of approximately 30m above Ordnance Datum (aOD) and is located on levelled ground. The solid geology comprises sedimentary bedrock including mudstone, sandstone and conglomerates of the Salop Formation with Milnrow Sandstone bedrock with superficial deposits of Devensian Till (British Geological Survey, 2022)

1.4 Designations

There are no designated buildings within the Site at The Bridgeway Centre and the information held on the Historic Environment Record does not indicate any archaeological records within the development area



Plate 1: Recent aerial view of the of The Bridgeway centre, looking north-east across the north-east end of the Site, with Bridge Road running along the right of the picture

© SA: The Bridgeway Centre, Bridge Road, Wrexham: Historic Building Investigation

4. Historical Background

The area of the Site is first shown on the detailed mapping of the first edition Ordnance Survey for Denbighshire, surveyed in in 1879 (Fig 3) where it is shown as being agricultural land within the township of Abenbury Fawr, to the east of Wrexham. The market town of Wrexham had expanded rapidly in the nineteenth century as the traditional leather industry gave way to Iron working and coal mining with the Industrial Revolution.

The area retained its rural, agricultural setting well into the twentieth century, altering very little through to the outbreak of war in 1939. The Ordnance Survey of 1938 (Fig 4 and Plate 2, captured the Site prior to the massive change that would come with the outbreak of war. The map shows the area of the Site located to the east of the hamlet of Redwither, previously known as Rhyd-fudr prior to anglicisation. To the west, the Site is delineated by the course of Redwither Brook which flowed south-west from the Afon Clywedog. The surrounding area was punctuated with farmsteads, the closest being Coed-Aben on Redwither Lane to the north-west of the Site and Cae Mynach to the on south-east, surrounded by a Smithy and the Bethal Chapel.

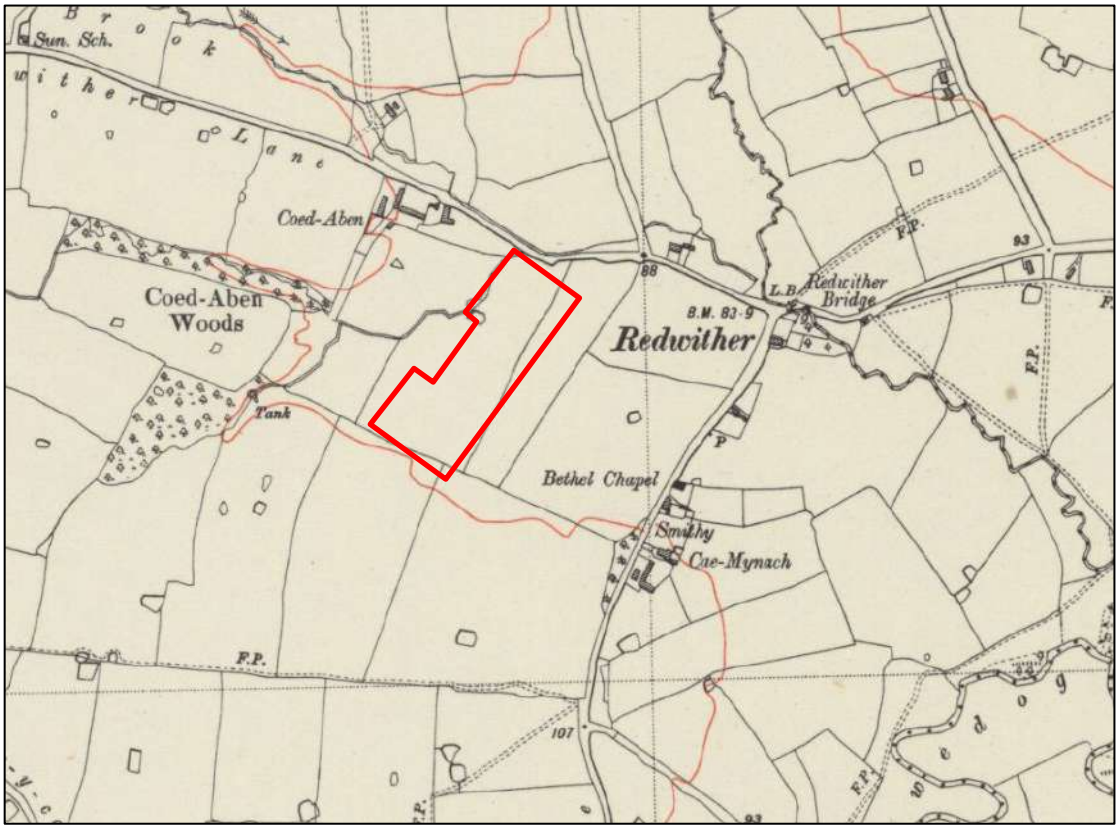


Plate 2: Extract from Ordnance Survey map of 1938, with Site location indicated

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In the build up to war the area to the east of Wrexham, incorporating the Site, was chosen as the location for a vast Royal Ordnance Factory, to be named ROF Marchwiel, spanning an area 3km by 2.5km encompassing over 566 hectares (1,400 acres). The purpose of the factory was to produce cordite, a smokeless propellant developed by the United Kingdom to replace gunpowder in artillery, tank weapons and naval guns and further. Further developments were made by the 1940s to produce a flashless version that was extensively used with anti-aircraft projectiles. Cordite was produced by combining two high explosives: nitrocellulose and nitro-glycerine, with the resulting substance formed into dried spaghetti-like filaments (Plate 3).



Plate 3 Cordite filaments in a .303 British Rifle cartridge

Prior to the onset of the Second World War, cordite was still in production at three Royal Ordnance Factory sites which had survived from the First World War, at Waltham Abbey (Essex), Holton Heath (Dorset) and Ardeer (Ayrshire). However, as more variations of Cordite were developed to meet specific propellent needs, so the processes and production sites required became more complex and the remodelling of existing sites was not always feasible.

Output from the existing production sites was impacted early in the war when two cordite Mixing Houses exploded at the Waltham Abbey within months of each other, in January and April 1940, damaging buildings within a 500m radius of them and causing major issues for production (Cocroft, 2000).

The performance and output of the outmoded ordnance sites may have been a factor in the approval of new sites across the country to cope with increased wartime demand for propellants.

In 1937 approval for a new cordite production site was given for ROF Bishopton in Renfrewshire, to cover a site of 1910 acres with around 1500 buildings. Approval for ROF Marchwiel, as the Wrexham site was officially named, was given in August 1939 by the Ministry of Supply to supplement production followed by a much smaller site at ROF Ranskill in Nottinghamshire.

The primary consideration in the choice of location for the site in North Wales was the distance from German bomber bases in mainland Europe and from large population centres, however other factors such as access to a large local workforce due to high unemployment and good existing railway links also played in its favour. The overall flat topography of the area assisted in the construction of a dispersed complex that sought to minimise any damage that could be inflicted from an aerial attack.

The main contractors responsible for the construction of ROF Marchwiel are thought to have been Holland, Hannen & Cubitts, a major building company responsible for a range of large projects in the Second World War, although some sources suggest the firm McAlpine were involved, whose family had owned the nearby Marchwiel Hall since 1913. Work on the Site began in November 1939 and was completed by March 1941 at the cost of £10.9 million and employing more the 10,000 workers.

The Wrexham site was assigned as ROF 35 and its layout is detailed on a facsimile of the original drawings created by the propellant Planning Department of the Ministry of Supply, first issued in November 1940 and amended throughout the war through to November 1944 as additional phases were completed (Plate 4). The plans show the area of the Site near to the middle of the sprawling complex, adjacent to the newly constructed Bridge Road, which bisected the works north-east to south-west. Where possible existing field boundaries, patches of woodland and farm buildings (including Coed Aben) were left in place in an attempt to make the works blend in with the surrounding landscape and protect the site against enemy reconnaissance, although records from the Luftwaffe show that the works were photographed in September 1940, before they had even been completed. The dispersed layout of the buildings over such a wide area also sought to reduce the risk of a chain-reaction of explosions as had happened at Waltham Abbey, should the factories be targeted, with any impact confined to individual buildings. Although the area was targeted by raids early in the war, the ROF site was not hit.

The Ministry of Supply plan does not detail the function of each area of the factory site; however, it is known that three factory units produced nitro-glycerine and two factory units produced nitrocellulose, which supplied the cordite section where they were supplied. Many of the most sensitive buildings such as the Mixing Houses were half underground and covered in turf with the interior completely covered in sheet lead. Such buildings were surrounded by earth bunds and spaced at a distance to their neighbours.

The site also had two smaller tetryl nitration plants and acid towers used for the concentration of sulphuric acid, along with a cluster of magazines, storage areas, administration offices, canteens and workshops.



Plate 4: Extract from Ministry of Supply plan for ROF 35 with location of Site indicated (reproduced courtesy of Wrexham Archive and Local Studies Service)

The Ministry of Supply plan for the specific area of the Site (Plate 5) shows that there were originally many more buildings than currently survive, arranged in a largely symmetrical arrangement either side of a north-west/south-east access road through the middle from Bridge Road. Like the rest of the plan the buildings are not explicitly labelled but do bear number and letter codes to which the key is unavailable

The localised cluster of buildings comprised a series of rectangular buildings adjacent to Bridge Road, which are sequentially numbered 28/229 A, B, C, D etc on the north side of the access road and 28/129 A, B, C etc on the south side of the access road.

These were flanked to the north-west by and series of slightly larger rectangular building with narrow projecting wings to each side. A pair of these larger building are orientated north-east/south-west on either side of the access road and labelled 28/231

A and 28/131. Three further larger buildings are arranged perpendicular to them on each side orientated north-west/south-east and labelled B, C and D. Further buildings are located at the north-east and south-west periphery labelled 28/226 and 28/126 respectively. The building codes may indicate different building designs and possibly different functions. Buildings more likely to have been used in the handling of volatile material are indicated to the immediate south-west of the Site, marked with a perimeter and spaced apart from the neighbouring structures.

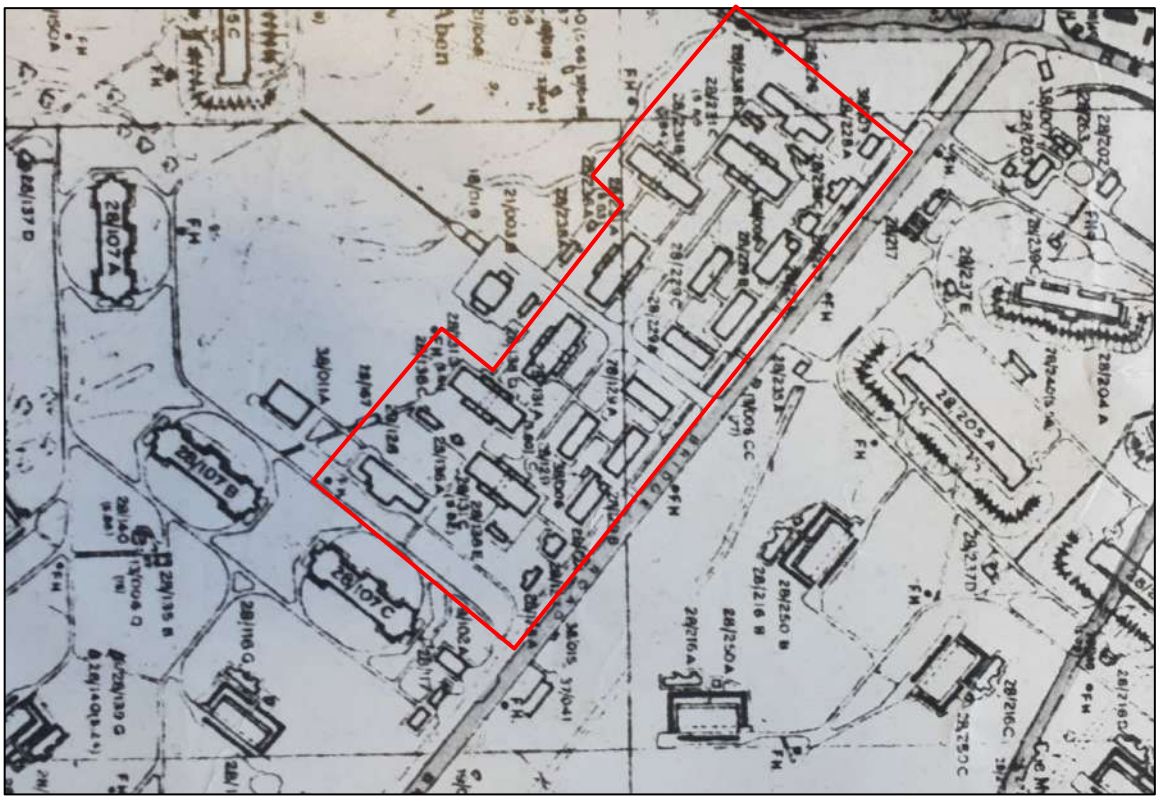


Plate 5: Detail of the Site from the Ministry of Supply plan of ROF 35 (reproduced courtesy of Wrexham Archive and Local Studies Service

ROF Marchwiel ceased production in 1945 shortly after the end of the war, with many of the classified record reportedly destroyed at the time. The layout of ROF Marchwiel was captured in an aerial reconnaissance photograph by the RAF in 1946 when the site was being decommissioned (Plate 6).

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Plate 6: RAF reconnaissance photograph taken 2nd April 1946 (courtesy of Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) archive no 6432533)

Although the works were decommissioned, many of the buildings across the site were left in-situ for many years. Buildings within the Site appear to be in use by the early 1960s, labelled as 'Works' on the Ordnance Survey map of 1961 (Fig 5 and Plate 7), which also shows many of the larger reinforced buildings still present in the surrounding landscape. The map shows all the buildings from the Ministry of Supply plan still standing, though some seem to have been connected together as they can also be seen in an oblique aerial photograph taken by Aero films Ltd, perhaps around this time (Plate 8).

In the 1950s British Celanese opened a large acetate yarn factory to the north of the Site, in what would become the core of the current Wrexham Industrial Estate. This was followed by other large companies coming to the former ROF site including Kellogg's and JCB.

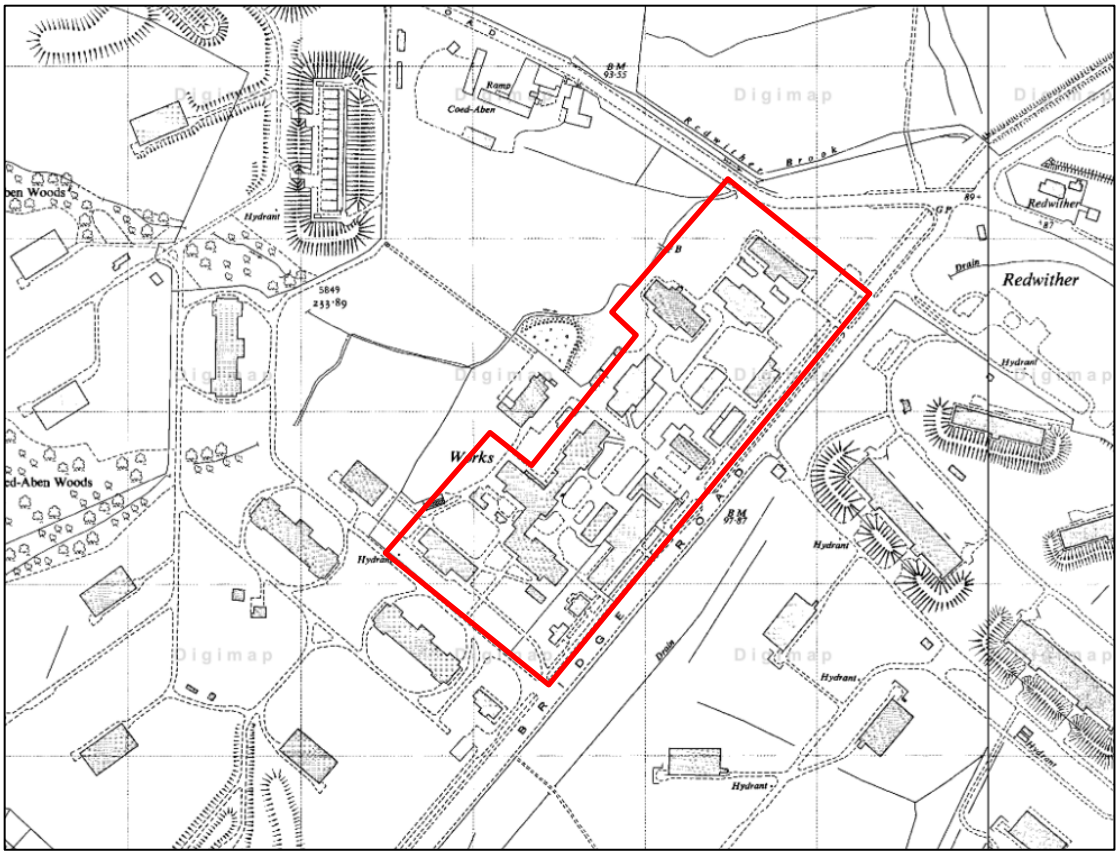


Plate 7: Extract from the Ordnance Survey map of 1961 with Site location indicated

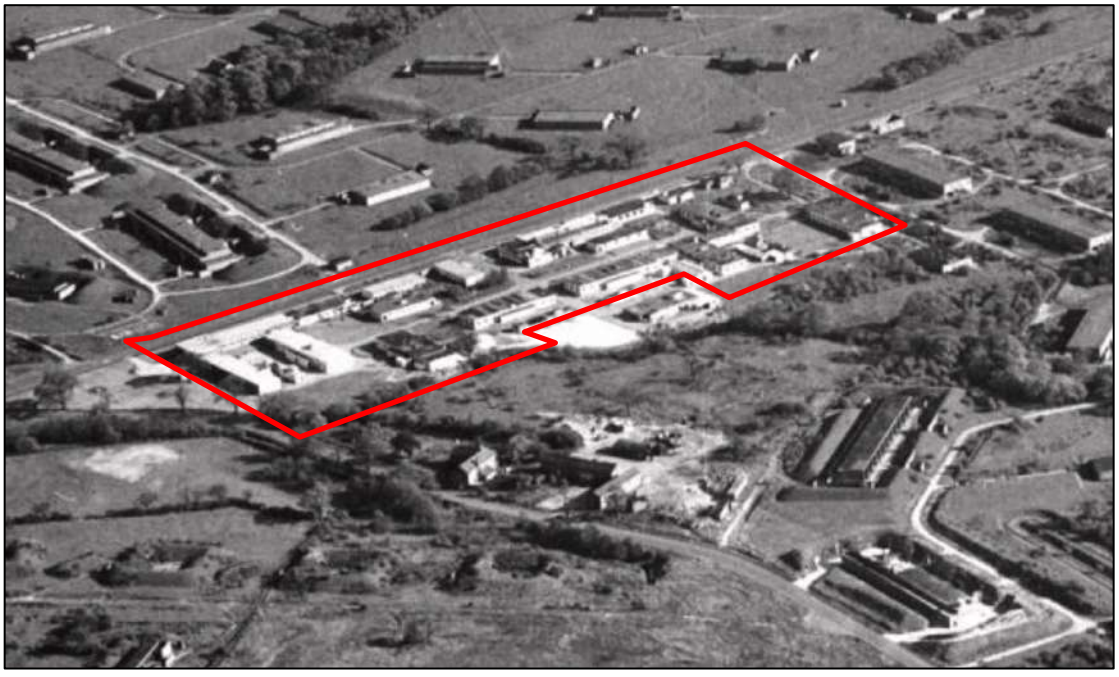


Plate 8: Extract from oblique aerial photograph by Aerofilms Ltd, of ROF Marchwiel, looking south. Date Unknown (Courtesy of RCAHMW archive no 6217682

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By the mid-1980s the Site had been grouped together as the The Bridgeway Centre, with a number of subdivided business units (Fig 6 and Plate 8). By this time all bar one of the smaller rectangular buildings adjacent to Bridge Road had been demolished creating a wide embankment. A large factory had been constructed opposite the Site during the 1970s which was subsequentially replaced by HMP Berwyn which opened in 2017.

Due to the continuing expansion of the Wrexham Industrial Estate most of the original buildings of the ROF Marchwiel had been demolished by the 1990's leaving only the buildings within the Bridgeway centre along with some ruined structures located within the woods to the south of Oak Road, to the west of the Site.

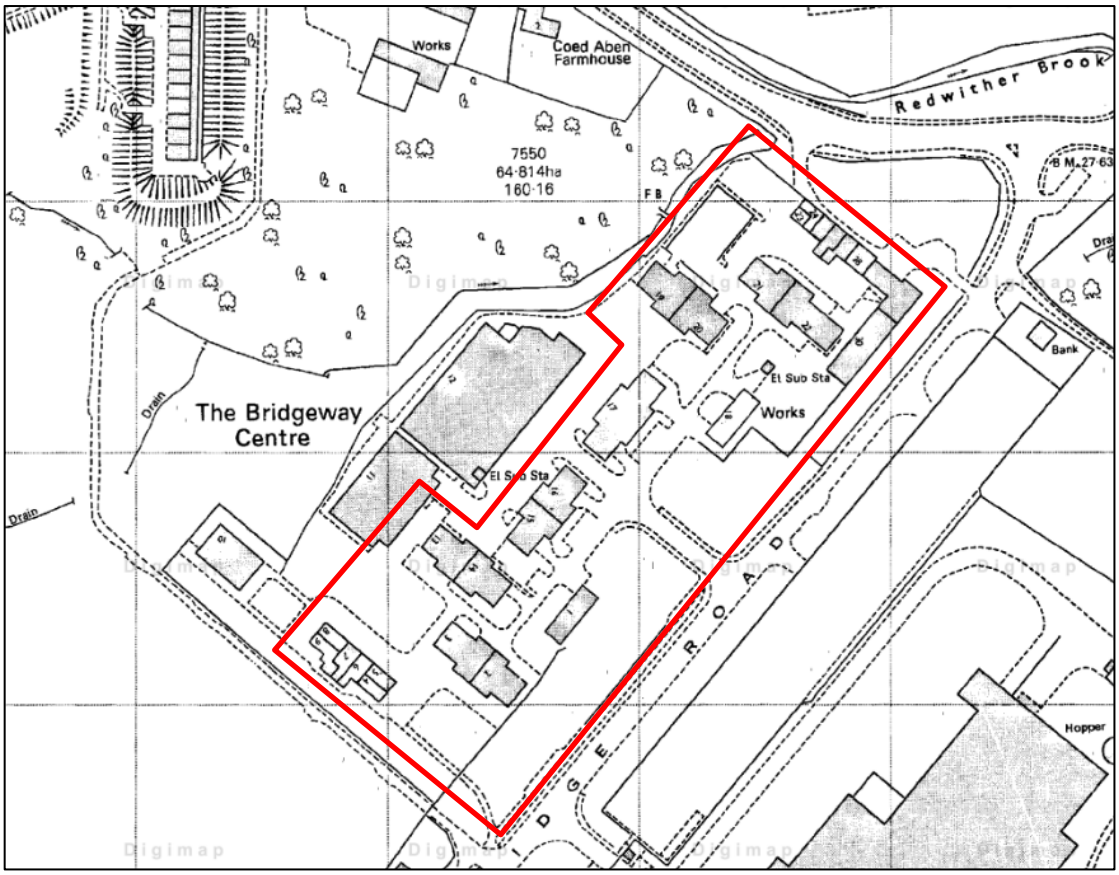


Plate 8: Extract from Ordnance Survey map of 1985 with Site location indicated

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5. Building Investigation

5.1 Introduction

A site visit was undertaken on 19th May 2022 to The Bridgeway Centre, Wrexham to investigate the buildings within the Site prior to the proposed redevelopment and demolition (NGR SJ 37782 49395). The Site comprised a series of nine, single storey, brick buildings spaced across the Site, which have been numbered 1 to 9 from the north-west of the Site to the south-west for descriptive purposes of this report (Fig 7 and Plate 9). The majority of the buildings were still in use by a variety of small businesses, meaning that internal access was limited. A measured survey of the exterior of all the buildings and the interior of those that were accessible was undertaken utilising a 3D laser scanner with the resulting data used to produce a representative set of drawings (Appendix 1).

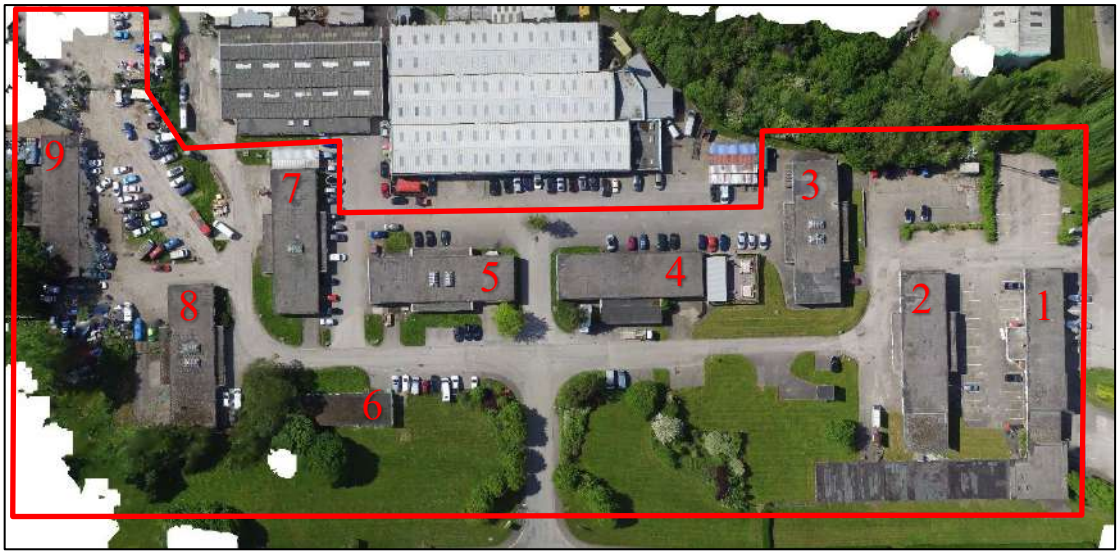


Plate 9: Recent composite UAV photograph of the Site, with simplified Site boundary and building numbers annotated for descriptive purposes

5.2 Building 1

Building 1 was orientated north-west/south-east at the north-east end of The Bridgeway Centre, near to the junction of Coed Aben Road and Bridge Road. The original single storey brick building was rectangular in plan with a flat roof and measured 120 ft /36.85m long by 31 ft wide/ 9.45m by 12 ft./3.65m high, with a short lean-to extension in the centre of the rear south-west side (26ft/8m by 15ft/4.6m). Building 1 was butted on the south-east side by a modern single storey retail extension, connected to a similar late-twentieth century range, orientated north-east/south-west range, parallel to Bridge Road (Fig 8 and Plate 10).

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Plate 10: Recent UAV shot of Buildings 1 and 2 (indicated) with modern extensions at north-east end of the Site

The north-east frontage of Building 1 had been significantly remodelled to accommodate a row of four retail units which occupied the building. This comprised a rebuilt brick façade of brown brick which incorporated large shop windows and individual entrances for each of the units. The original brick structure was visible behind the rebuilt façade, above the roofline of the modern extension which butted the south-east, side elevation (Plate 11).

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Plate 11: North-east elevation of Building 1, looking west.

The north-west end and rear south-west elevations were both fully clad in modern corrugated steel sheeting, which completely obscured the underlying brick structure. The north-west, side elevation incorporated an inserted, steel framed two-light horizontal window (Plate 12), whilst the rear elevation comprised inserted doorways which corresponded to each retail unit within (Plate 13). The rear lean-to extension comprised a single doorway on the north-west side and a central double doorway on the south-east side and was also fully clad, making it difficult to ascertain whether the underlying structure formed part of the original building.

The interior of Building 1 was inaccessible but had been substantially altered to accommodate the retail units, which included shop floors, café spaces, kitchens and storage spaces.



Plate 12: North-west end elevation of Building 1, looking south-east



Plate 13: Rear, south-west elevation of Building 1, looking north-east

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A low, brick-built extension butted the south-west of Building 1 and adjoined it to a modern, brown brick range which extended to the south-west for 67m (10m wide). The modern range comprised a vacant retail unit at the north-west end and open plan office space throughout the remainder of the length (Plates 14 and 15).



Plate 14: Modern office range adjacent to Building 1, along south-east side of the Site



Plate 15: Interior of modern office range adjacent to Building 1

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5.3 Building 2

Building 2 was located 20m to the south-west of Building 1, on the same orientation and aligned at the north-west end. The original brick structure was the same length and height as Building 1 but slightly wider, (37.4m/122 ft long by 11.6m/38 ft wide by 3.65m/12ft high) and was butted at the south-east end by a modern extension. The building was constructed of machine-made brick laid in an English Garden Wall five stretcher bond, with a flat, felt lined, concrete slab roof. All of the external façades of the building were coated with white paint, which obscured the mortar. A lean-to projection was positioned centrally on each side of the building (51ft/15.3m long by 7½ ft /2.3m wide) which had a lower roof to the main building (8 ½ ft high/ 2.65m) with brick parapets to each end (Fig 9 and Plate 16).



Plate 16: Recent UAV photograph of Building 2 with modern extension, looking north-east

The south-west elevation represented the principal façade of the building, facing onto the roadway which branched through the Site and incorporating entrances within to the two separate units from doorways at each end of the lean-to (Plate 17). The elevation comprised three-bays on each side of the entrance lean-to, divided by brick pilasters (0.68m wide) which stopped within 0.20m of the roofline and were topped with a sloped cement moulding. The middle bay on each side comprised a vehicle entrance (10ft/3m high by 9/ft2.7m wide), fitted internally with a steel roller shutter.

The window openings on each side each measured 5ft^2 (1.5m^2) and had a simple concrete lintel and a steel sill. The openings housed steel frame divided into five rows of three lights (fifteen in total), of which the two outer lights of the top row opened outwards in an awning style.

The central, entrance lean-to had double doors recessed within a covered porch at each end which afforded access into the two units of the subdivided building. A further

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doorway was located south-east of centre in the south-west elevation of the entrance lean-to, accompanied by a nine-light window to its left.



Plate 17: Principal south-west elevation of Building 2, looking east

The flat roofed, modern brick extension (11.5m long by 9m wide by 2.65m high) butted and obscured the south-east end elevation of Building 2. It is uncertain whether the extension was linked internally to the original building as the south-east unit was inaccessible. The modern extension was constructed of brown brick, laid in a stretcher bond and comprised three large timber framed windows to each side and a central door in the south-east elevation (Plate 18).

As with the front, south-west west elevation, the rear north-east façade was divided into three bays either of a projecting lean-to. Each of the six bays comprised windows opening matching those of the other facades (5ft^2/1.5m^2), each of which housed a fifteen-light, steel framed window with a concrete lintel and steel sill (Plate 19).

Original openings (7ft/ 2.15m by 5.5ft/1.68m), spanned by concrete lintels, had been remodelled at both ends of the lean-to. At the south-east end the opening had been reduced to accommodate a single width doorway, spanned across the top by transom windows (Plate 20), whilst at the north-west opening had been completely infilled with brick laid in a similar English garden wall bond to the main construction (Plate 21).

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Plate 18: North-east elevation of Building 2 butted by modern extension, looking west



Plate 19: Window bays within the north-east elevation of Building 2, looking west

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Plate 20: Remodelled entrance at south-east end of lean-to on north-east side of Building 2, looking north-west



Plate 21: Infilled entrance at north-west end of lean-to on north-east side of Building 2, looking south-east

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The north-west elevation comprised a row of three window openings spread equally across the façade. The openings housed fifteen-light steel framed windows, matching the form seen previously in Building 2 with the addition concrete lintels underlying the two outer windows (Plate 22).



Plate 22: North-west elevation of Building 2, looking south-east

Internally Building 2 had been most recently divided into two discreet business units, of which only the north-west half was vacant and accessible. Access was afforded to the unit from the south-west side of the building, by way of a double doorway recessed into the north-west end of the entrance lean-to (Plate 23). The doorway afforded access into a vestibule which led to a small storage room (4m by 2m) located solely within the lean-to. The storage room had a horizontal, steel framed window in the south-west wall and an infilled doorway in the south-east corner which previously would have led into the main building (Plate 24).



Plate 23: Entrance to north-west unit within Building 2, from south-west elevation, looking south-east

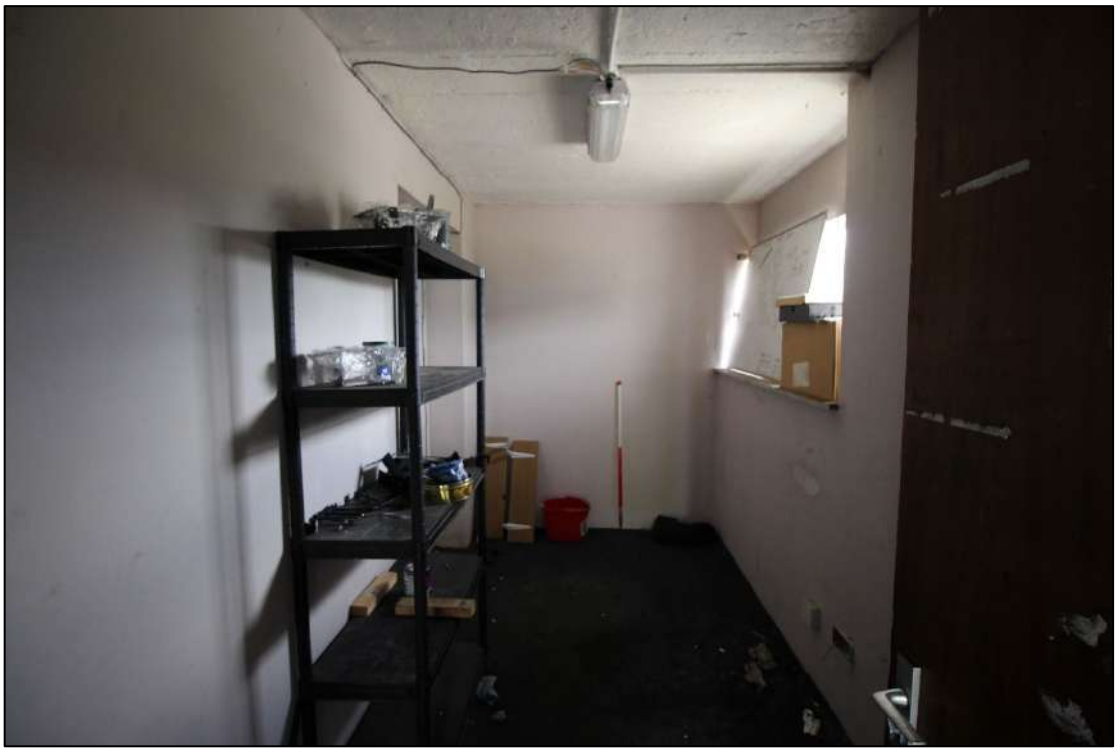


Plate 24: Storage room within south-west lean-to of Building 2, looking south-east

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Access was also afforded from the lean-to vestibule into the north-west half of the main building, which had been divided from the south-east half by a cinder block wall (Plate 25) leaving an area 60ft /18.5m 36ft /11m. This space had latterly been subdivided into three rooms by timber partition walls across the width of the building (Plate 26).

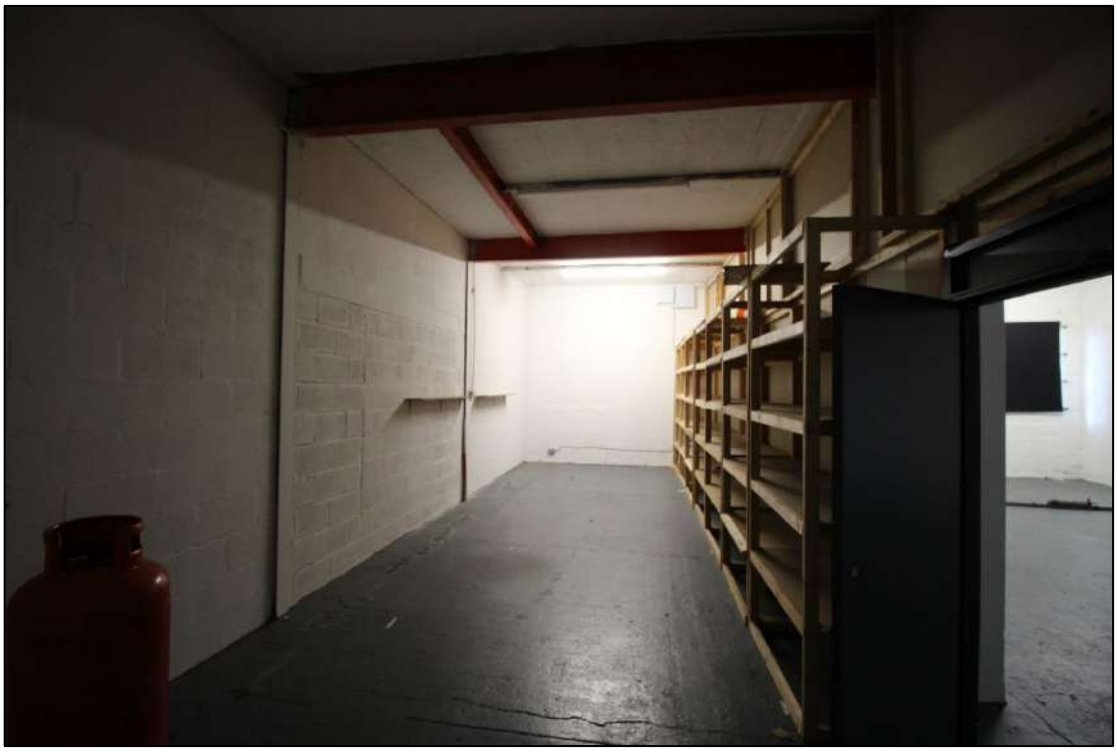


Plate 25: Inserted cinder block dividing wall across the centre of Building 2, looking south-west



Plate 26: Central subdivision of north-west of Building 2, looking north-east

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The ceiling comprised poured concrete bearing the imprint of timber plank shuttering and was spanned longitudinally by a pair of 12" by 4" (0.3m by 0.10m) universal steel I-beams spaced 12ft/3.65m apart. The beams bore the company rolling stamps of "DORMAN LONG & CO LD MIDDLESBOROUGH ENGLAND". The beams were carried by square, brick columns and reinforced with brackets on the underside and cross beam between the columns (Plate 27).

A travelling beam trolley for the purpose of lifting was fitted to a beam in north-west room, bearing the company name Morris and a limit of 500kg (Plate 28).



Plate 27: Interior of Building 2, spanned by steel I beams, looking south-east

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Plate 28: Detail of travelling beam trolley attached to I-beam at north-west end of Building 2

As seen on the exterior façades, the side walls and north-west, end wall were each lined with a row of three window openings, each of which housed steel framed windows, with the exception of the middle bay of the south-west wall which comprised a vehicle entrance fitted with a galvanised steel roller shutter (Plate 29). Concrete lintels were visible above and below the window openings which with fitted with steel grates on the internal face (Plate 30).



Plate 29: Window openings with the north-west, end wall and vehicle entrance within the south-west wall of Building 2, looking west

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Plate 30: Detail of interior of window opening, within north-west wall of Building 2, looking north-west

The interior of the rear, north-east lean-to comprised a toilet and washing facilities divided by an inserted cinder block wall, and external access via a single door within the north-east wall (Plate 31).



Plate 31: Interior of rear, north-east lean-to, looking north-west

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5.4 Building 3

Building 3 was located 16m to the north-west of Building 2, on the same north-west/south-east orientation but positioned further to the north-west. Building 3 matched the dimensions of Building 2 (122 ft/37.4m by 38 ft/11.6m/ by 12ft/ 3.65m high) including similar lean-to projection on either side of the building (each 51ft/15.3m by 7½ ft/ 2.3m). In contrast to Building 2 the flat concrete slab roof incorporated a pair of ridged skylights in the centre (Fig 10 and Plate 32).

The exterior of the building was clad entirely in corrugated steel sheeting, which obscured the underlying original structure with the exception of window and door apertures. These were arranged in the same configuration as seen on Building 2, with a pair of windows flanking a central vehicle entrance either side of the central lean-to on the principal north-east façade. The window opening matched the dimensions and configuration of the fifteen-light steel framed windows within Building 2. Both the north-west and south-east end elevations comprised a row of the three windows (Plate 33 and 34) whilst the rear south-west elevations comprised a row of three windows on each side of the central rear lean-to (Plate 35).

Both units of Building 3 were occupied by businesses and were internally inaccessible.



Plate 32: North-east elevation of Building 3, looking south-west

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Plate 33: North-west end elevation of Building 3, looking east



Plate 34: South-east end elevation of Building 3, looking north-west

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Plate 35: Rear south-west elevation of Building 3, looking north-east

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5.5 Building 4

Building 4 was orientated north-east/south-west, perpendicular to Building 3, and positioned 24m to the south-west (Fig 11 and Plate 36). Together with Building 5 it formed a pair of similar buildings located at the centre of the Site, either side of the entrance road from Bridge Road. As with Buildings 2 and 3, the rectangular core of Building 4 measured 122 ft/37.4m long by 38 ft/ 11.6m wide and 12ft/ 3.65m but in contrast only had a single lean-to which projected from the front, south-east side (50ft/15.5m by 21ft/6.5m).



Plate 36: Recent UAV photograph of centre of Site showing location of Building 3 in relation to the surrounding buildings

The majority of the external façade had been clad in corrugated steel sheeting, in a similar manner to Building 3, with the exception of a later extension to the south-east lean-to which extended the width by a further 4m (Plate 37). The extension to the lean-to comprised painted brick, laid in a stretcher bond and incorporated a row of three timber framed windows along the front, south-east elevation, accompanied by a timber-framed doorway at the south-west end (Plate 38).

The south-east elevation of the main building comprised three bays to the south-west of the lean-to, each of which contained a vertical window opening (1.8m high by 1.4m wide) which housed modern uPVC frames. A vehicle entrance was positioned in the central bay, to the north-west of the lean-to which measured 10ft/3m high by 9ft/2.7m wide and was fitted with a galvanized steel roller shutter. The window openings within

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the two adjacent bays were the same size as those at the south-west end of the elevation (6ft/1.8m by 4 ½ ft /1.4m) but housed steel framed windows, of the same style, though larger than those seen on Buildings 2 and 3. These windows, and those seen around the remainder of the building, comprised steel frames divided into eighteen rectangular lights, of which the top four on each side opened outward in an awning style. Each window frame had reinforcing vertical window bars on the interior.



Plate 37: Modern extension to lean-to on front, south-east elevation, looking north-east

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Plate 38: Later brick extension to south-east lean-to

Both the south-west and the north-east ends comprised a row of three eighteen-light steel framed windows (Plates 39 and 40). The rear, north-west elevation comprised three window bays, to the south-west and north-east ends, each of which housed an eighteen-light steel framed window. The central section of north-west elevation incorporated an additional 8m long area of cladding, flanked on either side by a single doorway which had been remodelled into a window (Plate 41). This suggested that a lean-to had originally been present on the rear elevation but had been latterly removed and blocked.

The building had most recently been occupied by steel fabrication company and was not accessible internally at the time of the survey.



Plate 39: Oblique view of north-east end elevation and rear, north-west elevation of Building 4



Plate 40: South-west elevation of Building 4, looking north-east

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Plate 41: Rear, south-west elevation of Building 4, looking east

5.6 Building 5

The rectangular core of Building 5 matched the dimensions of Building 4 (122 ft / 37.4m long by 38 ft / 11.6m/ wide and 12ft / 3.65m high) to which it was aligned on the south-west side of the entrance road (spaced 37 ft / 11.25m apart). In contrast to its neighbour Building 5 retained narrow lean-to projections to both the front and rear elevations. Once again, the exterior was covered in corrugated steel cladding with only the window and door openings exposed (Fig 12 and Plate 42)

The front, south-east elevation faced toward Bridge Road and comprised three bays to each side of the lean-to. A vehicle entrance, fitted with a galvanized steel roller shutter occupied the middle bay on each side (10ft/3m high by 9ft/2.7m wide), which were flanked on either side by vertical, rectangular windows (6ft/1.8m by 4 ½ ft /1.4m) which housed eighteen-light, steel framed windows, matching those on Building 4.

Recessed double doorways located at each end of the steel-clad lean-to afforded internal access to the building. A series of four small, square windows were arranged along the south-east façade of the lean-to at varying heights.

The remainder of the building largely mirrored that of Building 4, with three steel-framed, eighteen-light windows positioned at each end of the building (Plate 43). Likewise, the rear north-west elevation comprised a row of three 18-light windows on either side of the central lean-to which was still present on Building 5.

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Plate 42: Oblique view of front, south-east elevation of Building 5, looking north



Plate: 43: North-east end elevation of Building 5, looking south

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