



The
University
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Sheffield.

Sylvester Gardens, Sheffield

Architectural Photography and
Structural Watching Brief

ARCUS report 1264.1(1)

October 2009

Client: Demolition Services Limited

Architectural Photographic Record



Sylvester Gardens, Sheffield

Grid Reference: SK 3537 8651

Architectural Photography and Structural Watching Brief

Report No. 1264.1 (1)

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Location of archive: Sheffield City Archives

Planning reference: 06/01918/FUL

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OASIS SUMMARY FORM

PROJECT DETAILS		
OASIS identifier	arcus2-65897	
Project title	Sylvester Gardens, Sheffield	
Short description of the project	<p><i>ARCUS were commissioned by Demolition Services Ltd to carry out a programme of archaeological investigation of two structures to the south of Sylvester Gardens to fulfil a condition by South Yorkshire Archaeology Service (SYAS) for Planning Consent (06/01918/FUL) to develop the site. The investigation comprised of Architectural Photography and Structural Watching Brief.</i></p> <p><i>During the 18th century the site was open land, lying between Porter Brook to the south and a goit to the north. By the mid 19th century terrace houses had been built along Sylvester Gardens and Wards Wheel had been built between the goit and the brook. Wards Wheel continued to grow across the site into the late 19th century, of which only a three-storey grinding workshop survived. Subsequent redevelopment of the site in the early 20th century witnessed the demolition of much of the earlier Wards Wheel and the terraces along the north of the site which were replaced with new sheds and offices.</i></p> <p><i>The grinding workshop would have been divided into 3 grinding hulls, one on each floor, with each once containing perhaps 5-6 grinding troughs. The grinding wheels are likely to have been powered by a steam engine judging by the fact the goit had been culverted around the time of built and by the boiler and chimney depicted close by on the 1905 Goad plan. Similar designs were implemented across Sheffield in the 19th century in many works including the Globe Works, Cornish Works, Butchers Wheel, Soho Wheel, and Union Wheel.</i></p>	
Project dates	06/04/2009-07/09/2009	
Previous/future work	Previous work by MGA and TPAU/ Future archaeological evaluation	
Monument type and period	19 th -century Industrial Works	
Significant finds (artefact type and period)	None	
PROJECT LOCATION		
County/Parish	South Yorkshire	
Site address	Sylvester Street, Sheffield	
Site co-ordinates	SK 3537 8651	
Site area	0.26ha	
Height OD	61m AOD	
PROJECT CREATORS		
Organisation	ARCUS	
Project brief originator	SYAS	
Project design originator	ARCUS	
Project supervisor	Oliver Jessop	
Project manager	Anna Badcock	
Sponsor or funding body	Demolition Services Ltd.	
PROJECT ARCHIVES		
Archive Type	Location/Accession no.	Content (e.g. pottery, metalwork, etc)
Physical	N.A.	N.A.
Paper	Sheffield City Archives	Fieldwork notes, photographic survey
Digital	Sheffield SMR	.pdf of report
BIBLIOGRAPHY		
Title	Architectural Photography and Structural Watching Brief of Sylvester Gardens, Sheffield	
Report no	1264.1(1)	
Author	Thomson, J.	
Date	2009	

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NON-TECHNICAL SUMMARY

ARCUS were commissioned by Demolition Services Ltd to carry out a programme of archaeological investigation of two structures to the south of Sylvester Gardens to fulfil a condition by South Yorkshire Archaeology Service (SYAS) for Planning Consent (06/01918/FUL) to develop the site. The investigation comprised of Architectural Photography and Structural Watching Brief. An additional phase of subsurface archaeological recording has also been undertaken, but is not included within this report.

During the 18th century the site was open land, lying between Porter Brook to the south and a goit to the north. The surrounding area was largely undeveloped except for the nearby Sylvester Wheel which had been utilising the goit for water power from at least as early as the 17th century. By the mid 19th century terrace houses had been built along Sylvester Gardens and Wards Wheel had been built between the goit and the brook. Wards Wheel continued to grow across the site into the late 19th century, of which only a three-storey grinding workshop survived. Subsequent redevelopment of the site in the early 20th century witnessed the demolition of much of the earlier Wards Wheel and the terraces along the north of the site which were replaced with new sheds and offices.

The office building had been extensively modernised in the mid-late 20th century with nothing remaining of the original early 20th century decor. The presence of fireplaces throughout the building could indicate the building also served as living accommodation for a site manager.

The grinding workshop retained characteristic architectural elements associated with grinding hulls, however few original fixtures or fittings remained. The adjoining stair-tower structure had been much altered, but pre-dated the main workshop and was likely a remnant of the mid-19th-century Ward's Wheel. The interior was significantly altered in the mid-late 20th century when a lift system was installed obscuring much of the evidence for its primary internal structure.

The grinding workshop would have been divided into 3 grinding hulls, one on each floor, with each once containing perhaps 5-6 grinding troughs. The grinding wheels are likely to have been powered by a steam engine judging by the fact the goit had been culverted around the time of built and by the boiler and chimney depicted close by on the 1905 Goad plan. Similar designs were implemented across Sheffield in the 19th century in many works including the Globe Works, Cornish Works, Butchers Wheel, Soho Wheel, and Union Wheel.

1 INTRODUCTION

1.1 Scope of Report

This report presents the results of Architectural Photography and Structural Watching Brief on land off Sylvester Street/Gardens, Sheffield (**Illustration 1**). ARCUS were commissioned by Demolition Services Ltd to carry out the work to fulfil a condition by South Yorkshire Archaeology Service (SYAS) for Planning Consent to develop the site.

The site was divided into 3 parts, Sites B, C, and D. Planning consent has been granted for demolition of most of the existing buildings on the whole site, and the construction of mixed use development. This is covered by several separate planning consents:

Site B - 06/02501/FUL for mixed use development

Site C - 06/01918/FUL for mixed use development

Site D - 07/02595/FUL for mixed use development

Whole site - 06/01931/FUL for demolition

The investigation was undertaken in line with government guidance set out in Planning Policy Guidance – Archaeology and Planning (PPG15, 1990), and to a brief provided by South Yorkshire Archaeology Service (**Appendix II**).

1.2 Site Location

The site (centred on NGR SE 3537 8651) is located on land to the south of Sylvester Gardens on the southern edge of Sheffield city centre, and to the north of the inner ring road. Site C was located to the eastern side of the development, bounded to the south by Porter Brook, and covering an area of c0.26 hectares. The site was largely developed with 19th- and 20th-century industrial structures, with the surveyed structures comprising a two storey office block facing onto Sylvester Gardens, and a three storey workshop building in the centre of the site.

2 AIMS AND METHODOLOGY

2.1 Aims

The general aim of the building recording was to create a permanent record of the historic fabric of the site. The specific aims were:

- to make a general and detailed photographic record of the standing buildings within Site C, namely the **grinding workshops** (proposed for retention) and the **street frontage office** building (formerly houses), proposed for demolition;
- detail any alterations/demolitions undertaken with an assessment of the importance of the building affected;
- to undertake an archaeological structural watching brief during the demolition of the two historic buildings which will preserve, *by record*, any previously unobserved historic features;
- to observe any phasing or construction sequences of the buildings;

2.2 Methodology

The recording methodology adopted during this survey has been undertaken in accordance with guidelines described in *Understanding Historic Buildings: A Guide to Good Recording Practice* (English Heritage 2006a), and laid out in a Written Scheme of Investigation produced by ARCUS (ARCUS 2009) to SYAS specifications (**Appendix II**).

Site fieldwork was undertaken on the 6th April 2009 and the 7th October 2009 and comprised medium format and 35mm black and white photography, and written notes. The photographic record comprised a series of general and detailed shots of the interior and exterior of each structure (**Appendix I**) and the direction of each shot recorded (**Illustrations 7-11**). Plans produced by the Trent and Peak Archaeology unit (Sheppard 2006) were used for recording photographic locations and enhanced with additional archaeological observations made during the Structural Watching Brief (**Illustrations 2-6**). Standard EH drawing conventions were followed.

3 HISTORICAL BACKGROUND

A building appraisal of Site C, which contains some surviving 19th-century buildings was produced by the Trent & Peak Archaeological Unit in June 2006; an assessment of the archaeological potential for below ground remains on Sites B & C was produced by Mike Griffiths Associates in June 2007; a separate assessment of the below ground potential of Site D was also produced by Mike Griffiths Associates in June 2007.

The appraisals demonstrated that during the 18th century Site C was under pasture, lying between Porter Brook to the south and a goit to the north. The area around was largely undeveloped except for the nearby Sylvester Wheel which had been utilising the goit for water power from at least as early as the 17th century. Further development was planned for the area in the early 19th century and a collection of small structures were built on the north side of the goit. By the mid 19th century these structures had been replaced with terrace houses and Wards Wheel had been built between the goit and the brook. Wards Wheel continued to grow across Site C into the late 19th century, culverting the goit and constructing the surviving grinding workshop (building 2). Goad's 1905 insurance plan of the area showed there to have been a boiler adjacent the northern elevation of the new workshop indicating that a steam engine had likely been in operation by this point (MGA 2007 Figure 9).

Ward's Wheel, or the Porter Island Grinding Wheel as it had become, fell into decline towards the end of the century and by 1900 was recorded as 'vacated and ruinous' (MGA 2007). The subsequent redevelopment of the site in the early 20th century witnessed the demolition of the terraces along the north of the site and their replacement with further sheds and offices (of which building 1 was a part of) and development of all the remaining open space on the site. The site initially had numerous businesses, but by 1934 A.R. Heathcote and Co., Bernard Works machine knife factory, occupied the majority of it, and all of it by the latter-20th century.

4 DESCRIPTION OF THE STANDING BUILDINGS

4.1 Building 1: The Office Building

Building 1 was situated on the northern edge of the site fronting onto Sylvester Street, and abutted by workshops to the east and west (**Illustration 1**) (**Plates 1-2**). The building dated to the beginning of the 20th century and had formally functioned as offices, predating the mid-20th century shed to the west, and post-dating an earlier 20th century brick-built shed to the east. The site of the building had formally been occupied by a mid-to-late 19th-century row of terrace houses.

4.1.1 Exterior

Building 1 was a rectangular two storey structure (**Illustration 2-3**), measuring (14m x 8.9m), and constructed from machine made red brick (measuring 22½ x 11 x 7½ cm) in a stretcher bond. Passing through the eastern half of the building was a vehicular access way between Sylvester Street to the north and the interior of the site to the south. The northern half of the building possessed a pitched slate roof and a high parapet across the northern elevation which pronounced the façade and concealed a pitched roof. To the either side of the building were chimney stacks. The eastern stack appeared truncated, however the western stack survived to its original height. The southern half of the building was a later flat roofed addition with a shallow parapet and three steel framed lantern skylights (**Plate 3**). The extension was built of machine made red brick (measuring 23 x 11 x 7cm) in English Garden Wall bond.

The northern elevation of Building 1 represented the principle façade of the structure, with the high parapet above the elevation possessing a recessed brick panel that contained the company name “A. R. Heathcote & Co.” in wooden lettering (**Plate 4**). In the centre of the ground floor was a pedestrian doorway flanked on either side with timber sash framed windows with stone lintels and projecting stone sills. An additional two windows of identical composition were located to the west side of the ground floor, and a large vehicular doorway to the east side. The vehicular doorway had wooden panelled double doors and a RSJ lintel supported on sandstone pads (**Plate 5**). Across the elevation at first floor level were eight timber sash framed windows with stone lintels and projecting sandstone sills.

The western elevation of the building was blind with a central straight joint indicating the former extent of the offices (**Plate 6**). Located at ground floor level in the centre of the southern extension was a large blocked doorway with a concrete lintel.

The ground floor of the southern elevation was entirely open with a steel frame structure of RSJs and vertical rolled steel columns supporting the first floor brick structure (**Plate 7**). At first floor level there were two wide steel framed rectangular windows towards either edge of elevation.

The eastern elevation of building 1 largely comprised of the western wall of the neighbouring workshop with shared openings at ground floor, and a small observation window at first floor level (**Plate 8**). The ground floor openings comprised of a timber framed window the height of which had been lowered, inserting a new lintel and blocking the upper part, and a large doorway with a timber panelled sliding door.

4.1.2 Interior

Ground Floor:

The ground floor of the offices was divided into two rooms (1G1 and 1G2) in the western two-thirds of the northern half of the building, with the cart passage and southern half of the floor open to the exterior (**Illustration 2**). Room 1G1 was located in the western end of the northern half of building 1. It possessed windows facing onto Sylvester Street to the north, and a chimney breast in the western wall with a blocked fireplace. Room 1G2 possessed a staircase to the west, timber sash framed windows in the northern wall, and a modern cornice (**Plates 9-10**). The room had originally been two rooms with the former dividing wall truncated leaving a stub containing a small window, and the floor above supported on an inserted RSJ.

First Floor:

The first floor of the offices had been significantly altered by the mid-20th-century extension to the south which left little of the original room layout (**Illustration 2**). Room 1F1 was located at the top of the staircase from the ground floor and represented a former hallway that had connected the first floor rooms of building 1. A doorway to the east of the corridor had been blocked (**Plate 11**), and a doorway into 1F2 had been inserted in the south wall. The majority of the floor was taken by room 1F2 which combined the formally separate eastern and western rooms of the earlier northern building with a single large room within the southern extension (**Plates 12-13**). In the eastern and western walls of the northern half of the building were chimney breasts containing blocked fireplaces. In addition there was a small inserted observation window in the eastern wall overlooking the adjoining workshop (**Plate 14**). Rooms 1F3 and 1F4 were inserted modern studwork partitions located towards the centre of the northern half of the building, and contained toilet cubicles and storage space (**Plates 15-16**).

4.2 Building 2: The Grinding Workshop

Building 2 was situated to the southwest of building 1, roughly equidistant from Porter Brook to the south and Sylvester Street to the north (**Illustration 1**) (**Plates 17-18**). The main building dated to the second half of the 19th century whereas the narrower stair-tower to the east is likely early 19th century in date. These structures have been identified as the surviving remains of the western end of the Porter Island Grinding Wheel (Sheppard 2006). The structure had been built as a grinding workshop, and although this activity had likely ceased by the beginning of the 20th century the building continued to be used for industrial activities.

4.2.1 Exterior

Building 2 was a rectangular three-storey structure, measuring 7.8 x 17.5m, and constructed from machine made red brick (measuring 22½ x 11½ x 7½cm) laid in an stretcher bond (**Illustrations 4-6**). In line with the northern face of the workshop, but smaller in width, was a three-storey stair-tower/lift-shaft. The roof of the workshop was pitched with modern corrugated cement sheet cladding. The stair-tower possessed a mono-pitched corrugated cement sheet roof over its southern half and a flat topped metal clad lift mechanism projecting from the top of the northern half.

Significant alterations had been made to the building above the second-storey with the whole of the third-storey rebuilt in a mid 20th-century red brick. Subsequent alterations had also been made to the northern third-storey elevation of the adjacent

stair-tower, presumably during the installation of the lift mechanism.

The northern elevation of building 2 had originally been blind with all the openings below the later third-storey having been inserted (**Plates 19-20**). At ground floor level there was a large inserted doorway to the east side of the elevation and a smaller inserted door to the west side, both incorporating blockwork in the alterations. Furthermore there were three inserted windows that had been blocked in brick, the westernmost of which was cut by the inserted doorway. At first floor level were four inserted windows with timber lintels and sills, the eastern two blocked in brickwork, and the westernmost retained a timber sash frame. The third storey featured four evenly spaced windows with shallow arched brick lintels. At upper ground and first floor level were cast iron oval tie-plates which corresponded with internal brick jack-arch ceilings.

The northern elevations of the workshop and stair-tower were separated by a vertical straight joint that ran the full height of the building. In the north elevation of the stair-tower was a blocked door at ground floor level, and a blocked door and window at first floor level (**Plate 21**). The window had a shallow arched brick lintel and a sandstone sill. The sill had originally been part of a sandstone string course of which a fragment remained to the west. The remnant of string-course from the stair-tower projected west suggesting it had originally returned at this point and that the stair-tower predated the workshop.

In the eastern elevation of the workshop (**Plate 22**), where it emerged from behind the smaller stair-tower, there were blocked windows on the ground and first floors adjacent to the southern edge of the elevation, and a small hatch in the top of the gable with a timber panelled door (**Plate 23**). The blocked windows had possibly been taking-in doors although, since the third storey was rebuilt, no evidence remained for a hoist. The eastern elevation of the stair-tower was largely blank except for two wide inserted doorways at ground floor level, the southernmost of which had been blocked. The brickwork in this elevation of the stair-tower was of a later machine pressed brick and can be seen to have been keyed into the northern and southern walls.

On the ground floor of the western elevation of the workshop (**Plate 24**) was a large central doorway with an RSJ lintel and a blocked window to its south both of which had been inserted and later blocked. In addition to the west of the window was a surviving iron letterbox. At first floor level there was a doorway and window both of which appeared to have been inserted in earlier window openings. In the centre of the second floor was a central doorway with associated external timber platform: a remnant of a former fire escape.

The southern elevation of the workshop (**Plates 25-27**) contained four equally spaced shallow brick arched windows at ground floor which had been converted to doorways and subsequently blocked in brick (**Plate 28**). At the level of the former window's sills was a continuous sandstone stringcourse which had later been made flush with the wall (**Plate 29**). To the western edge of the elevation was a blocked doorway. On both first and second floor level were four regularly spaced windows with shallow brick arched lintels. Those at first floor level had sandstone lintels which formed a continuous string-course across the elevation (**Plate 30**). Between the ground and first floor windows were cast iron oval tie-plates which corresponded with internal brick jack-arch ceilings (**Plate 31**).

The southern elevation of the stair-tower was stepped back slightly from that of the workshop (**Plate 27**). At ground floor level was a window opening which had been

partially blocked and a doorway inserted through it. The remnants of a stringcourse remained at the level of the former windows sill. At first floor both a shallow brick arched window and continuous sand-stone stringcourse survived intact. The third-storey of the stair-tower had been altered in a mid-20th-century machine made brick and contained a shallow brick arched window contemporary with those alterations.

4.2.2 Interior

Internally Building 2 was divided into four bays reflected in the brick arch ceilings of the ground and first floors and by the windows centred in each bay in the southern wall.

Ground Floor:

The ground floor of the workshop was divided into four rooms with modern partitions, and several walls covered with plasterboard. Room 2G1 occupied the eastern two bays of the floor with a central cast iron column visible supporting the jack-arch ceiling (**Plate 32**). Rooms 2G2-2G3 (**Plates 33-34**) occupied the western two bays with 2G4 serving as a corridor across them to the north (**Illustration 3**). The central column between 2G1 and 2G2 was obscured by the partitioning. The original access onto the floor was from the east where there was an original large opening into the present stair-tower that had been blocked in two phases. The additional exterior entrances had all been inserted.

First Floor:

The first floor of the workshop was a single workshop space with a short partition inserted from the centre of the southern window in the westernmost bay creating a small storage space in the southwest corner of the room (**Plates 35-36**). The room had a jack-arch ceiling of four spans supported on three cylindrical cast iron columns. The absence of any bolt-plates or brackets on the columns indicates that they had not likely supported line-shafting (**Plate 37**). The eastern wall of the workshop had been much altered through the creation of the lift entrance to the north, the partial blocking of an originally wider doorway in the centre, and the blocking of a window/taking-in door to the south. The floor throughout the room was of concrete with two raised concrete machine bases against the northern wall. In the ceiling adjacent the eastern wall was a rectangular iron framed hatch of a type often associated with power transmission, although may have been used with a hoist (**Plate 38**).

Second Floor:

The interior of the second floor of the workshop was contemporary with the rebuilt external walls (**Plates 39-40**). Similar to the first floor; the eastern wall had been significantly altered with the primary structural fabric surviving to a greater height in the south of the elevation. In addition the present lift entrance and stair-door appeared inserted with the original doorway blocked to the south. The floor throughout the room was of concrete with a raised concrete machine base in the northwest corner. The roof structure comprised of three angle-iron fink type trusses with a corrugated concrete roof cladding.

Stair-tower/Lift-shaft:

All floors within the stair-tower to the east had been removed and brick wall inserted dividing the structure in two. The northern half of the stair-tower had been converted to accommodate a lift shaft, while a timber winder staircase had been inserted in the southern half (**Plate 41**). The roof structure over the southern half of

the stair-tower was of timber construction supported on a single purlin (**Plate 42**).

While the installation of the lift shaft obscured much of the original internal arrangement of the stair-tower, the positioning of windows in the north and south elevations of the stair-tower, and the extent of alteration to the doorways between it and the workshop, indicated that the floors had originally been lower than in the workshop and that access between the two had originally been different.

4.3 Eastern Courtyard

During the course of the photographic survey and structural watching brief an early workshop courtyard flanked by two structures was observed to the eastern end of Site C (**Plate 43**). The structures were deemed to be of historic significance, although due to the structural instability of this part of the site only a brief photographic survey was made.

The area in which the courtyard was situated had been developed in the early 19th century with terrace housing along a lane between Sylvester Gardens and Porter Brook, and opposite an empty plot or yard (see MGA 2007 for historic maps). By 1905 the housing had been converted into a single range of buildings, and a new structure had been built opposite. This straddled the former lane, with chimney stacks at each gable (MGA 2007; figure 9). Both structures appeared to have been part of J. Jackson & Co. Ltd., linked to the main works on the opposite side of Porter Brook via a foot bridge. By the early-c1930s the buildings were occupied by G. Ibbotson, Saw and Tool Handle manufacturers, and by the mid-20th century the courtyard had been covered over at roof level and were subsumed within the Bernard Works.

Although the two-storey structure to the west of the courtyard occupied the same footprint as the earlier terrace houses, no indication of their incorporation into the range was observed. The eastern elevation of the range was of a mid-to-late 19th-century industrial vernacular style (**Plate 43**). It had four regularly spaced brick-arched windows, whilst the remaining fabric of the building had numerous 20th century alterations. Internally the first floor was supported on rolled steel floor joists (**Plate 44**).

The single-storey structure to the east of the courtyard was of a similar urban vernacular style possessing regularly spaced windows with shallow arched brick lintels which retained cast iron multi-paned frames (**Plates 45-46**). The structure had been largely truncated towards the east, retaining only the western elevation in full. Internally there was the remnant of a travelling crane along the west elevation, concrete machine bases, and the roof was supported on angle-iron fink trusses.

5 CONCLUSIONS

5.1 Summary of phases

Phase 1: Construction of Wards Wheel and a number of structures, including terraces along Sylvester Street/Gardens, in the early-19th century.

Phase 2: Expansion of the works to the west with a three storey building with brick jack-arches and one room per floor accessed from the earlier workshops in mid-to-late 19th century. Developments to the east of Site C at this time included the construction of the structure to the east of the Eastern Courtyard and the conversion of the former terrace houses to its west.

Phase 3: Demolition of phase 1 Wards Wheel structure leaving one bay for use as a stair-tower for the retained phase 2 expansion. It was also likely during this phase that the third storey of the phase 2 extension was reconstructed. In addition the terrace houses fronting Sylvester Gardens were demolished and the office building was subsequently constructed.

Phase 4: Expansion of office building in mid-20th century with flat roofed structure to south, and the installation of a lift shaft in the grinding workshop further altering its internal layout.

5.2 Discussion

Offices

The office building (building 1) had been extensively modernised in the mid-late 20th century with nothing remaining of the original early 20th century decor. The layout of the rooms had also been heavily altered when the southern extension was added in the 1940s, which combined several smaller rooms into an open office space. The presence of fireplaces throughout the building has also been interpreted as posing the possibility that part of the building may have originally served as living accommodation for a site manager or caretaker (Sheppard 2006).

Grinding workshop

The grinding workshop dated to the mid-late 19th century, originally representing a western extension to Wards Wheel. Despite few fixtures or fittings remaining internally, external features remained to indicate that the building had been a grinding workshop. The blind northern wall and regularly spaced glazing across the southern wall, in addition to the thick jack-arched ceilings are all characteristic features associated with grinding workshops (Wray 2000). These design characteristics are found across both early water-powered buildings and the later steam-powered ones. The closely spaced windows in the front wall would provide light to work from, whilst the un-fenestrated rear wall would typically accommodate the line shafting that would power the hulls. Within each hull the grinding troughs would be arranged perpendicular to the line shafting, facing towards the windows to give the grinders maximum light to work in. Similar designs were implemented across Sheffield in the 19th century in many works including the Globe Works, Cornish Works, Butchers Wheel, Soho Wheel, and Union Wheel.

In this workshop the building would have been divided into 3 grinding hulls, one on each floor, with each once containing perhaps 5-6 grinding troughs. The grinding wheels are likely to have been powered by a steam engine judging by the fact the goit had been culverted around the time of built and by the boiler and chimney depicted close by on the 1905 Goad plan (MGA 2007: figure 9). Little evidence survives in building 2 as to the nature of power transmission, although there had presumably been line-shafting along the inside of the northern wall from which leather belts would have turned the grinding wheels.

The lack of any hearths in the workshop is unusual since they would have been used for drying blades prior to glazing, and also to provide some heat to the room (Wray 2000: 28). Their absence does not however negate the interpretation of the workshop as a grinding works since the building was originally only part of a much larger works and so glazing could have been undertaken elsewhere on site.

Although the adjoining stair-tower structure had been much altered, it clearly pre-dated the main workshop and was likely a remnant of the mid-19th-century Ward's Wheel. The eastern gable of the structure was later and would have been constructed

following the demolition of the rest of the works in the 1920s. Its retention is unusual and may reflect that the structure had contained a staircase necessary for accessing the workshop, or that its preservation was due to the intention to convert it to such a use. Whatever the reason the interior was significantly altered in the mid-late 20th century when a lift system was installed obscuring much of the evidence for its primary internal structure.

Eastern Courtyard

The eastern courtyard was formed in the late-19th and early-20th century over a lane that had once provided a link between Sylvester Gardens and the Porter brook. The existing western range shares the foot print of a former early 19th-century domestic terrace, respecting the line of the former lane, although the construction and fabric of the range indicated it was late-19th century in date. The eastern range was a purpose built industrial building constructed in the late-19th or early-20th century originally possessing large chimneys at either gable (MGA 2007: figure 9). The development of industrial structures over former domestic sites was a common occurrence in 19th to 20th century Sheffield, especially in the inner city where it is illustrative of the pressure between an industries desire to expand and the necessity of providing worker accommodation.

6 ARCHIVE

The project archive will be deposited with the Sheffield City Archives. The archive will be prepared by ARCUS staff in accordance with the requirements specified in Management of Research Projects in the Historic Environment (English Heritage 2006b) and with UKIC guidelines (1990). In addition copies of this report will be circulated to the client, Sheffield Sites and Monuments Record (SMR), Swindon NMR, and retained in the offices of ARCUS.

7 ACKNOWLEDGEMENTS

ARCUS would like to thank Demolition Services Limited for facilitating access to the site.

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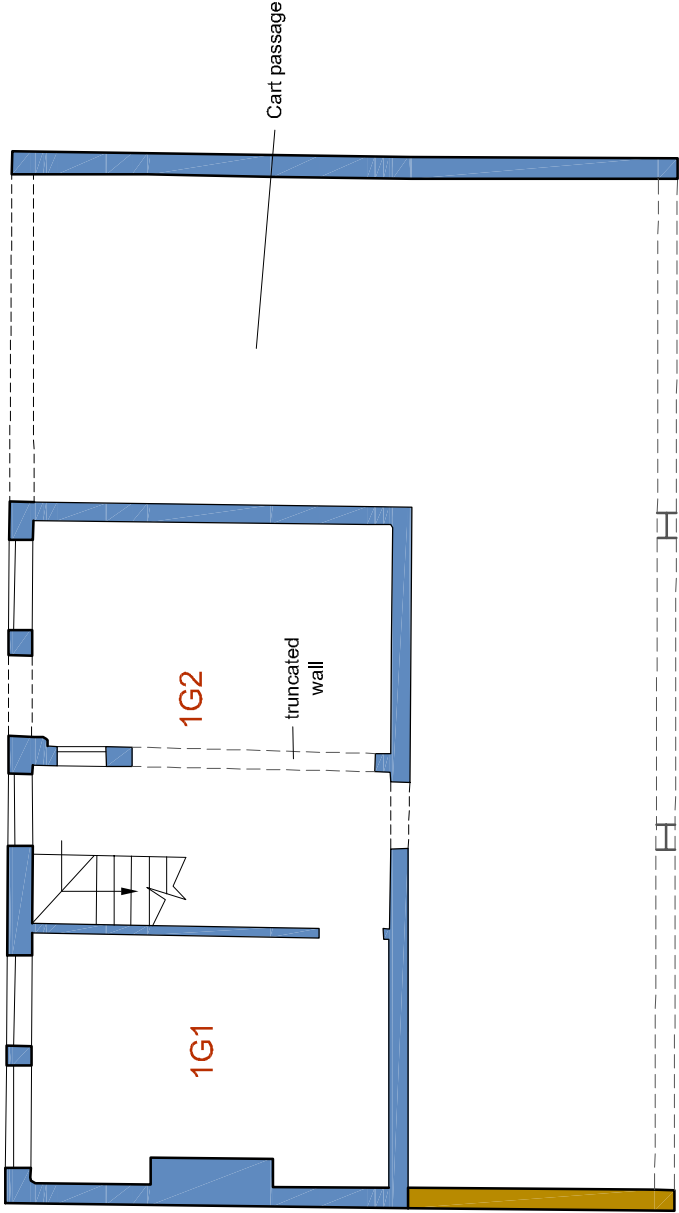
Wray, N. 2000. *One Great Workshop: the Buildings of the Sheffield Metal Trade*. English Heritage: York.

9 ILLUSTRATIONS



 <p>Unit R5, Riverside Block Sheaf Bank Business Park Prospect Road, Sheffield S2 3BN www.arcusgroup.co.uk Tel: 0114 2225105 Fax: 0114 222496</p>		<p>Project: Sylvester Gardens</p>	<p>Scale: 1:800 @ A4</p>	<p>Date: October 2009</p>
<p>Title: Site Location Map with location of Historic Buildings</p>		<p>NGR: SK 3537 8651</p>	<p>Drawn: CB</p>	
		<p>Project No. 1264</p>	<p>Illustration No. 1</p>	

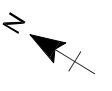




Key Building Phases

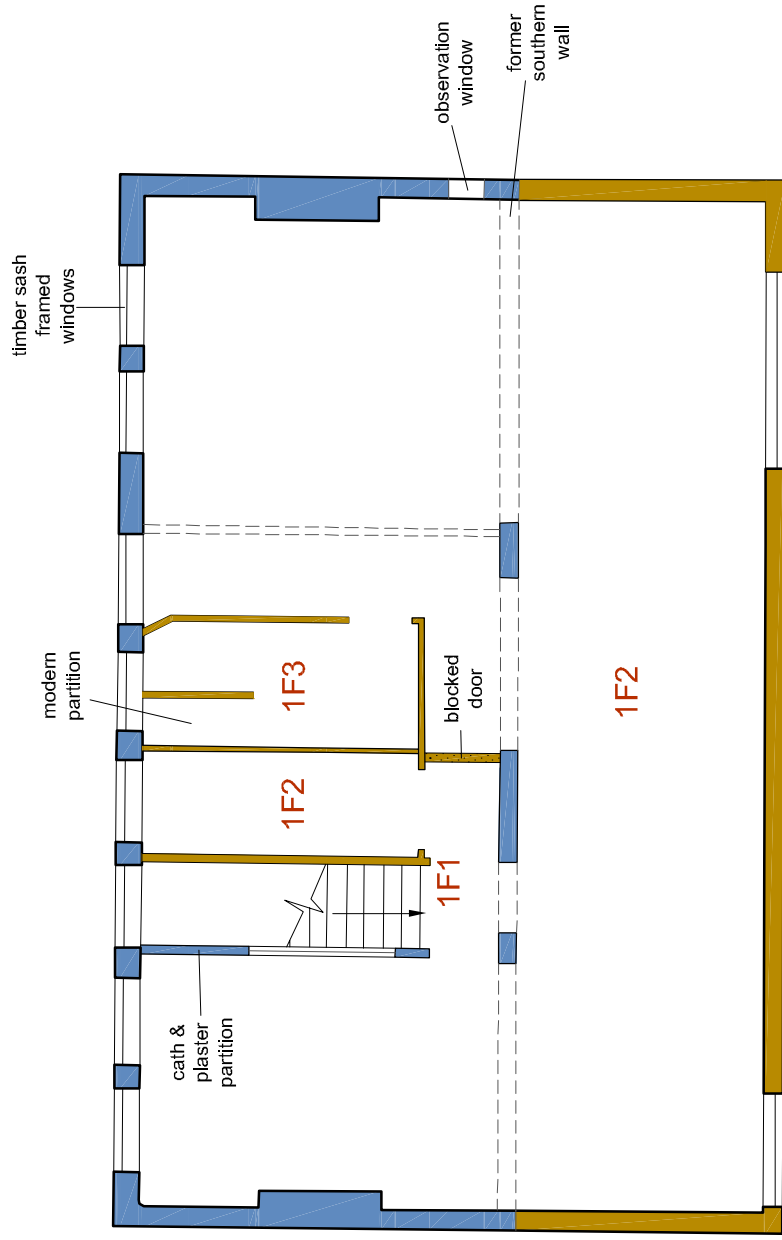
- Phase 1
- Phase 2
- Phase 3
- Phase 4

ARCUS
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Project: Sylvester Gardens
Title: Ground Floor plan of Offices

Scale	1:100	Date	October 2009
NGR	SK 3537 8651	Drawn	J Debska
Project No.	1264	Illustration No.	2



Key Building Phases

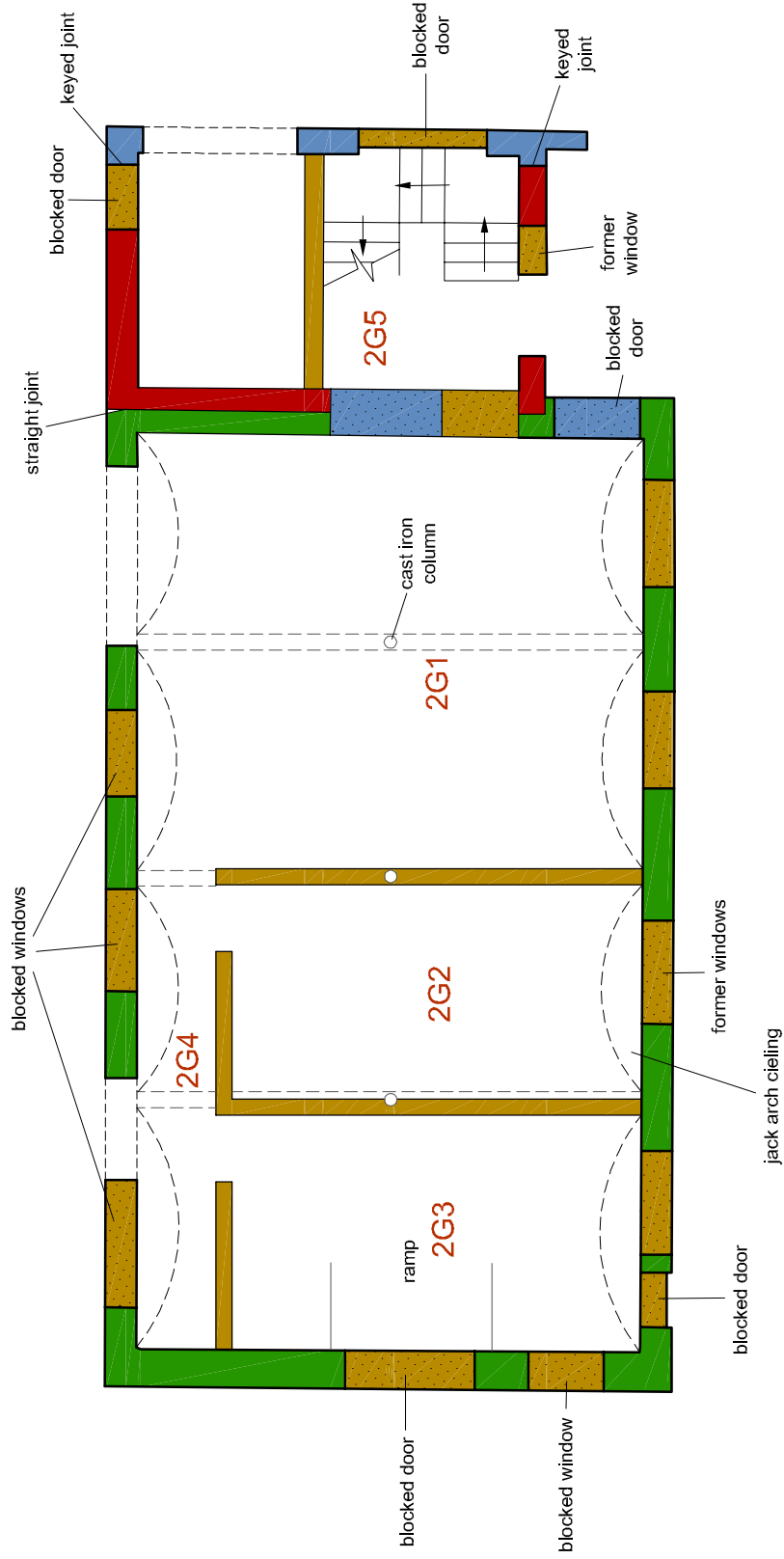
- Phase 1
- Phase 2
- Phase 3
- Phase 4

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 Tel: 0114 2225 08
 Fax: 0114 222496

Project: Sylvester Gardens

Title: First Floor plan of Offices

Scale	1:100	Date	October 2009
NGR	SK 3537 8651	Drawn	J Debska
Project No.	1264	Illustration No.	3



Key Building Phases

- Phase 1
- Phase 2
- Phase 3
- Phase 4

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 Fax: 0114 224 96



Project:

Sylvester Gardens

Ground Floor plan of Grinding Workshop

Title

Scale

1:100

Date

October 2009

Drawn

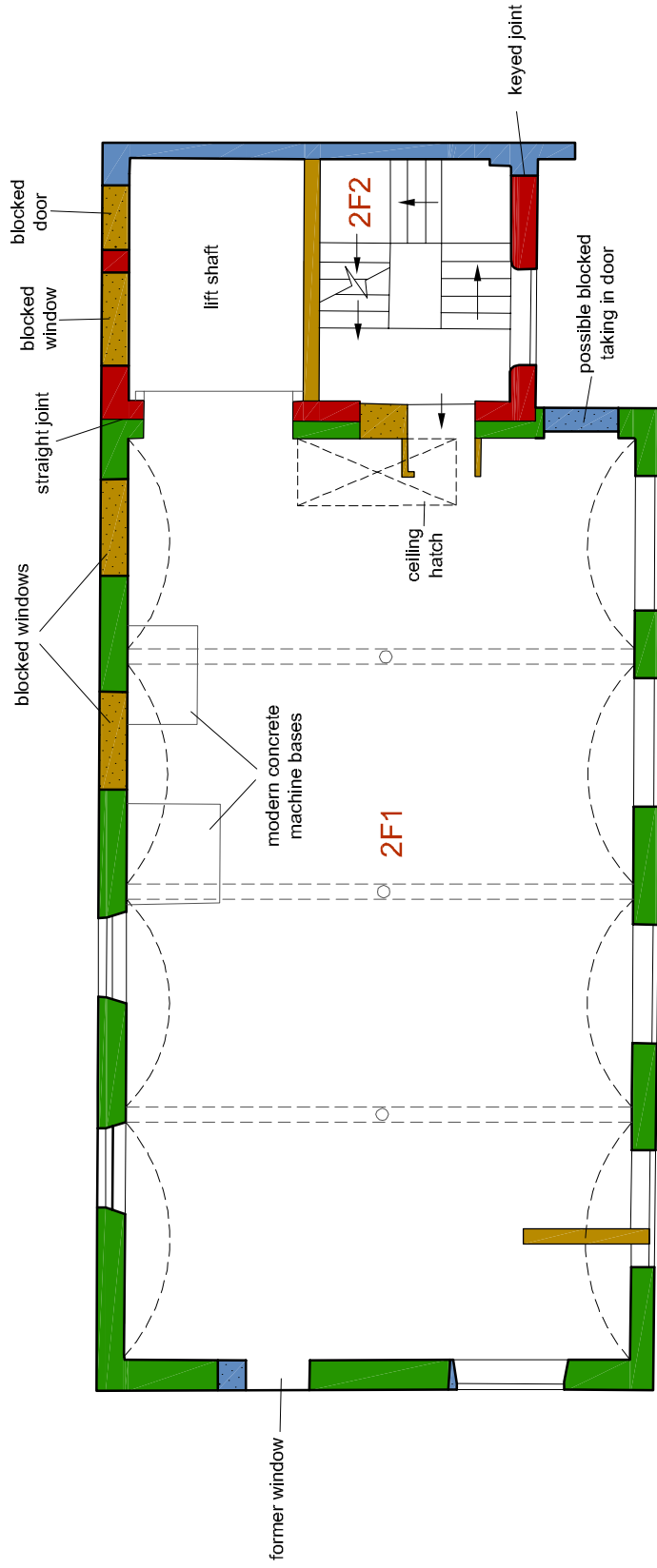
J Debska

Project No.

1264

Illustration No.

4



Key Building Phases

- Phase 1
- Phase 2
- Phase 3
- Phase 4

Project:

Sylvester Gardens

Title

**First Floor plan of
Grinding Workshop**

Scale

1:100

NGR

SK 3537 8651

Project No.

1264

Date

October 2009

Drawn

J Debska

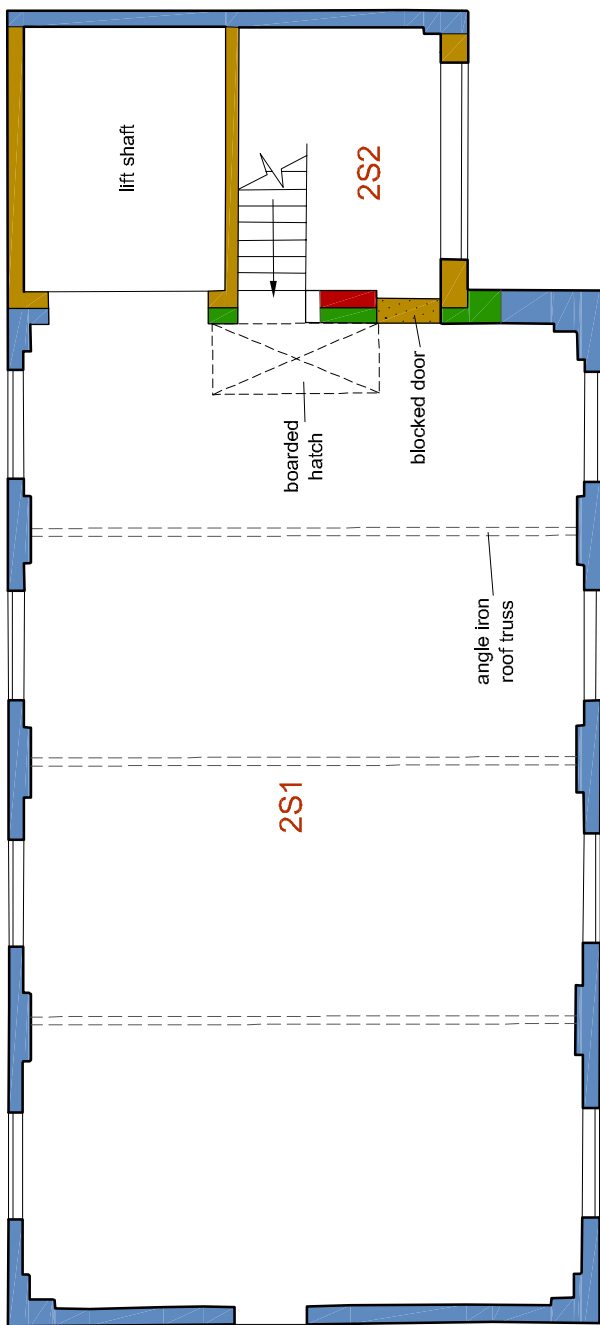
Illustration No.

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Key Building Phases

- Phase 1
- Phase 2
- Phase 3
- Phase 4



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Project:

Sylvester Gardens

Title

**Second Floor plan of
Grinding Workshop**

Scale

1:100

NGR

SK 3537 8651

Project No.

1264

Date

October 2009


Drawn

J Debska

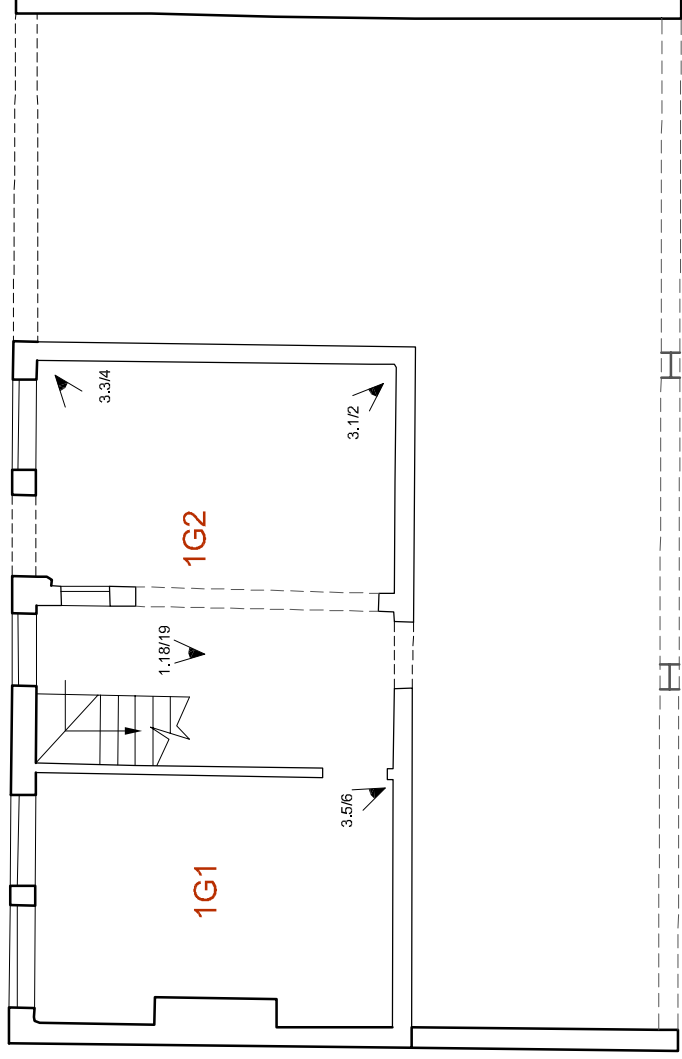
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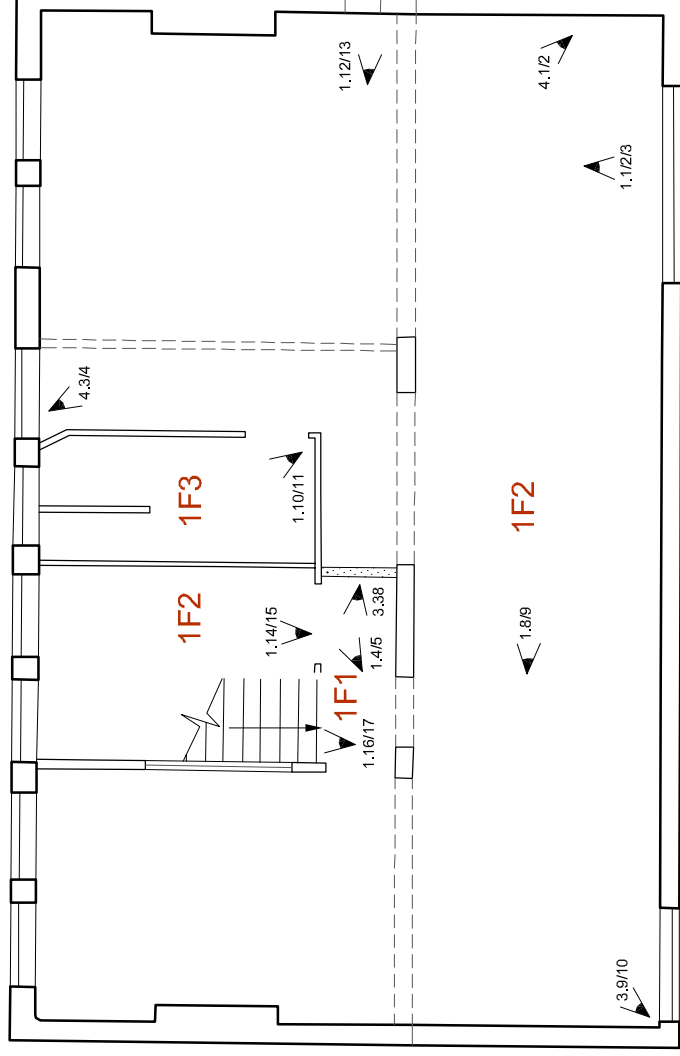


 <p>Unit R6, Riverside Block Sheaf Bank Business Park Prospect Road, Sheffield S2 3BN www.arcusgroup.co.uk Tel: 0114 225 05 Fax: 0114 224 596</p>	Project:	Sylvester Gardens		Scale	NTS	Date	October 2009
	Title	Photographic view points: external		NGR	SK 3537 8651	Drawn	J Debska
				Project No.	1264	Illustration No.	7

1.6/7



Ground Floor



First Floor



Unit 15, Riverside Block
Sheaf Bank Business Park
Prospect Road, Sheffield S2 3BH
Tel: 0114 225100
Fax: 0114 225196



Project:

Sylvester Gardens

Title

Photographic view
points: Offices

Scale

1:100

Date

October 2009

NGR

SK 3537 8651

Drawn

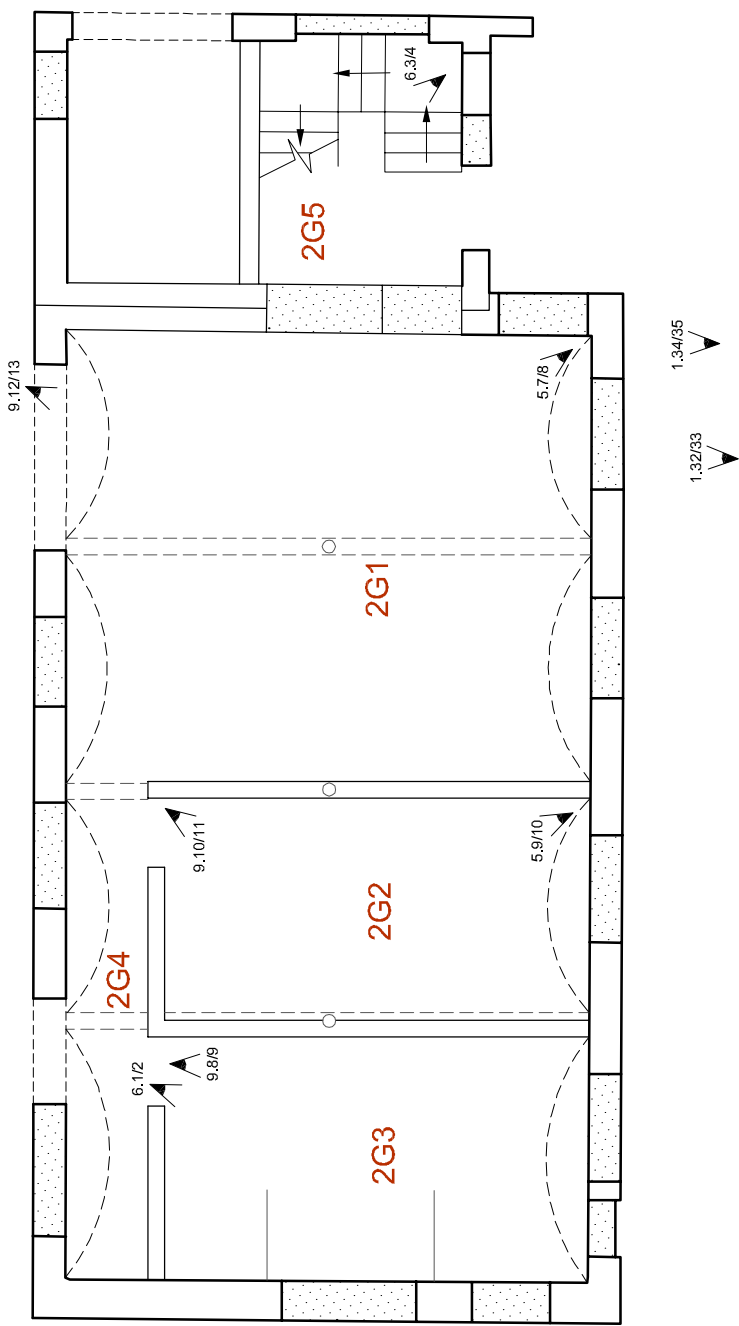
J Debska


Project No.

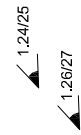
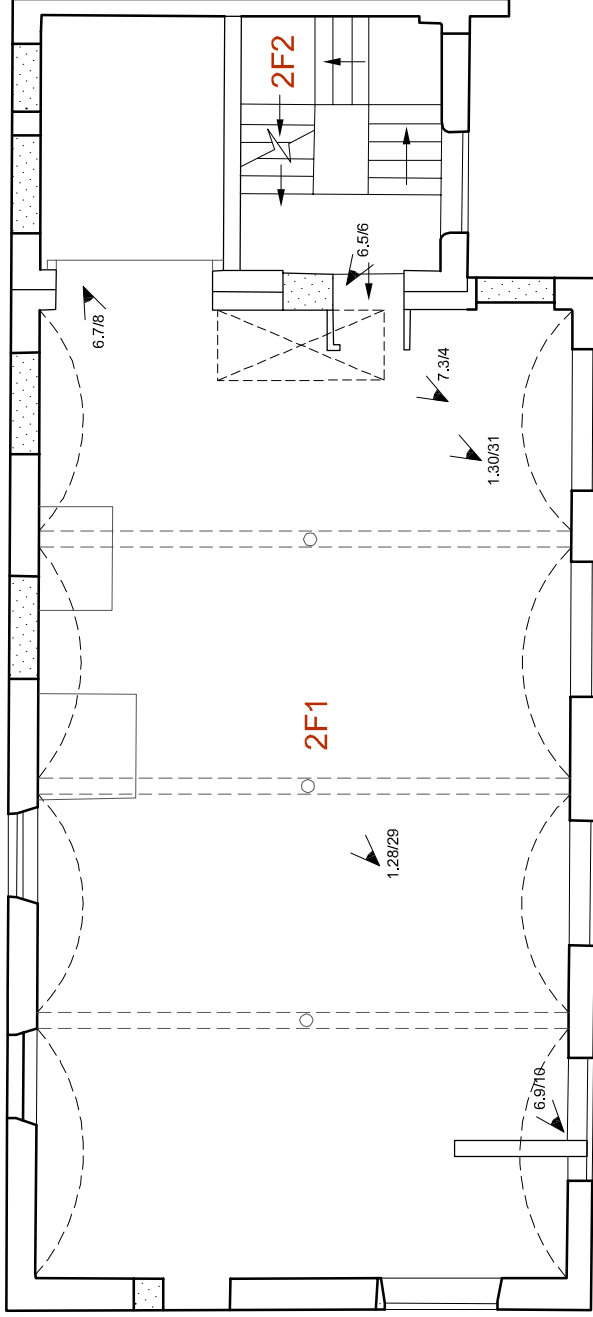
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Ill. No.

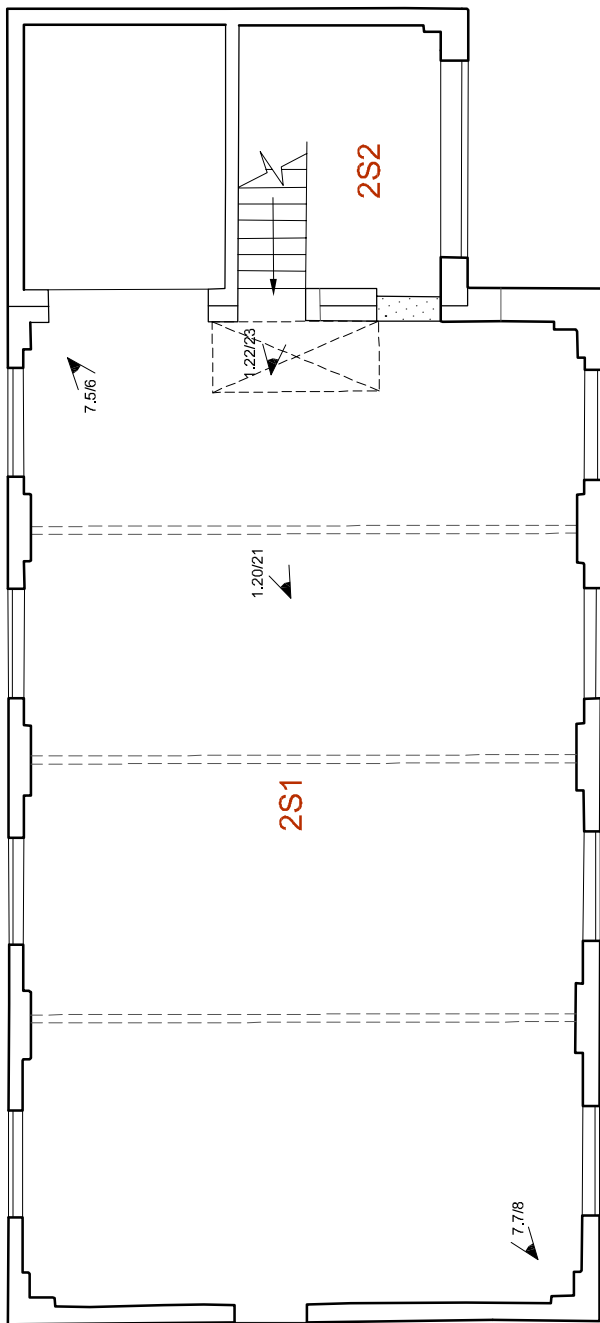
8




 <p>Unit R6, Riverside Block Sheaf Bank Business Park Prospect Road, Sheffield S2 3BN www.arcusgroup.co.uk Tel: 0114 225 05 Fax: 0114 224 596</p>	Project:	Sylvester Gardens		Scale	1:100	Date	October 2009
	Title	Photographic view points: Ground Floor of Grinding Workshop		NGR	SK 3537 8651	Drawn	J Debska
				Project No.	1264	Illustration No.	9



 <p>Unit R6, Riverside Block Sheaf Bank Business Park Prospect Road, Sheffield S2 3EN www.arcusgroup.co.uk Tel: 0114 225 05 Fax: 0114 224 596</p>	<p>Project: Sylvester Gardens</p>	<p>Scale: 1:100</p>	<p>Date: October 2009</p>
	<p>Title: Photographic view points: First Floor of Grinding Workshop</p>	<p>NGR: SK 3537 8651</p>	<p>Drawn: J Debska</p>
		<p>Project No. 1264</p>	<p>Illustration No. 10</p>



 <p>Unit R6, Riverside Block Sheaf Bank Business Park Prospect Road, Sheffield S2 3EN www.arcusgroup.co.uk Tel: 0114 225 05 Fax: 0114 224 596</p>	Project:	Sylvester Gardens		Scale	1:100	Date	October 2009
	Title	Photographic view points: Second Floor of Grinding Workshop		NGR	SK 3537 8651	Drawn	J Debska
				Project No.	1264	Illustration No.	11

10 PLATES



Plate 2: General view of office building looking southwest (film 2.05)



Plate 1: General view of office building looking northeast (film 2.03)



Plate 3: General view overlooking office building from southwest (film 7.09)



Plate 4: General view of north elevation of office building (film 2.01)



Plate 5: Detail of cart passage door in north elevation of office building (film 1.06)



Plate 6: General view of west elevation of office building (film 9.04)



Plate 7: General view of southern elevation of office building (film 9.02)



Plate 8: General view of eastern elevation of office building from within neighbouring workshop (film 2.07)



Plate 10: General view of staircase in office building
(film 1.16)



Plate 9: Detail of timber sash framed window in
room 1G2 (film 1.18)



Plate 11: Detail of blocked door at east end of room 1F1 (film 1.04)



Plate 12: General view of northwest end of room 1F2 (film 3.07)



Plate 13: General view of southeast corner of room 1F2 (film 4.03)



Plate 14: Detail of observation window in east wall of 1F2 (film 1.13)



Plate 16: General view of room 1F4 (film 1.14)



Plate 15: General view of partitioned cubicles in room 1F 3 (film 1.11)



Plate 17: General view of grinding workshop, looking southeast (film 9.30)



Plate 18: General view of grinding workshop, looking northwest (film 9.22)



Plate 20: Detail of north elevation of grinding workshop (film 9.34)

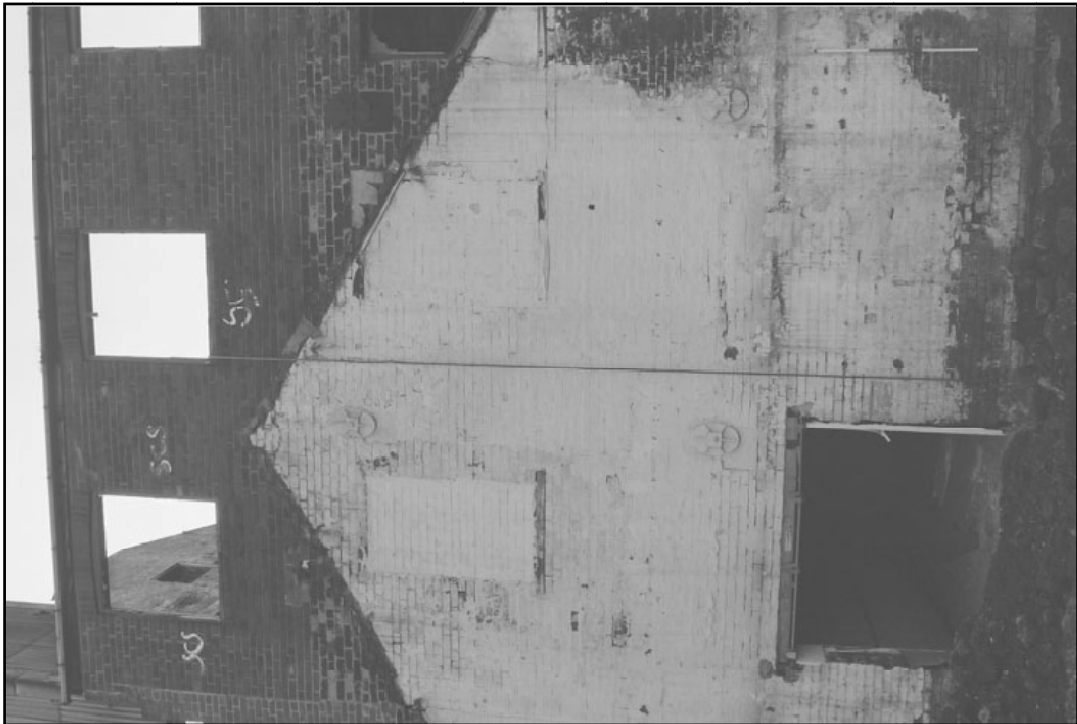


Plate 19: Detail of north elevation of grinding workshop (film 9.32)

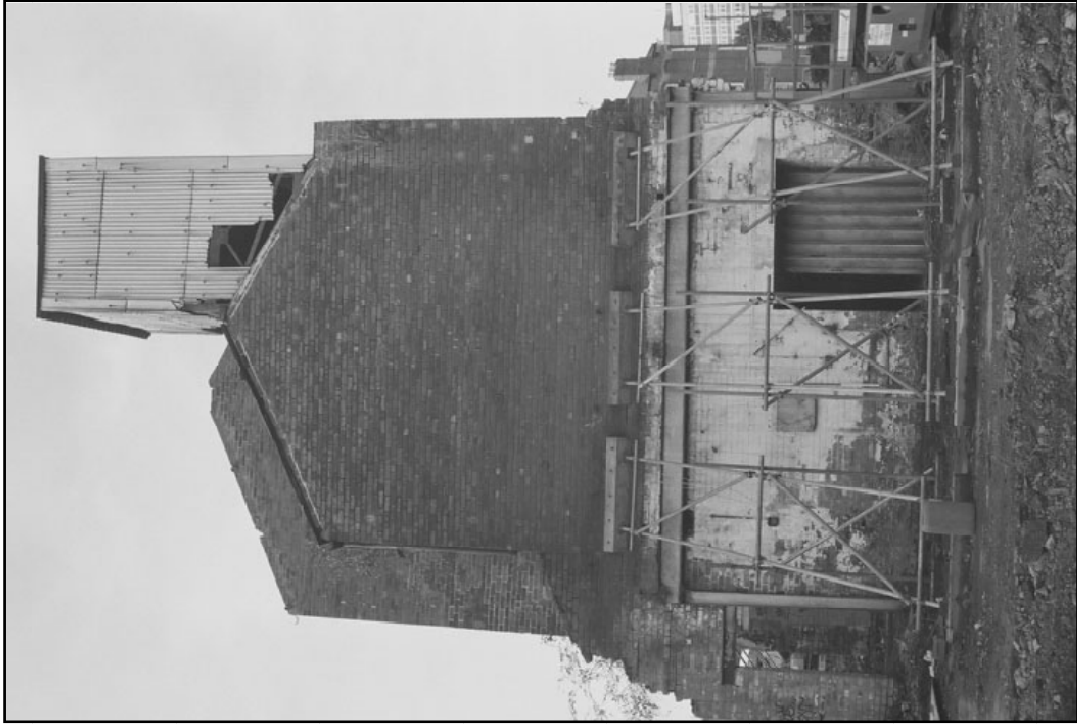


Plate 22: Detail of eastern elevation of grinding workshop and stair-tower (film 9.24)

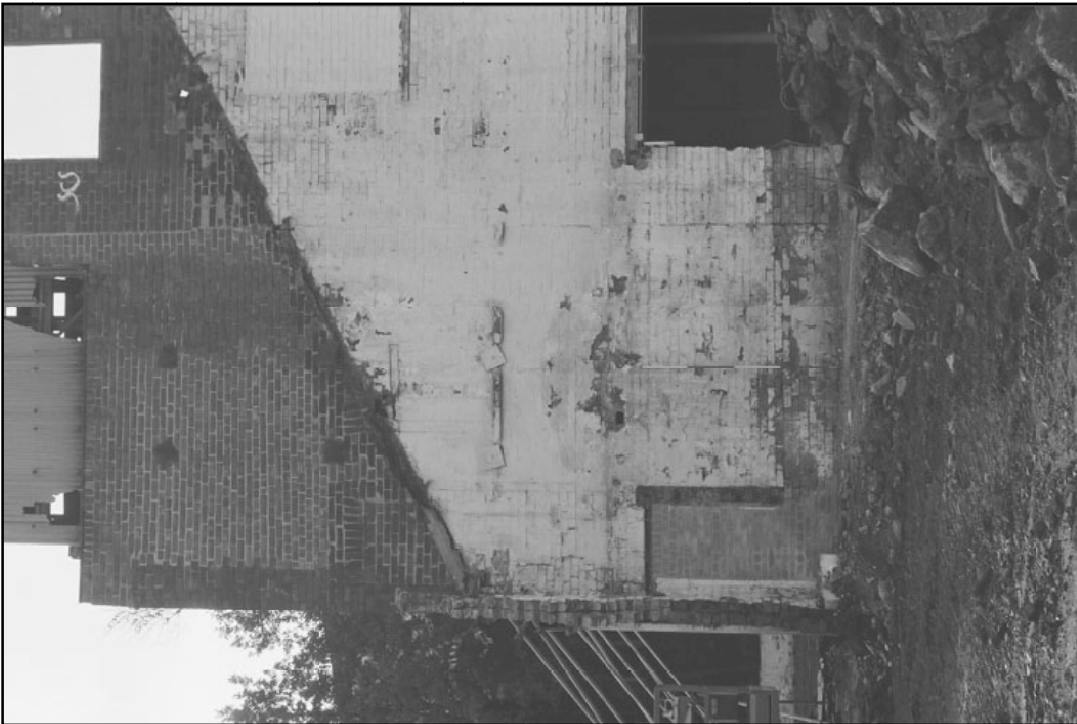


Plate 21: Detail of northern elevation of stair-tower (film 9.26)



Plate 23: Detail of hatch in top of east elevation of grinding workshop (film 1.20)



Plate 24: General view of western elevation of grinding workshop (film 9.14)



Plates 25-27: General view of south elevation of grinding workshop (films 9.16, 9.18, & 9.20)



Plate 28: Detail of blocked door inserted through former window (film 1.32)



Plate 29: Detail of truncated stone stringcourse below header row in southern wall of grinding workshop (film 1.35)



Plate 30: Detail of first floor stringcourse on south elevation of grinding workshop (film 1.27)



Plate 31: Detail of tie-plate on southern elevation of grinding workshop (film 1.25)



Plate 32: General view of room 2G1, noting jack arch ceiling and cast iron column (film 9.12)



Plate 33: General view of room 2G2 (film 9.10)



Plate 34: General view of room 2G3 (film 9.08)



Plate 35: General view of room 2F1, noting concrete machine bases and eastern entrances (film 6.09)



Plate 36: General view of room 2F1 looking southwest (film 6.07)



Plate 37: Detail of head of cast iron column supporting brick jack-arches (film 1.28)



Plate 38: Detail of ceiling hatch with cast iron bracket (film 1.30)



Plate 39: General view of room 2S1 (film 7.07)



Plate 40: General view of room 2S1, noting angle-iron fink truss (film 7.05)



Plate 41: General view of staircase in southern half of stair-tower (film 6.05)



Plate 42: Detail of roof structure of southern half of stair-tower (film 1.22)



Plate 43: General view of eastern courtyard looking south (film 8.05)



Plate 44: General view of interior of range to west of eastern courtyard (film 8.01)



Plate 45: General view of internal east wall of range to east of eastern courtyard (film 8.06)



Plate 46: Detail of window in east wall of range to east of eastern courtyard (film 8.07)

APPENDIX I: PHOTOGRAPHIC REGISTERS

Film 01					
Format	35mm	Type	Black and white	Photographer	J. Thomson
Film & frame	Description	Direction	Date	Plate	
1.1	Detail of steel framed window in south wall of 1F2	SE	06.04.09		
1.2	Detail of steel framed window in south wall of 1F2	SE	06.04.09		
1.3	Detail of steel framed window in south wall of 1F2	SE	06.04.09		
1.4	Detail of blocked door in west wall of 1F1	SW	06.04.09	11	
1.5	Detail of blocked door in west wall of 1F1	SW	06.04.09		
1.6	Detail of double door in cart passage through building 1	SE	06.04.09	5	
1.7	Detail of double door in cart passage through building 1	SE	06.04.09		
1.8	Detail of hipped lantern skylight in 1F2	-	06.04.09		
1.9	Detail of hipped lantern skylight in 1F2	-	06.04.09		
1.10	General view of toilets, 1F3	NW	06.04.09		
1.11	General view of toilets, 1F3	NW	06.04.09	15	
1.12	Detail of small window in E wall of 1F2 overlooking workshop	NE	06.04.09		
1.13	Detail of small window in E wall of 1F2 overlooking workshop	NE	06.04.09	14	
1.14	General view of room 1F4	NE	06.04.09	16	
1.15	General view of room 1F4	NE	06.04.09		
1.16	General view down staircase in building 1	NW	06.04.09	10	
1.17	General view down staircase in building 1	NW	06.04.09		
1.18	Detail of boarded window in north wall of 1G2	NW	06.04.09	9	
1.19	Detail of boarded window in north wall of 1G2	NW	06.04.09		
1.20	Detail of hatch in east gable of building 2 from 2G1	NE	06.04.09	23	
1.21	Detail of hatch in east gable of building 2 from 2G1	NE	06.04.09		
1.22	Detail of truss in stairtower, 2G2	NE	06.04.09	42	
1.23	Detail of truss in stairtower, 2G2	NE	06.04.09		
1.24	Detail of tie plates in southern wall of building 2	NE	06.04.09		
1.25	Detail of tie plates in southern wall of building 2	NE	06.04.09	31	
1.26	Detail of first floor stringcourse, building 2	NE	06.04.09		
1.27	Detail of first floor stringcourse, building 2	NE	06.04.09	30	
1.28	Detail of top of column in 2F1	N	06.04.09	37	
1.29	Detail of top of column in 2F1	N	06.04.09		
1.30	Detail of trapdoor in ceiling of 1F1	N	06.04.09	38	
1.31	Detail of trapdoor in ceiling of 1F1	N	06.04.09		
1.32	Detail of brick lintels of blocked opening, S wall of building 2	NE	06.04.09	28	
1.33	Detail of brick lintels of blocked opening, S wall of building 2	NE	06.04.09		
1.34	Detail of truncated ground floor stringcourse, building 2	NE	06.04.09		
1.35	Detail of truncated ground floor stringcourse, building 2	NE	06.04.09	29	
1.36	I.D. shot	-	06.04.09		

Film 2

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
2.1	North elevation of building 1: Offices	SE	06.04.09	4			
2.2	North elevation of building 1: Offices	SE	06.04.09				
2.3	General view of building 1, looking toward Sylvester Gardens	E	06.04.09	1			
2.4	General view of building 1, looking toward Sylvester Gardens	E	06.04.09				
2.5	General view of building 1, looking from Sylvester Gardens	SW	06.04.09	2			
2.6	General view of building 1, looking from Sylvester Gardens	SW	06.04.09				
2.7	General view of east elevation of building 1	SW	06.04.09	8			
2.8	General view of east elevation of building 1	SW	06.04.09				
2.9	General view of building 1	W	06.04.09				
2.10	General view of building 1	W	06.04.09				

Film 3

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
3.1	Void	-	-				
3.2	Void	-	-				
3.3	Void	-	-				
3.4	Void	-	-				
3.5	Void	-	-				
3.6	Void	-	-				
3.7	Detail of lath and plaster in room 1F1	SW	06.04.09	12			
3.8	Detail of lath and plaster in room 1F1	SW	06.04.09				
3.9	General view of room 1F2	N	06.04.09				
3.10	General view of room 1F2	N	06.04.09				

Film 4

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
4.1	General view of room 1F2	NW	06.04.09				
4.2	General view of room 1F2	NW	06.04.09				
4.3	General view of room 1F2	SE	06.04.09	13			
4.4	General view of room 1F2	SE	06.04.09				
4.5	General view of east elevation of building 2; Grinding works	SW	06.04.09				
4.6	General view of east elevation of building 2; Grinding works	SW	06.04.09				
4.7	General view of south elevation of building 2	NW	06.04.09				
4.8	General view of south elevation of building 2	NW	06.04.09				
4.9	General view of south elevation of building 2	W	06.04.09				
4.10	General view of south elevation of building 2	W	06.04.09				

Film 5

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
5.1	General view of south elevation of stairtower, building 2	NW	06.04.09				
5.2	General view of south elevation of stairtower, building 2	NW	06.04.09				
5.3	General view of west elevation of building 2	E	06.04.09				
5.4	General view of west elevation of building 2	E	06.04.09				
5.5	General view of north elevation of building 2	SE	06.04.09				
5.6	General view of north elevation of building 2	SE	06.04.09				
5.7	Void	-	-				
5.8	Void	-	-				
5.9	Void	-	-				
5.10	Void	-	-				

Film 6

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
6.1	Void	-	-				
6.2	Void	-	-				
6.3	General view of staircase from 2G5	NW	06.04.09				
6.4	General view of staircase from 2G5	NW	06.04.09				
6.5	General view of staircase from 2F2	E	06.04.09	41			
6.6	General view of staircase from 2F2	E	06.04.09				
6.7	General view of 2F1	S	06.04.09	36			
6.8	General view of 2F1	S	06.04.09				
6.9	General view of 2F1	N	06.04.09	35			
6.10	General view of 2F1	N	06.04.09				

Film 7

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description	Direction	Date	Plate			
7.1	General view of southeast corner of building 2	N	06.04.09				
7.2	General view of southeast corner of building 2	N	06.04.09				
7.3	Detail of trapdoor n 2F1	N	06.04.09				
7.4	Detail of trapdoor n 2F1	N	06.04.09				
7.5	General view of 2S1	S	06.04.09	40			
7.6	General view of 2S1	S	06.04.09				
7.7	General view of 2S1	N	06.04.09	39			
7.8	General view of 2S1	N	06.04.09				
7.9	General view over building 1	N	06.04.09	3			
7.10	General view over building 1	N	06.04.09				

Film 8

Format	400 speed	Type	Medium format	Photographer	Simon Jessop		
Film & frame	Description			Direction	Date	Plate	
8.1	General view of room to west of courtyard			N	06.04.09	44	
8.2	General view of room to west of courtyard			N	06.04.09		
8.3	General view of room to south of courtyard			E	06.04.09		
8.4	General view of room to south of courtyard			E	06.04.09		
8.5	General view of courtyard			S	06.04.09	43	
8.6	General view of room to east of courtyard			SE	06.04.09	45	
8.7	Detail of window looking into courtyard from room to east			SW	06.04.09	46	
8.8	Detail of window looking into courtyard from room to east			SW	06.04.09		
8.9	Detail of timber shutters to opening on to Porter Brook			SE	06.04.09		
8.10	Detail of timber shutters to opening on to Porter Brook			SE	06.04.09		

Film 09

Format	35mm	Type	Black and white	Photographer	J. Thomson
Film & frame	Description	Direction	Date	Plate	
9.1	Abrasive wheel sign from room G3	-	07.10.09		
9.2	South elevation of office building	N	07.10.09	7	
9.3	South elevation of office building	N	07.10.09		
9.4	West elevation of office building	E	07.10.09	6	
9.5	West elevation of office building	E	07.10.09		
9.6	Detail of blocked window in north elevation	S	07.10.09		
9.7	Detail of blocked window in north elevation	S	07.10.09		
9.8	General view of room 2G3 in grinding workshop	SW	07.10.09	34	
9.9	General view of room 2G3 in grinding workshop	SW	07.10.09		
9.10	General view of room 2G2 in grinding workshop	SW	07.10.09	33	
9.11	General view of room 2G2 in grinding workshop	SW	07.10.09		
9.12	General view of room 2G1 in grinding workshop	SW	07.10.09	32	
9.13	General view of room 2G1 in grinding workshop	SW	07.10.09		
9.14	General view of west elevation of grinding workshop	E	07.10.09	24	
9.15	General view of west elevation of grinding workshop	E	07.10.09		
9.16	General view of south elevation of grinding workshop	N	07.10.09	25	
9.17	General view of south elevation of grinding workshop	N	07.10.09		
9.18	General view of south elevation of grinding workshop	N	07.10.09	26	
9.19	General view of south elevation of grinding workshop	N	07.10.09		
9.20	General view of south elevation of grinding workshop	N	07.10.09	27	
9.21	General view of south elevation of grinding workshop	N	07.10.09		
9.22	General view of east and south elevation of grinding workshop	NW	07.10.09	18	
9.23	General view of east and south elevation of grinding workshop	NW	07.10.09		
9.24	General view of east elevation of grinding workshop	W	07.10.09	22	
9.25	General view of east elevation of grinding workshop	W	07.10.09		
9.26	General view of north elevation of grinding workshop	S	07.10.09	21	
9.27	General view of north elevation of grinding workshop	S	07.10.09		
9.28	General view of north elevation of grinding workshop	S	07.10.09		
9.29	General view of north elevation of grinding workshop	S	07.10.09		
9.30	General view of north and west elevation of grinding workshop	SE	07.10.09	17	
9.31	General view of north and west elevation of grinding workshop	SE	07.10.09		
9.32	General view of north elevation of grinding workshop	S	07.10.09	19	
9.33	General view of north elevation of grinding workshop	S	07.10.09		
9.34	General view of north elevation of grinding workshop	S	07.10.09	20	
9.35	General view of north elevation of grinding workshop	S	07.10.09		
9.36	I.D. shot	-	07.10.09		

APPENDIX II: SYAS BRIEF



BRIEF FOR BUILDING RECORDING & ARCHAEOLOGICAL EVALUATION (Trial Trenching)

Proposal: Mixed use redevelopment of the sites of Industry Works (Site B), Bernard Works (Site C) and the former Klaussners/Carpet World (Site D)

Planning application numbers: 06/02501/FUL (Site B); 06/01918/FUL (Site C); 07/02595/FUL (Site D)

Location: Land off Sylvester Gardens and Sylvester Street, Sheffield

Grid References: Site B = SK 3533 8649; Site C = SK 3537 8651; Site D = SK 3527 8646

Area of proposal site: Site B = 0.15ha; Site C = 0.26 ha; Site D = 0.43 ha (see accompanying plans)

Land use: Built over & car parking

1 Summary

1.1 Planning permission has been granted for the redevelopment of three sites on the edge of the historic core of Sheffield. A building appraisal of Site C, which contains some surviving 19th century buildings was produced by the Trent & Peak Archaeological Unit in June 2006; an assessment of the archaeological potential for below ground remains on Sites B & C was produced by Mike Griffiths Associates in June 2007; a separate assessment of the below ground potential of Site D was also produced by Mike Griffiths Associates in June 2007.

1.2 This work has demonstrated that there are two buildings of archaeological interest within Site C – former grinding workshops and former offices (re-used earlier houses). The grinding workshops are to be retained and the offices are to be demolished. Building recording will be required before any alteration or demolition work commences. A watching brief on those works will also be required, to allow any additional features of interest revealed to be recorded.

1.3 The industrial buildings on Site B are modern and are of little archaeological interest. No recording work will be required before any demolition work commences.

1.4 Industrial buildings on Site D were cleared in the 1980s, to make way for a store and associated car parking; the site has no above ground archaeological interest. No recording work will be required before any demolition work commences.

1.5 The assessment work demonstrates that all three sites have below ground archaeological interest for the industrial period, but little is known as to the extent and state of preservation of buried remains. South Yorkshire Archaeology Service (SYAS) has, therefore, advised that an archaeological trial trench evaluation needs to be carried out on all three sites. As this work is to be carried out post-demolition, demolition work must minimise disturbance to below ground deposits. Demolition can include removal of the ground slabs on the three sites, as long as that work is archaeologically monitored. **No demolition works below slab level, e.g. removal of foundations, can be carried out until the evaluation and any subsequent archaeological fieldwork has been completed.**

1.6 Once the results of the evaluation have been received and considered, SYAS will be able to advise on the level of mitigation excavation, analysis, reporting and publication that will be required to allow the conditions imposed on the three planning consents to be met. The mitigation fieldwork will then need to be completed before any remediation or construction works commence on site.

2 Requirement for Building Recording

2.1 An appraisal of the standing buildings within Site C confirmed that the grinding workshops, proposed for retention, and the street frontage office building (formerly houses), proposed for demolition, are the only surviving buildings of archaeological interest. A general and detailed photographic record is to be made of these buildings before any alterations or demolition take place.

2.2 General photographs of the interior & exterior of the building(s) and of their settings are required. These can be taken with a 35mm camera (a Medium or Large Format camera can also be used). Detailed photographs of the areas of the building to be affected are also required and can be taken with a Medium or Large Format camera with perspective control. All photographs are to be black and white. All detailed photographs must contain a graduated photographic scale. This basic photographic record is to be supplemented by colour slide photography, especially where colour is an aspect that needs to be recorded.

2.3 A photographic register detailing (as a minimum) location and direction of each shot must be completed. Position and direction of each photograph taken (except duplicates) must also to be noted on a copy of building floor or site plans.

2.4 Once demolition/alteration works commence to these buildings, an archaeological watching brief will be required, to add any additional features of interest made to the record being produced.

2.5 Once recording has been completed, a fully indexed field archive is to be compiled. This will consist of all primary written documents, plans, photographic negatives and a complete set of labelled photographic prints - printed at a minimum of 5" x 4". Labelling should be in indelible ink on the back of the print and should include: film and frame number; date recorded and photographers name; name and address of feature/building; national grid reference. Photographic prints should be mounted in appropriate archivally stable sleeves.

2.6 A short written report should be produced detailing who undertook the recording, when the work was done, where the buildings were located, what recording was undertaken and why the work was required. The report should also include details of the alterations/demolition undertaken and an assessment of the importance of the features/buildings affected. A discussion of the phasing/construction sequence of the buildings should also be included.

2.7 The report should include the following illustrations as a minimum: a location map at not less than 1:2500; a site plan at not less than 1:500; photographs used to illustrate all key points and a complete set of site/floor plan drawings, showing recorded viewpoints, executed to publication standard. In addition to those photographs used as illustrations, a complete set of all photographs (scanned at 300 dpi), excluding duplications, are to be included as an appendix to a digital copy of the report - referenced as necessary.

3 Requirement for Evaluation

3.1 Assessment of the three redevelopment sites has confirmed that all three have considerable industrial archaeological interest. An archaeological trial trench evaluation is required, to obtain further information on the nature of the buried archaeological deposits present. The objectives of the evaluation is to gather sufficient information to establish presence/absence, character, extent, state of preservation and date of archaeological deposits within the three sites proposed for development. The evaluation will follow the demolition of buildings on site; a watching brief during the lifting of the ground slab will be required.

3.2 At least a 5% sample of the three sites will then need to be investigated and a contingency should also be allowed in case trenches need to be extended to follow features of interest. Allowance should also be made for trenches to be stepped or battered, in order for deposits at depth to be investigated.

3.3 Illustrated notices will be displayed on site, explaining what work is in progress and why, with the client's agreement.

3.4 Site B: the assessment suggests that the site of the former Sheffield Wire Works is the main area of archaeological interest that needs to be tested. This works, shown on the 1894 OS map, is thought to have developed from the works of Heginbotham & Co, recorded in the 1879 trade directory as steel refiners and wire manufacturers; as such, their works can be expected to have contained a crucible furnace, for refining steel, but its location is unknown. The site was later partly occupied by the Reliance Foundry, which is shown to have two associated furnaces on the Goad fire insurance plan of 1905. This area is shown on the attached plan of Sites B & C, in relation to the 1894 OS map. A minimum of two 10x4m trial trenches are recommended to test the selected part of this site.

3.5 Site C: the assessment suggests that there are three main areas of archaeological interest that need to be tested. These include the location of the former tail goit from the Sylvester Wheel (sited on adjoining land) and the site of the first housing on the site, shown on an 1832 plan; the site of the former Wards Wheel, first shown on the 1851 OS map, which was also known as the Porter Island grinding

wheel; and the site of a new cut for the Porter Brook, shown on a plan of 1808. These areas are shown on the attached plan of Sites B & C, in relation to the 1894 OS map. A minimum of one 15x4m trench and two 10 x 4m trenches are recommended to test these selected areas of the site.

3.6 Site D: The assessment suggests there are five areas of particular archaeological interest that need to be tested. These include the location of a former channel and new cut for the Porter Brook; the possible location of an 1830s iron foundry building – later a machine shop & smithy within the Crown Steel Works; the location of the former grinding shop within the Telegraph Cutlery Works; the location of former forges within the Sylvester Cutlery Works; and the earlier of two crucible furnaces within the Porter Foundry Steel Works. These areas are shown on the attached plan of Site D, in relation to the 1894 OS map. A minimum of one 15x4m trench and four 10 x 4m trenches are recommended to test these selected areas of the site. It is not known whether the site was remediated before the construction of the current store building and associated car park.

3.7 All features revealed will be sampled and investigated – unless clearly very modern. However, no archaeological deposit should be entirely removed unless this is unavoidable. Under no circumstances should a machine be used to cut arbitrary trenches down to natural deposits.

3.8 All finds that are ‘treasure’ (in terms of the Treasure Act 1997) will be reported to the Coroner and appropriate procedures then followed. All finds are to be treated in accordance with the EH guidance document *A Strategy for the Care and Investigation of Finds* (1995) and the UKIC’s document *Guidelines for the Preparation of Excavation Archives for Long Term Storage*. In particular, a selection of ferrous objects and non-ferrous objects (including all coins), will need to be x-radiographed. Any human remains which are revealed must initially be left *in situ* and, if removal is necessary, this must comply with the relevant Ministry of Justice regulations.

3.9 An environmental specialist and an industrial metalwork specialist will visit the site to advise on sampling strategies and their suggested strategies will then be implemented. Contingency provision will be made for additional specialist advice, e.g. for finds analysis and conservation. Provision will also be made to recover material suitable for scientific dating and a contingency sum will be made available to undertake such dating, if necessary. This will be decided in consultation with SYAS.

3.10 The actual areas of trenching and any features of possible archaeological concern noted within the trenches, must be accurately located on a site plan and recorded by photographs, summary scale drawings, and written descriptions. All trenches will be planned at 1:50, with individual features being planned at 1:20 where additional detail is required. One representative long section of each trench will be produced, at an appropriate scale. Sections and profiles of each feature sampled will be drawn at 1:10 or 1:20, depending on the size of the feature. All plans, sections and profiles will be related to Ordnance Datum, in metres.

3.11 The evaluation should result in a report including background information, methods, results - including a phased interpretation of the site - conclusion and

discussion. **A recommendation on whether further investigation or preservation is considered appropriate should first be discussed with SYAS and then be clearly expressed in the report.**

3.12 The results of an assessment by an appropriate specialist of the palaeo-environmental potential of the samples taken will be included in the evaluation report. An assessment report by an appropriate specialist on the potential of any industrial samples taken will also be included.

3.13 Illustrations to be included are: a detailed location map; a detailed site plan showing all trenches; all trench plans and sections and detailed plans and sections of features; select artefact illustrations; a selection of scanned photographs of work in progress; an overall site plan showing all (phased) archaeological features recorded will also be included. The report must include a detailed context index and an index to the archive.

4 Project Design

4.1 Before any site work commences, detailed project designs for both the building recording and evaluation work should be formulated by the archaeological contractor and submitted to SYAS for approval. The proposals should include:

- A description of the proposed fieldwork methods to be used.
- An explanation of the sampling strategies to be used.
- A projected timetable for work on the site.
- Details of the arrangements made for deposition of the finds and site archive (see section 7 below).

4.2 All work shall be carried out by appropriately qualified and experienced staff; details of staff numbers and their relative experience should be included, plus their responsibilities in carrying out the work. Staff c.v.s should be included (unless already supplied to SYAS in previous project specifications).

4.3 Prior to submission of the evaluation project design, the proposed works should be discussed with Andy Hammon, Regional Science Advisor (RSA) for English Heritage. Where specific recommendations are made by the RSA, these must be incorporated within the project design.

4.4 Once agreed, any changes to the project design will need to be discussed with, and agreed by, SYAS before implementation.

5 Site Monitoring

6.1 SYAS will be responsible for monitoring the building recording and evaluation. A minimum of one week's notice of the commencement of fieldwork must be given by the archaeological contractor to SYAS in order that arrangements for monitoring can be made.

6.2 Site inspections will be arranged so that the general site stratigraphy can be assessed in the initial stage of trial trenching and/or so that the site can be inspected when fieldwork is near to completion, but before any trenches have been backfilled.

6 Reporting

6.1 A printed and bound copy of both the building recording report and the evaluation report must be supplied to SYAS for incorporation into the South Yorkshire Sites and Monuments Record. A digital copy each report must also be supplied.

6.2 A summary report of an appropriate length, accompanied by illustrations, must be prepared and submitted in digital format, for publication in the appropriate volume of *Archaeology in South Yorkshire*.

6.3 Acceptable digital formats are:

- text (Word and ASCII);
- images (.JPG at no less than 300 dpi. resolution).

6.4 Provision must be made for publicising the results of the work locally, e.g. by presenting a paper at South Yorkshire Archaeology Day and talking to local societies.

6.5 The archaeological contractor must complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>.

7 Deposition of Archive and Finds

7.1 It is required that arrangements for the deposition of the site archives be made prior to the commencement of fieldwork. At the project design stage, the building record archive and report should be offered to:

Sheffield City Archives
52 Shoreham Street
Sheffield
South Yorkshire
S1 4SP

Following agreement with the landowner, the contractor should also contact the relevant museum curator to discuss archaeological archiving requirements (a proforma – to be submitted – can be downloaded from the SYAS website). At the project design stage, the archaeological archive and evaluation report should be offered to:

Gill Woolrich
Sheffield City Museum
Weston Park
Sheffield
S10 2TP

7.2 The contractor will either arrange for copyright on the deposited material to be assigned to the archive, or will licence the archive to use the material, in perpetuity; this licence would allow the archive to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

7.3 The accompanying summary document, "Transfer of Archaeological Archives to South Yorkshire Museums", gives brief details of South Yorkshire Museums requirements. Detailed guidelines will be supplied by the appropriate institution.

Brief prepared by:

Dinah Saich
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South Yorkshire Archaeology Service

11/12/08

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