



Iain Soden Heritage Services Ltd

Modern living in an historic environment

**Ongoing conservation works at the former Vulcan Works,
34-36 Guildhall Road, Northampton**

**Site preparation and groundworks for development on
Angel Street, 2019**

Iain Soden



Vulcan Works (Angel Street development)

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Summary

Archaeological monitoring along Angel Street, Northampton recorded the vestiges of a Victorian iron foundry, while noting that very thick deposits of horticultural (and locally foundry-related) build-up has probably left large areas with earlier archaeology relatively intact within a planning block extending from Angel Street down Fetter Street and Guildhall Road, almost to St John's Street. Work in this instance centred upon preparations for piling, piling itself and the excavation of pile-caps for a new multi-storeyed block on Angel Street.

Introduction and Background

A new multi-storeyed commercial block is being constructed for Northampton Borough Council on the south side of Angel Street, Northampton (NGR: SP 75567 60309; Fig 1). Angel Street forms a minor break-of-slope along an east-west contour across Guildhall Road to its east which follows a steep gradient stretching south down from Northampton Guildhall to St John's Street and beyond that the medieval town wall of Northampton.

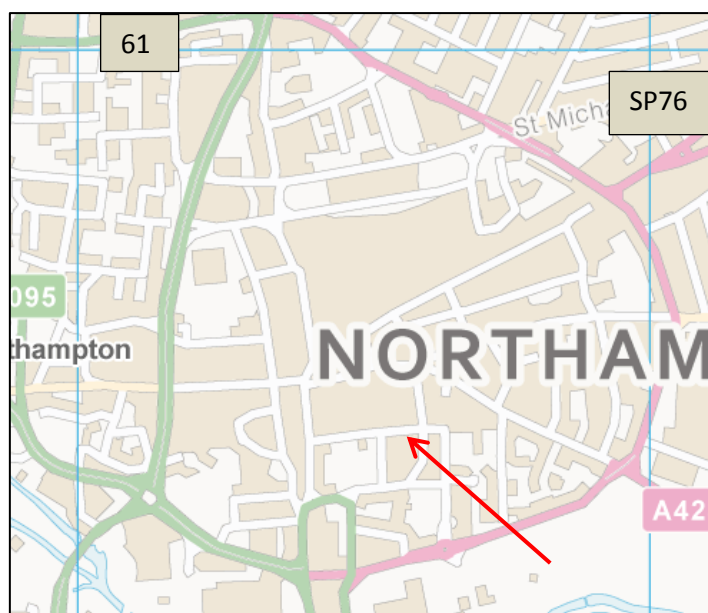


Fig 1: Site location (arrowed). Contains Ordnance Survey data © Crown Copyright and database right 2019

Previous research had suggested that medieval archaeology from back-plots along either Cow Lane/Swan Street or Bridge Street might lie back-to-back on this site, but a succession of studies indicated that it was buried at a depth of between 1.9 and 2.2m below the modern ground surface

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which lay at 69.2m above Ordnance Datum at the corner of Angel Street and Fetter Street. This thickness of overburden was considered to be sufficient to protect most archaeology from all but the deepest disturbances. A programme of foundation-construction by means of CFA piling was considered to be sufficiently careful and targeted to warrant approval without recourse to pre-emptive excavation.

Angel Street on the north, Fetter Street on the west, Guildhall Road on the east and St John's Street on the south, demark a planning block which has been the subject of numerous recent archaeological interventions and reports (since 2014). At its heart is the Grade II-listed Vulcan Works fronting Guildhall Road, currently undergoing extensive conservation. Other work has been directed at the site of the former Amalgamated Tyres site, part of the same block but fronting St John's Street.

The archaeological research and fieldwork throughout has been coordinated for Northampton Borough Council by Iain Soden Heritage Services in consultation with their Regeneration Project Managers, initially Darowen Jones and latterly Katie Mills, with Conservation Officer Jane Jennings, and negotiated with Northamptonshire County Council's Senior Archaeological Advisor Lesley-Ann Mather, whose brief scoped the project and whose approval has been key to the advancement and satisfactory completion of each stage.

The foregoing research and reporting in respect of this site and the overall planning block is as follows, in calendar-order of the fieldwork and report-issue:

	Report	Nature of work/report	HER ref	OASIS ref
1	Walker and Soden 2014	Desk-Based Assessment	ENN109535	-
2	Mather 2015	Archaeological Brief (NCC)	n/a	
3	Jennings 2015	Building Recording Brief (NBC)	n/a	
4	Soden and Walker 2015	Level 3 Building Recording	ENN109371	231912
5	Soden 2017(1)	Written Scheme of Investigation	n/a	
6	Soden 2017(2)	Written Scheme of Investigation	n/a	
7	Soden 2018 (1)	Trial trench evaluation, (Amalgamated Tyres site)	ENN109070	314450
8	Soden 2018 (2)	Written Scheme of Investigation	n/a	
9	Soden 2018 (3)	Set-piece excavation, (Amalgamated Tyres site)	ENN109253	332143
10	Soden 2018 (4)	Addendum to 4 (above)	ENN109371	231912
11	This report (2019)	Groundworks monitoring and recording (Angel St new-build)	ENN109487	357177
12	<i>Interior works 2019-20</i>	<i>Groundworks monitoring and recording (Engine House, blocks B/C)</i>	<i>tba</i>	<i>tba</i>

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Fieldwork and results

Initial ground reduction

Following demolition of adjacent buildings and dismantling of the northern wall of Block A of the listed Vulcan works to make elements safe for groundworks close by, preparation for piling the Angel Street site began with widespread ground reduction. This was carried out by a 13-ton 360-degree tracked excavator fitted primarily with a toothless ditching bucket.

The initial works reduced the existing tarmac car park surface by approximately 0.5m and exposed a mixed deposit of dark grey mixed soil-and-ash material and orange sand. The darker material appeared to be a mixture of coal-slag, ash and clinker, while the very clean sand was liberally strewn about. The two were considered to be left over from a Victorian foundry known from map evidence to have lain on the site – the dark material being fuel, both unused and spent, with the sand being casting sand.

The desired level at which ground reduction ceased for the import of a piling mat coincided with the exposed remains of 19th-century buildings and other features which were cleaned up and recorded before the piling mat was brought in.



Fig 2: Reducing the modern (Angel Street) level; at left the Vulcan Works floor level (Block A, bays 5-11). View looking west from Block A, bay 5.

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Fig 3: A machined test pit failed to expose natural ironstone geology even 300mm below the Vulcan Works (adjacent Block A, bay 9) concrete floor, c2.5m below the modern (Angel Street) ground surface; scale 2m

When the desired level was reached for the import of the piling mat a simple test pit was machine-dug to assess what thickness of overburden still lay above the natural ironstone geology and any potential medieval archaeology. This was seen to be at least 2.5m thick below the modern ground surface and in excess of 0.3m below the concrete floor of the Vulcan works Block A (Block A as set out in Soden and walker 2016). Mixed horticultural soil deposits were exposed at c2.5m depth but natural geology was not reached. This indicated that in excess of 1.5m of medieval and later horticultural together with post-medieval industrial waste deposits have accumulated over natural geology, until the ironstone foundry was erected on the site in the later 19th century.

Subsequent visits (below) confirmed the depths involved.

The Victorian Foundry

Dismantling of the north wall of the Vulcan Works Block A was necessary since the wall was buckling under the weight of its own roof. The exercise quickly showed that this had happened because the wall was only one brick thick, being only a 4.5-inch skin which had been built up against an earlier terrace wall on its north which appears to have surrounded and delineated the foundry on Angel Street. This earlier wall's exterior was clearly on show before Vulcan Works building was erected and had been neatly pointed up and had been lime-washed, of which large areas survived.

The Vulcan Works bricks, with their characteristic multiple perforating holes, are a common find around Northampton and are a local product from the decades around 1900.

By contrast, the bricks behind, used throughout the retaining wall and in the principal foundry building, measured 230mm x 115mm x 80mm, and were frogged.

The foundry building was itself three bricks thick (a wall-width of 12.5 inches), and behind it lay a row of slightly later brick compartments. They were later because they were lean-to's against the

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terrace wall on its inside (north) and it was also notable that they were formed using the later, perforated brick.

The brick compartments appear to have been bins or bunkers and each one contained something different. One contained coal, quite possibly unburnt coal-slag, or at least finely-comminuted pieces of the fuel. Another contained casting sand.



Fig 4: The 4 ½ inch-thin Vulcan works (Block A, bay 9) north wall-skin, built up against the outer face of earlier foundry boundary retaining wall, still with its pale lime-wash. View looking north; scale 2m

Immediately adjacent to the south side of the building lay a rectangular block of neat brickwork (of frogged bricks), 1.3m wide and which was covered in black ash and some mortar. Where observed along its south side it was in excess of 10 courses depth (1m+). Although not traced all the way to its lowest course, this is considered to be the base of a 50-foot foundry chimney noted in late 19th century maps.

Directly adjacent to this was a brick base which described within it the arc of part of a circle. Although it looked a little like a well on first inspection, it was found to be solid mass throughout, and included some iron reinforcement rods deep into the structure. Two of these protruded upwards and probably fixed to two (of originally four) cupola legs. This is interpreted as the base of the iron-smelting cupola attested on the 1899 Goad Insurance map. It had been truncated on its south side by a 10-inch salt-glazed drain which turned and angled between cupola and chimney. The reader is referred to the following datasheet by the Historical Metallurgy Society which explains the remains and their purpose in the context of the ferrous metalworking industry.

<http://hist-met.org/images/pdf/HMSdatasheet304.pdf>

Adjacent to Angel Street lay an ironstone-built cellar which may have predated the foundry or been part of it. In the corner of the reduced area a spread of ash included 18th century pottery and bottle-glass (not retained), the only point at which deposits apparently earlier than the late 19th century were exposed.

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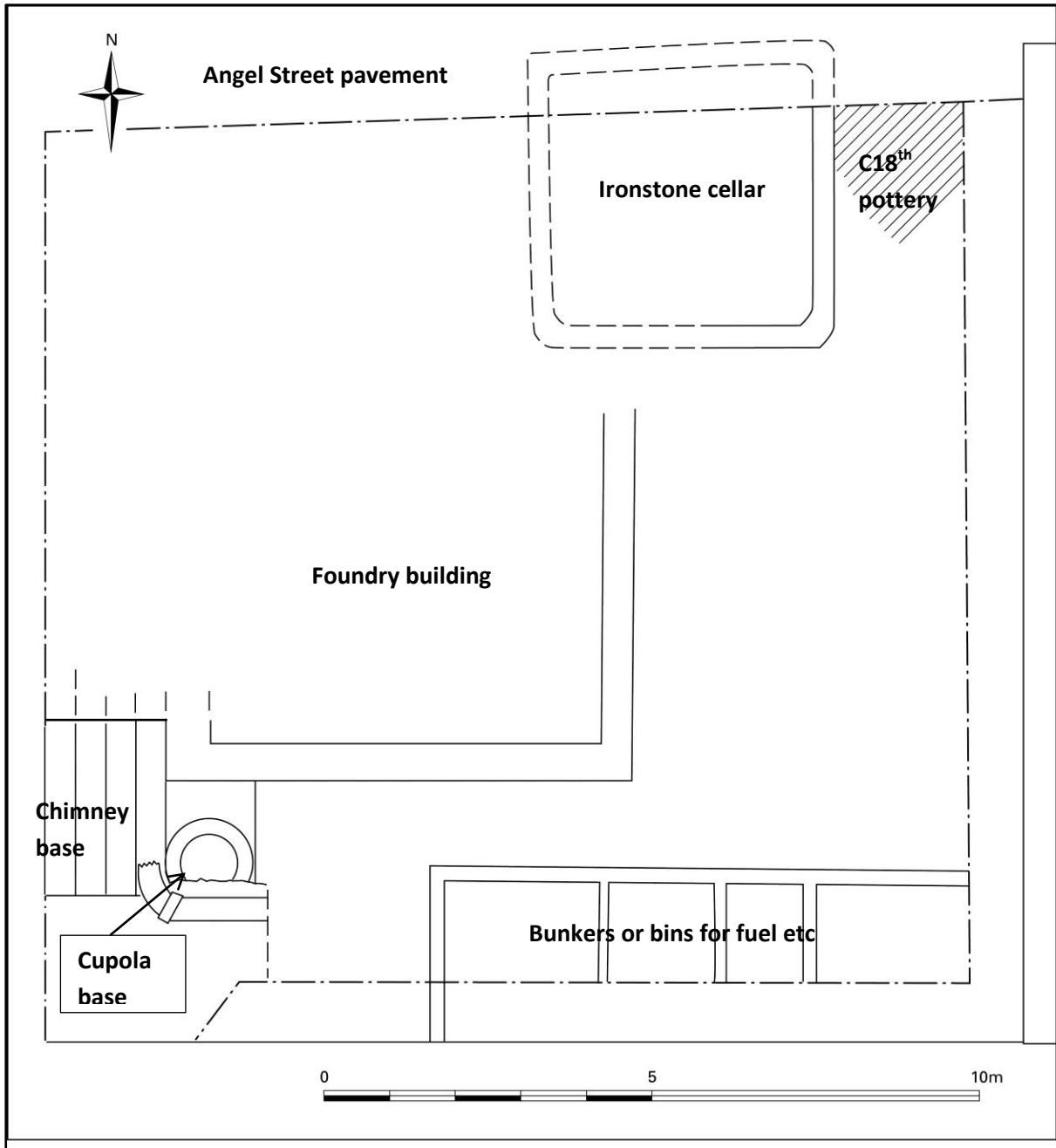


Fig 5: Remains of the Victorian iron foundry exposed during ground reduction for piling mat (Andy Isham)

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Fig 6: The truncated brick base of the steel-making cupola, view looking west with chimney base in background; scales 1m

Piling

Piling took place from the stability of the imported piling mat. Two piles were monitored to verify the efficacy of the operation and the subsequent effects they had had on anthropogenic layers. While the up-cast of the augered holes was very mixed up, with no finds apparent, a view was later possible of the set concrete of four piles prepared to receive a ring beam. The concrete, neatly contained within the hole (not pressed outward by the concrete pump), had actually taken on the form of the Archimedes Screw of the auger as it had been reversed back out of its pile hole. Thus the potential damage piles might cause was minimal and restricted to the volume of the pile where it passes through anthropogenic layers, with no zone of liquefaction and no wider deformation of stratified deposits.



Fig 7: CFA piling in progress in angle between retained portion of Weights and Measures building and Vulcan Works inter-war shed 1. View looking south-east.

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Pile caps and ring beams

A large tracked excavator was used to remove the imported piling mat and to dig the pile caps and linking trenches into which the ring beam foundation will lie. The foundations are in two stepped blocks, each occupying about half of the site. The northern half has the soffit of its ring beam set at about 2m below the modern (Angel Street) ground surface; the southern half has its ring beam soffit set at 3m below the same level.

In many circumstances putting foundations in at these depths would deeply impact buried significant urban stratified deposits. However, on this site the depths of post-medieval and modern build-up were already felt to be sufficient to preserve older (medieval) buried deposits deep enough to be out of harm's way.

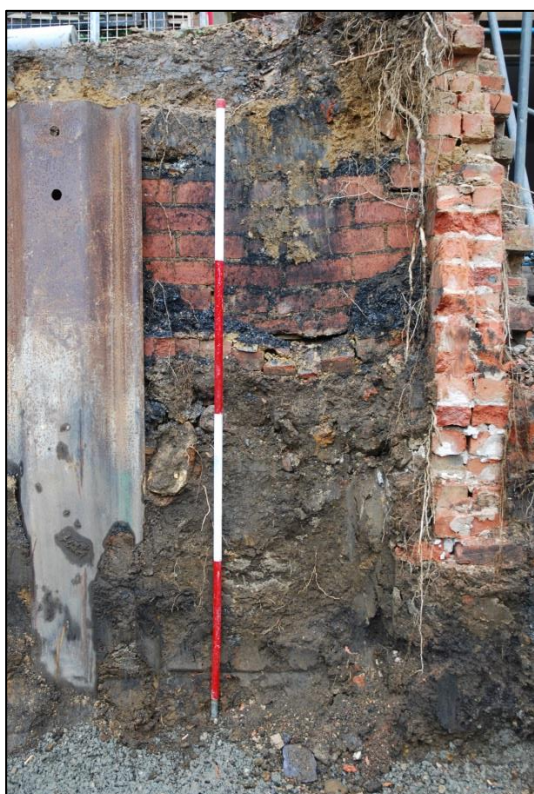


Fig 8: c3m of fill below the modern ground surface at the south-east corner of the site; scale 2m

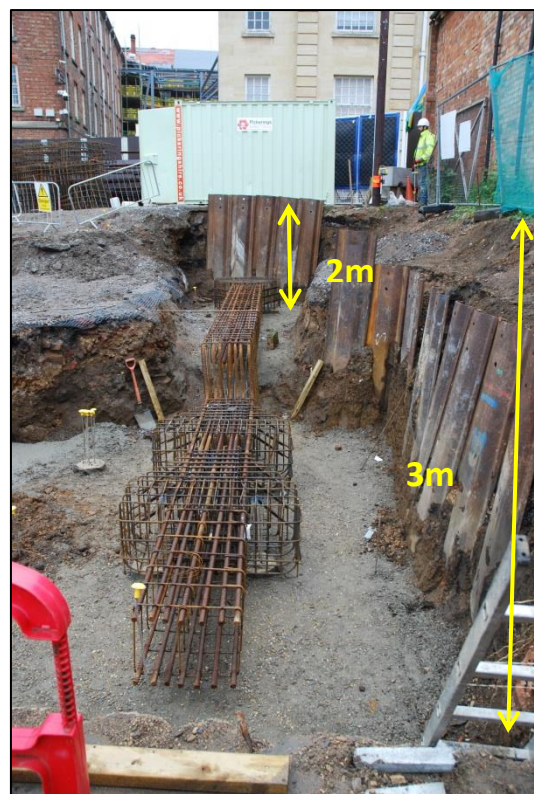


Fig 9: Ring beams linking the pile groups. Note the depths.

Monitoring during excavation of the ring-beam trenches shows that the thickness of the late post-medieval and modern overburden is quite sufficient to leave any medieval cut features or remaining stratification below the formation level.

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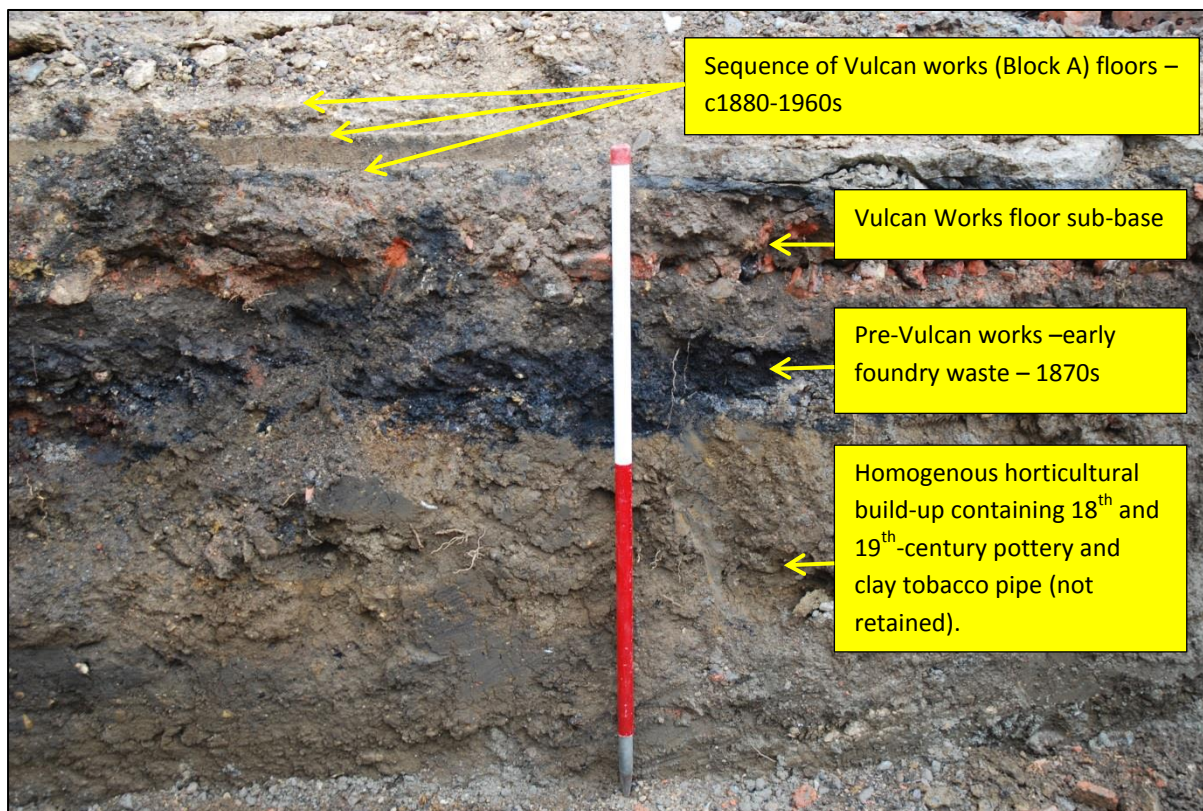


Fig 10: North facing section under the floor of Block A, along bays 7-9 of the Vulcan Works (its north wall removed). The Vulcan Works Block A floors are marked. In excess of 1m of post-medieval fill lies below them.

Other site observations

A series of underpinning sondages was dug alongside the south wall of the southernmost inter-war sheds adjacent to Fetter Street (about half way up Fetter Street). These showed that there is consistently a c1.6m or more build-up of homogenous garden soils beneath the modern ground surface. It was not certain that natural ironstone geology had been exposed in their bases but may lie deeper down.

Background and Discussion

The Angel Street Iron Foundry was fully in existence by 1885 when it appears on the first edition Ordnance Survey Map. It was certainly not on the 1847 map of Northampton, when the site was still relatively open. An early 1870s deed plan suggests that although Angel Street was partly walled off from the plot at that stage, the building was not yet in existence. On a deed abuttal it does however appear as foundry and workshops belonging to and in occupation of Dorothy Merrill in 1878.

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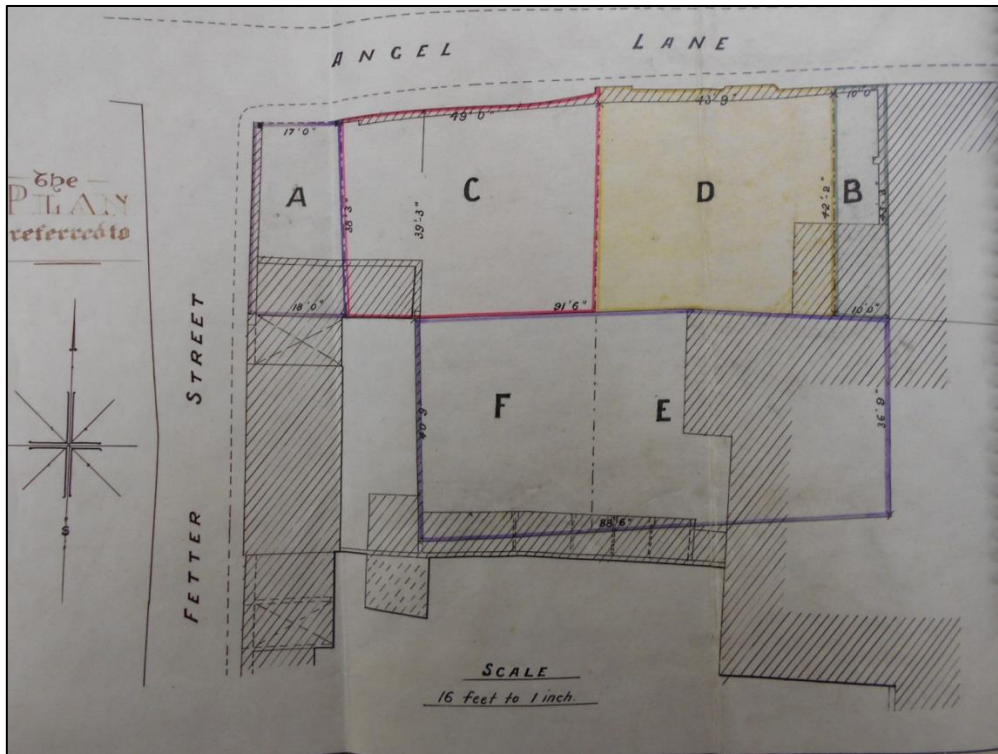


Fig 11: 1870s deed plan showing the different ownerships along Angel Street and part of the Vulcan Works. The foundry lay on D.

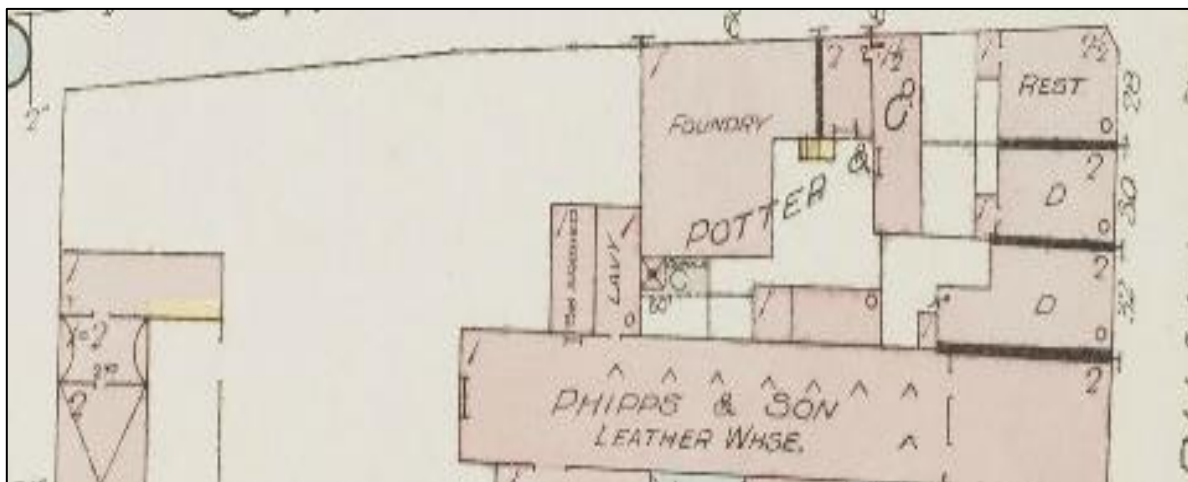


Fig 12: Goad Insurance plan 1899, showing the foundry with cupola and 50-foot chimney both to the south

The nearest neighbouring property was no 32 Guildhall Road, which in 1878 was under construction by Edward Normanton FitzHugh (a photographer); he lived there until 1914 (Walker and Soden 2014).

In 1890, the foundry in Angel Street was owned by the same Edward FitzHugh, earlier a Mrs FitzHugh had owned it (Instone 1970). It is possible that she was actually the Dorothy Merrill who held it in 1878, and had married Edward FitzHugh. By 1898, the foundry was owned (or at least worked) by J Potter, who specialised in cast-iron furniture and decorative panels that could be fixed into wooden furniture and fittings. In an 1899 Goad Insurance plan, the site is depicted as still

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owned by Potter and the ironworking cupola is shown to the rear of the main foundry building. Its base is that found in excavation (above). Instone (ibid) reports that it was then operated by one Mr Haymer.

The Goad Maps, drawn for many decades to a universal key, show that the building was of a single storey and was surmounted by a slate roof. It had a skylight of between 20 and 50 square feet. Adjacent to it along the frontage was a building of two storeys, from which it was separated by a fire-wall. Neither building now stands.

In the 1905 Goad map, the cupola has gone, although the chimney still stood at its full 50 feet height. The foundry had become the premises of Dickens and Lewin, Hardware oil and colour. The Vulcan Works factory was vacant (dated as October of that year). Further Goad insurance maps show that in December 1912 the old foundry building was vacant. By 1928 it had become a builder's store. By 1937 the chimney had been taken down, and the former bins and bunkers along the south side had been replaced with a corrugated bicycle shed. By 1956 the site of the former chimney and cupola had been covered over by a 'solution store', linked internally to both the former foundry building and the former Vulcan Works. This was probably a flimsy structure since no trace was seen above either chimney or cupola during groundworks.



Fig 13: The last days of the old foundry building, 1956. Note how the frontage extended across what is now the Angel Street footway, aligned on the same frontage as surviving buildings to the east, such as that marked 'Decorator' (now a coffee shop in 2019). This alignment accounts for the ironstone basement which was found being part under the recent pavement.

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Conclusions and future potential

Although little remained of it, the fieldwork has recorded the vestiges of a former ironworking foundry in the centre of Northampton, that of J Potter, and the subject of background archaeological research as far back as 1970. What few remains there were have been recorded.

The Angel Street site takes its place in a much wider planning block which has long been a matter of enquiry without any fieldwork until recently.

In Walker and Soden (2014) it was pointed out that:

‘Part of the (*Vulcan Works*) site was assumed to be the site of the Jews Cemetery by the Northampton Independent newspaper in 1939: The cemetery [of the Jews] at Northampton was on the site of Messrs Phipps and Son’s warehouse in the Guildhall Road and the site was called ‘The Jew’s Garden’ within living memory. Although there is no proven Jewish association with the site, Jewish place-name traditions appear to be correct in around half the cases.

(<http://www.jtrails.org.uk/trails/northampton/places-of-interest>), suggesting that there may have been some connection with the Jewish community in the past. Other research has concluded that the Jewish cemetery was elsewhere within the town, borne out by the discovery of a medieval Jewish grave-marker now in Northampton Museum’ (Roberts 1992).

This long-lived association has not been proven; nor has any evidence been forthcoming to dispute it. There may still be buried evidence, as yet undiscovered, of a site-association with Northampton’s medieval Jewish community.

Underpinning sondages with contributory data from the former Amalgamated Tyres site (St Johns Street; Soden 2018 (4)) and Angel Street, strongly indicate that, for the majority of this planning-block, (unlike the west side of Fetter Street), the land here has not been extensively terraced and this thick horticultural build-up reflects the unbroken historic slope which once pertained across from Bridge Street across to Cow Lane/Swan Street.

Although deeper disturbances will have created exceptions, this same consistent build-up is thought to lie as a protective blanket beneath the 19th-century Vulcan Works with its 20th-century extensions and will have preserved medieval horizons at depths of c1.6m or more over a wide area.

From the works carried out it is therefore suggested that, with the exception of frontage cellars, basements and areas already demonstrated as destroyed by wholesale disturbances (such as the many tanks beneath the former Amalgamated Tyres footprint), the planning block bounded by Angel Street, Fetter Street, St John’s Street and Guildhall Road retains an ongoing potential for future archaeologists for preservation of widespread archaeology at depth, mostly comprising medieval and later horticulture with back-plot occupation and with some contemporary quarrying.

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Appendix

OASIS data

Project Name	Vulcan Works (Angel Street development)
OASIS ID	357177
Project Type	Watching Brief
Originator	Iain Soden Heritage Services Ltd
Project Manager	Iain Soden
Previous/future work	Yes/yes
Current land use	In use as a building
Development type	Regeneration
Reason for investigation	LBC/CAC
National grid reference	SP 75567 60309
Start/end dates of fieldwork	12 April -25 June 2019
Archive recipient	Northampton Museum
Study area	0.5ha



Iain Soden Heritage Services Ltd

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