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Remedial rebuilding on the City Wall, Hereford.



**Report prepared by
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Herefordshire Archaeology Report No. 303

Herefordshire Archaeology
Environment, Planning and Waste
Places and Communities Directorate
Herefordshire Council

Remedial rebuilding on the City Wall, Hereford.

NGR: SO 507 396
EHE 1909

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Herefordshire Archaeology is Herefordshire Council's county archaeology service. It advises upon the conservation of archaeological and historic landscapes, maintains the county Sites and Monument Record, and carries out conservation and investigative field projects. The County Archaeologist is Dr. Keith Ray.

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Summary:

A length of brick wall, which has been constructed onto the top of the masonry remains of the historic city wall, has begun to lean and is in danger of collapse. The land against the internal (eastern) face of the wall is considerably higher than that on the western side and as a consequence it is assumed that the weight / pressure of the material on the eastern side of the wall, exacerbated by tree growth, is causing the wall to lean out towards the west.

Two evaluation trenches were excavated in order to provide information regarding the foundations of the brick wall, their intersection with the masonry city wall and the depth / nature of archaeological deposits associated with the city defences.

The trenches were excavated on the eastern side of the brick wall within a car park, to the rear of 32 Bridge Street. The northernmost trench (Trench 1) revealed that the city wall survives above the present ground surface and had been cut into in order to insert the kerb and make-up levels for the car park. To the east of the city wall were the remains of a worn stone yard surface onto which the make-up layers of the car park had been built. The southernmost trench (Trench 2), was excavated to a depth of 1m below the present ground surface. At this depth, the top of the city wall was encountered below a series of post-medieval levelling deposits. Immediately to the east of the city wall was a compacted gravel layer which has been identified as part of the material used to construct the defensive rampart.

The brick wall was taken down during June 2013 and the material behind removed to a width of approximately 1m. Root systems from two medium sized trees had to be removed and this necessitated the additional excavation of two areas extending further into the car-park. An archaeological watching brief was held throughout the works and a photographic record was made.

Disclaimer: It should not be assumed that land referred to in this document is accessible to the public. Location plans are indicative only. NGRs are accurate to approximately 10m. Measured dimensions are accurate to within 1m at a scale of 1:500, 0.1m at 1:50, and 0.02m at 1:20.

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Introduction

This report (EHE 1909), provides an account of small scale evaluation excavations carried out by Herefordshire Archaeology. The evaluation was required in order to provide both archaeological and structural information regarding both the brick and historic masonry wall which now form part of the circuit of the city wall. The brick wall, which sits on top of the historic city wall has begun to lean to the west, (into the public car park), and is in danger of collapse. The brick wall therefore requires removal and re-building in order to maintain the boundary and ensure that the area of the car park affected by the unsafe wall can be used without risk. The city wall is a Scheduled Ancient Monument (HE 124), and is located within the Hereford Area of Archaeological Importance as designated by the 1979 Scheduled Ancient Monuments Act.

The fieldwork comprised the excavation and recording of two test pits (approximately 1.3m long and 1.0m wide immediately adjacent to the internal face of the line of the city wall at the rear of 32 Bridge Street, Hereford. The excavation took place on Thursday 22nd September 2011. Fieldwork was undertaken by Herefordshire Archaeology staff in accordance with a project design dated April 2011.

An archaeological watching brief was undertaken throughout June and into July of 2013. This covered the taking down of the leaning portion of brick wall, the cleaning off of the top of the stone city wall and the excavation of two localised areas behind the wall due to the presence of tree bowls.

Aims and objectives

The western boundary of the site is located over the line of the city wall. This boundary currently comprises the masonry remains of the historic city wall, onto which a 19th or early 20th century brick wall has been constructed. The brick wall has begun to lean to the west and is in danger of collapse.

The aim of the fieldwork was to provide information regarding the depth and thickness of the masonry remains of the city wall. In addition to this it was hoped that the excavations would provide information concerning the bonding of the brick wall to the masonry wall together with the nature and survival of significant archaeological deposits associated with the medieval city defences.

This information was used to inform the process of removing and re-building the brick wall in such a way that the historic fabric of the city wall, together with any associated significant archaeological deposits, were not compromised.

The 2013 work was undertaken as an archaeological watching brief in order to record the works and to examine the deposits to the rear of the wall in greater detail.

Background history and previous archaeological work

The medieval cathedral city of Hereford has been surrounded by its stone walls for about eight centuries, though it has been fortified for even longer. Militarily obsolete since the end of the Civil War, the gates were all demolished in the 1790s and, with the growth of the Victorian city, stretches of the walls were demolished or concealed behind new buildings.

By the eve of the Second World War the city was facing a growing problem as the steadily increasing volume of through-traffic, still following its medieval route through High Town, Broad Street and across the old Wye Bridge, was causing accidents, congestion, pollution and damage to historic buildings. The strategic solution arrived at by central government was to bypass the city to the west, widening Victoria Street and building a new bridge over the river. The city's response was that a circulatory boulevard should be linked to such a scheme, carrying traffic around the north side of the city to take further pressure off the ancient central streets.

It was to be another twenty years before work on the A49 improvements and the inner relief road was completed, construction work having finally commenced in 1965. The best-preserved sections of the western wall facing Victoria Street were cleared of superincumbent buildings, restored by specially-trained masons and opened up to public view; further sections on Blue School Street and Bath Street were accorded similar treatment.

It is now forty-two years since the completion of Victoria Street, the inner relief road and the associated restoration of the defences. Since then parts of the city walls, particularly but not invariably those parts in private ownership, have deteriorated significantly, to the extent that they appear on the current *Heritage at Risk Register* (English Heritage 2009), 'condition poor', priority category 'C'. For this reason a conservation management plan for the defences has been prepared (Baker 2011); this identifies the propped brickwork that forms the subject of this report as one of the most acute defects to be found around the monument.

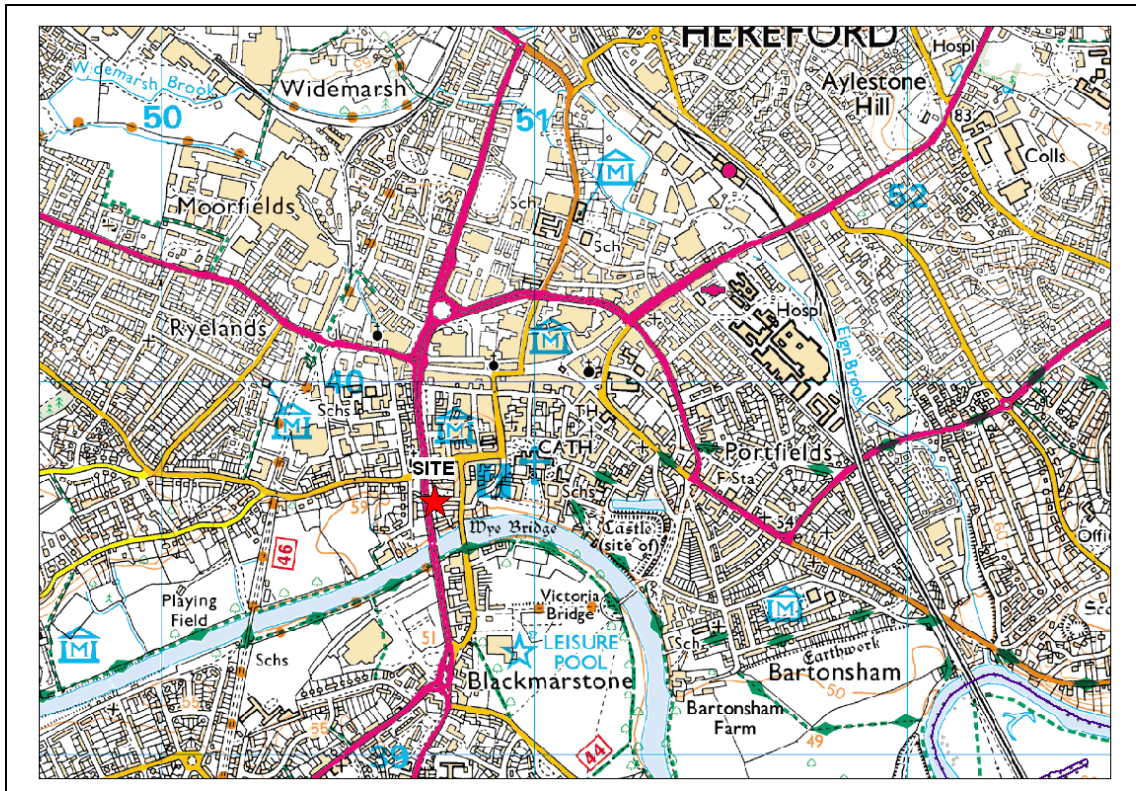


Figure 1: location of the site within the City of Hereford.

The city wall between Greyfriars Surgery and the Black Lion:Description

This section, currently distinguished by its propped brickwork, interrupts one of the best-preserved stretches of Hereford's medieval defences. The city wall fabric either side of the brick section consists of courses of large blocks of roughly square proportions separated by much thinner courses of flat stones, used for levelling up the main courses during the construction process. This fabric type can be identified on the adjacent bastion (Bastion 2), further north along the wall on Victoria Street (Bastion 4), and on the north side of the city facing New Market Street and Blue School Street, and is clearly 'primary build' masonry, undisturbed since it was built in the 13th or 14th century.

The city wall fabric here was recorded stone by stone in 1997 by Archaeological Investigations Ltd (Boucher and Shoemith 1997, sections N and O). The survey preceded local repairs by Hereford City Council in the SPAB tradition (voids filled by tile courses set back behind the main wall plane), though the repairs appear to have been confined to the stonework and the brickwork left unaffected. The brickwork itself is laid to an inconsistently applied Garden Wall bond, average brick size 6cm x 10.5cm x 22cm (c. 2.5 x 4 x 8.5 ins) and is of probable 18th- or early 19th-century date. At the northern end of the section the city wall fabric survives to a height of six main courses (c.1.6m high) visible externally. The surviving top of the city wall fabric then steps down, leaving only one to two main courses at the base of the propped brickwork. The point at which the stonework reduces in height approximately

coincides with a straight joint in the superincumbent brickwork, suggestive of a former property boundary. To the south, at the end of the propped section, the stonework returns to a height of about fourteen courses (c.3.8m), coincident with the Black Lion property and its last outbuilding, whose gable end is built into the wall.



Plate 1: Northern end of the wall section: the city wall fabric is reduced in height, coinciding with a straight joint in the brickwork above. Trench 1 lies behind the wall on the left hand (northern) edge of this photo.



Plate 2: The central stretch of the propped brickwork with the city wall fabric reduced to two or three courses. The weathering of the brickwork approximately mid-height is particularly noticeable here



Plate 3: The southern end of the propped section showing its junction with the Black Lion outbuilding. Trench 2 lies behind the brickwork here

Location

The site is situated at SO 507 396, to the rear of 32 Bridge Street within the Saxon and medieval defensive circuit of Hereford City. The line of the city wall forms the western boundary of the Bridge Street property.

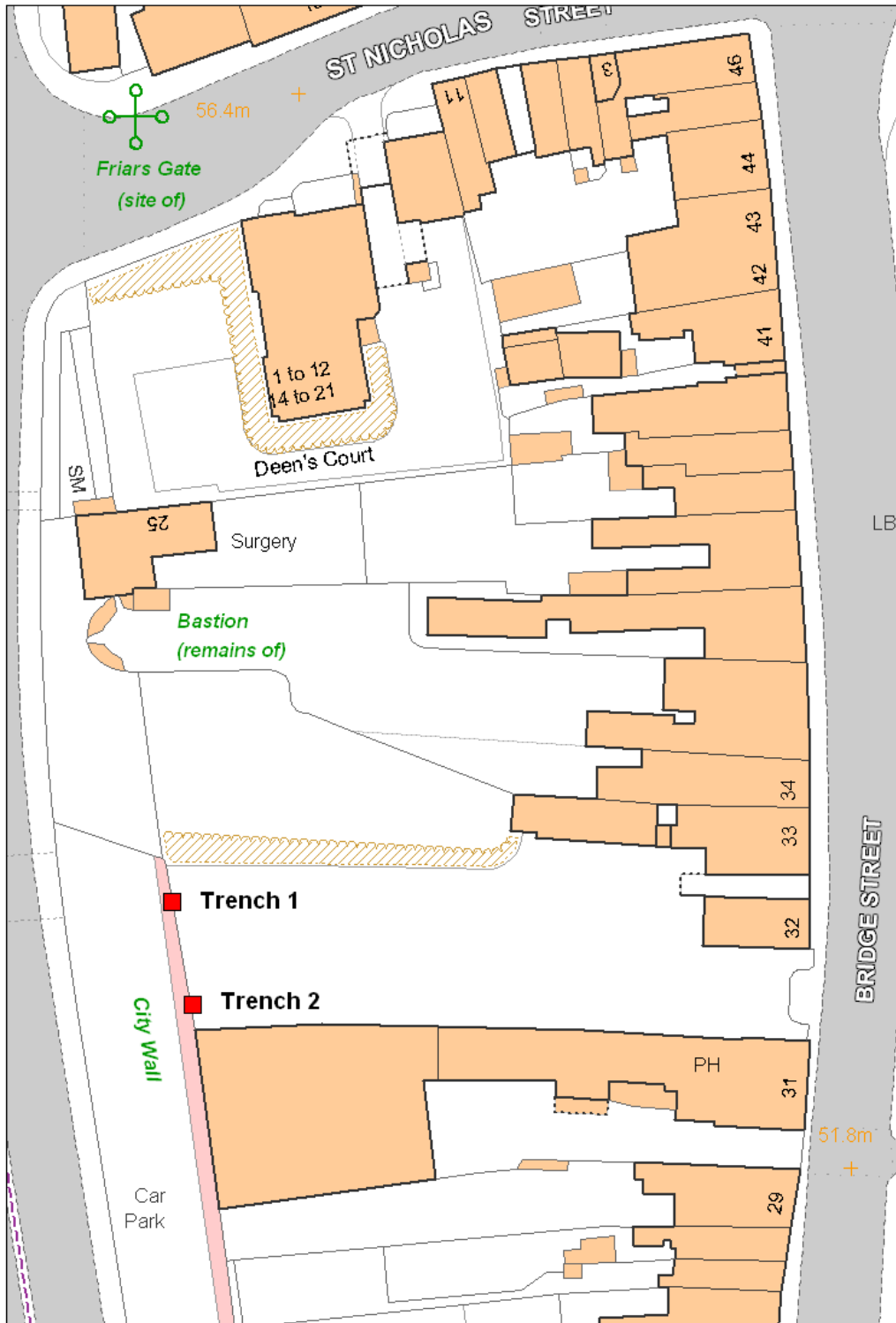


Figure 2: Plan showing locations of Trenches 1 & 2 in relation to the City wall and Bridge Street.

The site is currently a private car park on the eastern, (Bridge Street), side of the city wall whilst the western side of the wall, (which was part of the City ditch in the medieval period), is a public car park. The ground surface of the public car park is approximately 1.4m lower than that of the ground surface to the east of the wall. Due to this difference in height, the masonry remains of the historic city wall are visible on the western (outer) side only.

The two evaluation trenches were located in such a way as to record the differing depths of the top of the historic masonry remains of the city wall. In order to do this Trench 1 was located at a point where the masonry remains were visible at the present ground level, and Trench 2 was located where the masonry remains were buried below the present ground surface.

Fieldwork in 2011

The tarmac and concrete kerbing were removed by pneumatic hammer from both trenches. Due to the shallow nature of Trench 1, all other excavation was undertaken by hand. The top deposits within Trench 2 were excavated by machine to a depth of approximately 0.65m, (under close archaeological supervision). Excavation was then continued by hand down to the top of the masonry wall.

The southern sections of both trenches were recorded both photographically and by scaled drawing. A plan of the contents of each trench was also produced using these methods.

Trench 1:

This was located close to the northern side of the car park, immediately adjacent to the brick wall. At this location the top course of the historic masonry wall was visible above the present ground surface.

Upon the removal of the kerb and tarmac together with its underlying concrete and scalping levels, a layer of large stones became apparent, (see plate 4). After cleaning the stones resolved themselves into two distinct features. The stones within the western half of the trench (101) were bonded by a white, lime mortar containing small inclusions of crushed tile or brick. This represents the masonry remains of the top of the city wall which has been cut into in order to insert the modern kerb. The stones to the east of this (102) were set into a redder / buff coloured mortar and were generally less angular and more worn, they were also laid flat. Although not investigated, it would seem that these stones, (102), represent a well used area of hard standing / yard or floor surface, which butted up against the city wall. It would appear that this feature was utilised as a solid base for the construction of the present car park.



Plate 4: Trench 1 plan view, showing redder, more worn stones in top half of trench, compared to larger, more angular stone in lower half of trench.



Plate 5: Southern section of Trench 1 showing city wall cut into by modern Kerb and associated levels.

The results from this evaluation trench would suggest that the city wall was approximately 0.8m in thickness at this point. The eastern half of the wall appears to have been cut out during the construction of the car park in order to create enough depth to insert the kerb. The area of hard standing (102) is of unknown date.

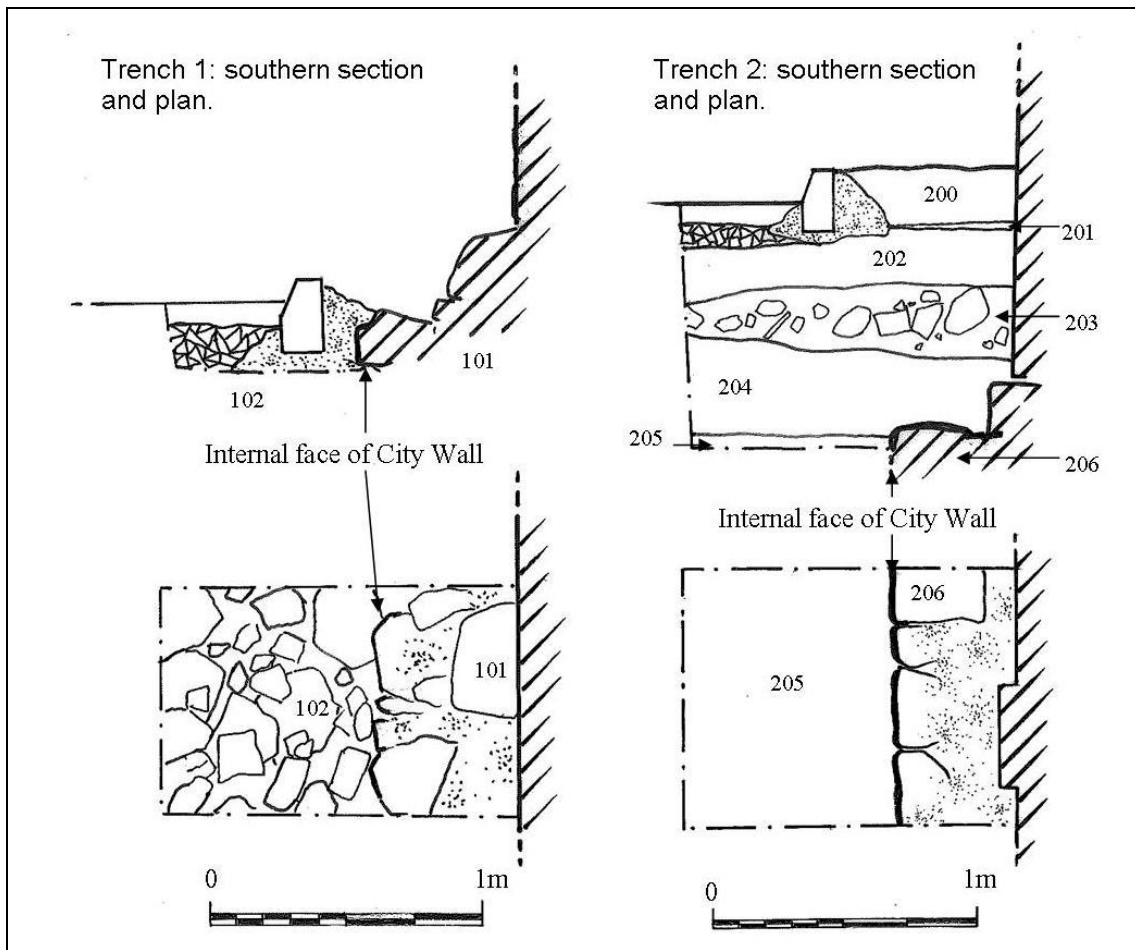


Figure 3: Southern sections (North facing) and plans of Trench 1 and Trench 2

Trench 2:

Trench 2 was located close to the south-western corner of the car park immediately adjacent to the brick wall. At this location the brick wall leans to the west and is currently being supported by a series of wooden supports / buttresses on its western side as a remedial measure.

Below the kerb, tarmac and flower bed deposits, was a layer of gravel and ash (201). This overlay a series of 19th and early 20th-century layers of demolition debris and dark earth, (202), (203) and (204). These continued to a depth of 0.95m below the present tarmac surface, at which point the top of the historic masonry wall was recorded, (206). This appeared to be well coursed and bonded with a white / cream lime mortar similar in fabric to that recorded within Trench 1. The exposed wall top was flat, suggesting that its height had been reduced to a common stone course in order to construct the brick wall. The city wall appears to be approximately 0.7m wide at this location. Material to the east of the wall, (205), comprised a deposit of very well compacted gravel, similar to deposits recorded elsewhere on the city defences where it

has been identified as material used to construct the defensive ramparts. It would appear that the city wall has been cut into this deposit.



Plate 6: Looking west, showing intersection of the brick wall onto the top of the remains of the City Wall.



Plate 7: Plan view of Trench 2 upon completion of the excavation.

Discussion

The evaluation trenches have confirmed the thickness and depth of the city wall at two locations within the car park. The difference in depth of the historic masonry wall recorded in the two trenches corresponds exactly with the differences in its height visible in its external face. Within both trenches the wall appears of a similar thickness (0.7-0.8m) and to be bonded by a lime mortar. It would appear that the noticeable lean of the brick wall (particularly within Trench 2), is a direct result of the depth of material dumped behind it (layers (202), (203) and (204)), when compared to the thickness of the brick wall. The growth of two small trees in the gap between the inside face of the wall and the concrete car-park kerb is likely to have exacerbated the situation, root growth forcing the wall out further.

The difference in archaeological stratigraphy between the two trenches is of interest. The substantial depth of modern (19th and early 20th-century) deposits of dumped, un-compacted soil and rubble within Trench 2 is clearly not present within Trench 1. This suggests that the ground level in the area sampled by Trench 2 has been built up, but that the area around trench 1 to the north has not (or that any such accumulation has been removed). The difference can be accounted for in terms of differential depositional processes in adjacent burgages. The reduction in the height of the surviving city wall fabric and the straight joint in the brickwork above coincide precisely with a property boundary, 12m north of the Black Lion plot, shown on the first edition O.S. 1:500 plan of 1886 but since removed (Figure 4). The terracing on the slope to the north of the car park similarly reflects former burgages (since amalgamated) differentially terraced into or built up from the gradient. The implications of the 2011 test pits are therefore twofold. First, the terraced gradient was once more extensive than now appears, a lower terrace level having been disguised by the raising of levels in the southernmost plot, adjoining the Black Lion. Second, as suspected elsewhere around the circuit, the survival, condition and build of the city wall varies distinctly from plot to plot, reflecting the long period in history in which owners of individual properties have been responsible for 'their' section of city wall.

Further work

The test-pits were excavated as the first stage of the repair process for the failing brickwork. They demonstrate that the city wall masonry is in sound structural condition and that a new brickwork superstructure can be built off the levelled top of the medieval masonry, as has been done in the past. They also show that the deposits inside the wall overlying the top of the masonry are of little archaeological significance and can, under archaeological supervision, be removed as far back as the car-park kerb without loss of information and without compromising the monument.

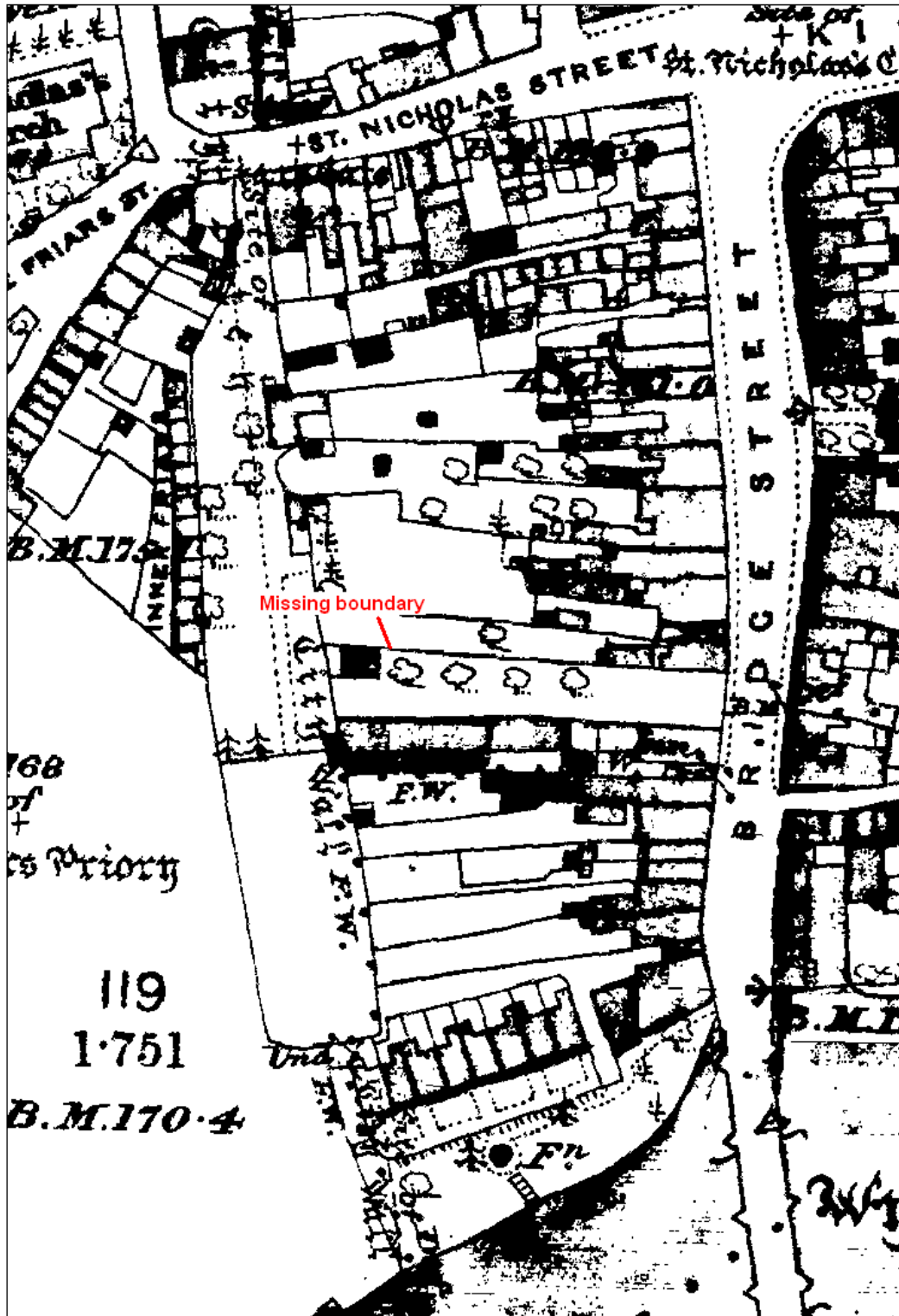


Figure 4: Extract from the first edition O.S. 1:500 plan of 1886 showing the now absent property boundary.

Fieldwork in 2013

Work began in June 2013 and continued into the middle of July. This involved the erection of a scaffolding gantry along the external face of the wall prior to the removal of the brick elements. The brick wall was then removed and any suitable bricks retained for re-use within the replacement wall. After the removal of the brick wall, the material behind it was cut back by approximately 1 metre in order to clean off the top of the underlying masonry wall. This was undertaken by Mini-digger under close archaeological supervision. The presence of two large tree stumps and associated roots to the rear necessitated the excavation of additional material from the rear of the wall in order to remove the stumps without damaging the wall footings.



Plate 8: Southern-most tree stump to rear of wall



Plate 9: Northern tree stump.

The stumps were removed under archaeological supervision and the exposed deposits investigated and recorded. The area immediately around the southern tree stump showed late post medieval make up containing broken tile, glass and scrap metal. The area immediately to the north of the northern-most tree stump, revealed a well built, stone wall bonded with lime mortar, (Plate 10). This survived to a height of 0.9m and was associated with a well preserved flagstone floor.



Plate 10: Masonry return and stone flagstones on line of now missing property boundary.

It is suggested that this structure is part of an out-house / lean too constructed against the internal face of the city wall. The line of the masonry wall corresponds with the now lost boundary shown on the 1st Edition Ordnance Survey Map of 1886, (figure 4).

Conclusions

The watching brief has confirmed the results of the evaluation excavations. To the rear of the brick wall is a considerable thickness of make-up / levelling deposit of late 19th or early 20th century date. This overlies the remains of an outhouse which was attached to the internal face of the city wall and to the property boundary which was lost in the late 19th century.

Site Archive

64 digital photographs
1 site notebook entry
2 sheets of inked drawings
This document

Acknowledgements

Herefordshire Archaeology would like to acknowledge the help and co-operation of the owners and users of the car park for their forbearance during the works and Bridge Street Properties for their kind permission to excavate.

Herefordshire Archaeology would also like to thank Harry Rouse (Amey), S.C.Joseph Ltd, building contractors, and Jeffrey Smith (Amey) for their assistance both during the excavation and the backfilling of the trenches.

Herefordshire Archaeology would also like to thank Bryan Williams of Property Services.

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Bibliography

Baker, N, 2011, 'Hereford City Defences: A conservation management plan'. *Herefordshire Archaeology Report 292*

Boucher, A, and Shoesmith, R, 1997, 'Hereford City Walls: the Greyfriars and Gunners Lane sections'. *Hereford Archaeology Series 311*

Validation

Herefordshire Archaeology operates a validation system for its reports, to provide quality assurance and to comply with Best Value procedures.

This report has been checked for accuracy and clarity of statements of procedure and results.

Dr. Keith Ray, County Archaeologist

