



Wery Wall and Bath House, Castle Hill, Lancaster Lancashire

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Vicki Bullock and Peter Schofield undertook the documentary research, Peter Schofield and Karl Taylor undertook the field survey and the report was compiled by Peter Schofield. The illustrations were produced by Anne Stewardson. Jamie Quartermaine edited the report and also managed the project.

SUMMARY

OA North was asked to undertake a survey of the extant Wery Wall fragment and the Roman bath house remains on Castle Hill, Lancaster (SD 47480 62030) by the Lancaster City Council Conservation Officer. The wall and bath house have sustained limited damage and decay since they were excavated in the 1950s and 1970s, and the exposed masonry is now in need of stabilisation and conservation works. The survey is required to provide a mitigative record of the extant structural remains in advance of these works and to inform future conservation works and presentation of the site. The monument is a scheduled ancient monument, and the archaeological recording is a condition of Scheduled Monument Consent (SM 34987). The Wery Wall is also a Grade II Listed Building (No. 383345).

The Wery Wall is a surviving fragment of the late Roman coastal fort wall located on the eastern scarp of Castle Hill at the north-east corner of the Vicarage Fields, and is immediately adjacent to an earlier bath house relating to an earlier fort, which it partly overlies. The surviving remains of the Wery Wall are thought to represent the core of a polygonal external bastion on the north wall of the defences. Only the inner rubble core of the wall survives, its facing having been robbed for re-use in other buildings at some time before the early eighteenth century.

The currently exposed archaeological features include at least three episodes of construction. Firstly there are walls associated with the earliest courtyard building, secondly a bath house inserted into the courtyard building and, thirdly the surviving remnants of the Wery Wall bastion.

The earliest courtyard building was excavated in the 1950s and again in the 1970s (Figs 2 and 3). The extant walls on the north and west side of the *caldarium*, as well as one inserted through the *tepidarium*, are all associated with bath house inserted into the earliest courtyard building. These structures consist of the complete extents of the *Caldarium* and *Tepidarium* rooms and the partial survival of an annex room, the *Praefurnium*, on the south-west side.

The stump of bastion masonry called the Wery Wall, is the only visible evidence of the late Roman coastal fort, along with its external ditch which would have once surrounded the fort. It was interpreted as being the inner core of a multi-angular bastion, being either a corner or interval tower set along the length of a thinner curtain wall. The external ditch was excavated and preserved where it had cut through either side of the *caldarium* room in the bath house.

The Wery Wall and bath house were subject to a robust scheme of consolidation works (and in some cases rebuilding) in the 1970s in order to improve their stability and to allow them to be left permanently exposed. The site has degenerated to a degree and is now in need of a phase of remedial repair works to stabilise the monuments and enable them to be subject to only minimal maintenance in the future.

It is recommended that the south side of the masonry bastion be cleared to the base of the wall and be consolidated under archaeological supervision with an appropriate retaining wall.

Surviving remnants of a short section of post-medieval garden wall attached to the east side of the bastion masonry are in danger of collapse and as it does so it may

affect the condition of the Wery Wall. It is recommended that the section of wall be dismantled under archaeological supervision. A programme of tree cutting should be implemented to prevent root damage to the Roman masonry.

The interpretation panel for the Wery Wall and bath house should be renewed in a medium that is likely to be more durable than the previous panel.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Oxford Archaeology North (OA North) was asked to undertake a survey of the extant Wery Wall fragment and the Roman bath house remains on Castle Hill, Lancaster (SD 47480 62030) (Fig 1) by the Lancaster City Council Conservation Officer. The wall and bath house have sustained limited damage and decay since they were excavated in the 1950s and 1970s, and the exposed masonry is now in need of stabilisation and conservation works. The proposed survey is required to provide a mitigative record of the extant structural remains in advance of these works, and to inform the conservation works. The survey included a documentary study to identify records from the earlier excavations and to establish the extent to which the condition of the monuments has deteriorated since their original exposure. A drawn and photographic survey of the extant fabric was undertaken to enable an assessment of change since the production of the earlier excavation records. Recommendations were compiled (*Section 4*) to provide guidelines for the conservation and presentation of the site. The monument (SM 34987) is a scheduled ancient monument and the archaeological recording is a condition of Scheduled Monument Consent; the Wery Wall is a Grade II Listed Building (No. 383345).
- 1.1.2 **Location:** the Wery Wall is a surviving fragment of the late Roman (fourth century) fort wall on the steep eastern scarp slope of Castle Hill, and is immediately adjacent to an earlier bath house, relating to an earlier fort, which it partly overlies (Fig 1). The site is to the rear of the present day Mitre House, which was constructed on part of the bath house. Only the rubble core of the wall remains and it has no extant facing stones.

2. HISTORICAL BACKGROUND

2.1 INTRODUCTION

- 2.1.1 The Wery Wall is thought to represent the upstanding remains of part of the late Roman stone fort/installation built on Castle Hill in the fourth century. It was an installation overlying the remains of three earlier Roman forts, and post dated the purported 'bath houses' at the north-east corner of the Vicarage Fields area.
- 2.1.2 Dating evidence for the earliest permanent roman fort on Castle hill at Lancaster is, unfortunately, not ample; however, Shotter (2001, 7) states that the chronological pattern of coin-loss is not inconsistent with a foundation as early as the period of Cerialis's governorship (AD 71-77) and that Lancaster may have been an important rendezvous-point for sea-borne and land-based troops before they proceeded along the Lune and Eden valleys to Carlisle, where the presence of Cerialis's troops is accepted as beyond reasonable doubt (*ibid*). The nature of the first fort cannot be described with certainty, although elements of a fort of turf and timber have been noted in three separate locations, including two external ditches. within Vicarage Field. Little is known about the internal arrangements of the fort, although burnt remains located inside the north rampart have been interpreted as barrack accommodation (Shotter 2001, 8). It is also evident from the configuration of the fort that the main gate lay on its eastern side, so that the line of Church Street represented the main route of access into the fort (*ibid*).
- 2.1.3 Coin-evidence suggests there may have been a break in occupation in the later first century AD before the fort was then substantially extended (*op cit*, 9). A fragment of an inscription, found beneath the Priory Church in 1893, provides evidence that the fort was rebuilt in stone in *c* AD 102 (*op cit*, 10). The location of the north-east corner of the fort was established during excavations in Mitre Yard in 1973 (*ibid*) and the north-west survives as earthworks in Vicarage Field, which have been recently mapped by LiDAR (Plate 1). Coin-loss evidence may indicate the absence of a garrison during the period of Antonine re-occupation of Scotland (AD 140-165) and an inscription records re-building work on the bath-house and *basilica* in the mid-third century (Shotter 2001, 12). Other than this, little else is known of the fabric of the Roman fort on Castle Hill until its complete remodelling on a different alignment in the fourth century.
- 2.1.4 The Roman empire in the third and fourth centuries AD became increasingly embattled by internal and external conflicts and both the eastern and western coasts of Britain suffered from raiding. These problems were sufficient to prompt the development of a new kind of fort architecture. Sometime during the fourth century, perhaps around the AD 330s, a major new, stone-built, military installation was established on Castle Hill, on an alignment that was very different to that of the earlier Roman forts that had occupied the site from the late first century onwards (Shotter and White 1990). It is not clear if the presumed late second to third century fort remained in use up to the time of the new installation was built, or if it had gone out of use some time earlier.
- 2.1.5 The only element of this late installation visible above ground today is the Wery Wall (Plate 2), at the south-east corner of the former Allotment Field. The

surviving remains of the Wery Wall are thought to represent the core of a polygonal external bastion on the north wall of the defences; perhaps at the north-east angle of the late Roman stone fort/installation that was constructed on Castle Hill in the fourth century, and over the remains of the earlier Roman forts. The extent and character of the structure can be surmised from antiquarian reports (*Section 2.1.10*) and partly from excavations (*Section 1.2*). The wall is in excess of 2.5 m thick, and was fronted by a ditch 2.7m wide (Jones and Leather 1988b). At this location, only the inner rubble core of the wall survives, its facing having been robbed for re-use in other buildings at some time before the early eighteenth century (Stukeley 1724).

- 2.1.6 The north wall has also been recorded in two places below ground, south-west of the Wery Wall, but how far it extended in this direction is not known. The exposed portion formed the core of a bastion situated at the north angle of the fort as an interval structure on the wall that would have been used as a mount for heavy artillery. It would appear that the fort was an urgent requirement as the outer defences were built across the bath-house of a large courtyard house to the north of the original fort that had been demolished for this purpose (*ibid*). The alignment of the fort was also different, and evidently also required the demolition of large parts of the original fort and its defences. No information has been recovered on the internal structures of this fort although evidence from pottery and coins from Castle Hill suggest that the fort site remained in use into at least the early fifth century (*op cit*, 27).
- 2.1.7 It is clear that in the eighteenth century, at least, more of the wall was visible (Shotter 2001, 24); antiquarian commentators have frequently noted the numerous Roman finds from Lancaster (eg West 1778). From their distribution, it is apparent that a substantial extramural settlement lay beyond the east gate of the fort, and there is little doubt that Church Street, running down along a low sandy ridge from Castle Hill to Stonewell, preserves the line of the Roman road, and was the principal road of the extramural settlement.
- 2.1.8 Roman finds have been collected and reported from Church Street for three centuries or more. In recent years commercial development in the city has centred around this area, at first piecemeal, but more recently with major redevelopment of the former Mitchell's Brewery Site, Damside Bus Station, and Pye's Warehouse (on Damside Street). Circumstance has allowed a more coherent picture of the extramural settlement to be built up from the numerous small excavations than has been possible for the fort, and the excavations (in 1988, 1992, 1999 and 2000) on the site of Mitchell's Brewery have added significantly to that picture (Howard-Davis *et al* forthcoming). It seems that development of the extramural settlement lagged slightly behind the fort, the settlement probably not flourishing until the beginning of the second century. It had been thought, from lack of evidence, that the civil settlement had largely failed in this eastern area by the end of the second / early third century. The range of fourth-century finds, however, from the uncellared Mitchell's Brewery site (*ibid*) has demonstrated that this apparent failure is the result of extensive cellaring in the city centre, which has effectively obliterated the later Roman and early medieval levels from the street frontage.
- 2.1.9 Little is known of the area to the west of Castle Hill, although Roman material was encountered during the construction of Castle Station, and in 1934-5 burials

were excavated on the site of Westfield Memorial Village (Penney 1981). It is highly unlikely that settlement extended far on the western side, as most of the residential area, known today as the Marsh, was not drained until the nineteenth century. Prior to undertaking the Lancaster UAD, the spread of evidence had suggested that Roman Lancaster was, in fact, appreciably larger than its medieval successor. However, the distribution of known medieval monuments indicates that, while the town may have taken a slightly different form at this time, its extent was similar to that of the Roman settlement.

- 2.1.10 ***Survival of the Wery Wall:*** at this location, only the inner rubble core of the wall survives, its facing having been robbed for re-use in other buildings at some time before the early eighteenth century (Stukeley 1724). Stukeley provides evidence for its original extent: ‘...A year or two ago a great parcel of it was destroyed with much labour. This reached quite to the Bridge Lane and hung over the street at the head of the precipice in a dreadful manner: it went round the verge of the close north of the church, and took in the whole circuit of the hill, and the ditch on the north side of it is now to be seen. I suppose it enclosed the whole top of the hill where the church and castle stand’ (Stukeley 1724, 38).
- 2.1.11 Another visible section of the wall had survived, until its destruction shortly after 1778, near the footpath at the west end of St Mary’s Priory (West 1778). West also amends Stukeley’s comments on the original wall’s extent by reporting: ‘The father of the late William Bradshaw, Esq, of Halton, remembered the Wery Wall projecting directly to the river. ...At bridge Lane this wall makes an angle, and runs along the brow of the hill behind the houses in a line to Church Street, which it crosses about Covell-cross. This is attested by the owners of the gardens, who have met with it in that direction...’ (West 1778, 17).

2.2 PREVIOUS ARCHAEOLOGICAL INTERVENTIONS

- 2.2.1 ***Newstead and Droop - 1929-30 (UAD Event 156):*** archaeological excavations were undertaken in Vicarage Fields, near the eastern end of the Priory Church, by Newstead and Droop at some time between 1927 and 1929 and produced numerous finds of reportedly Neolithic (perhaps Bronze Age), Roman, medieval, and post-medieval date. A total of eight trenches was excavated, five across the lines of what are thought to have been the defences of the Roman fort, and three at locations throughout its interior.
- 2.2.2 These excavations established that the north wall of the late Roman fort is also present in two places below ground to the south-west of the Wery Wall, but how far it ran in this direction is not known (Newstead and Droop 1929). On the south, what appears to have been a gate in the south wall of the installation, has been observed close to the junction of Church Street and Bridge Lane, though the fragment of walling seen here did share precisely the same alignment as the north wall. No trace of the western and eastern defences of the late fort has been found to date, and it has been suggested that the installation may never have had an east wall, but was, perhaps, a three-sided (even curvilinear) enclosure designed to defend a harbour or landing stage on the River Lune.

- 2.2.3 **Richmond, 1950 and 1958 (UAD Events 157 and 172):** archaeological excavations undertaken in the area of the Wery Wall produced several Roman period finds, including pottery, glass, and a single jet bead (Museum accession number: 50.29/1-) (Richmond 1959) (Plates 3 and 4). These excavations were undertaken by Professor IA Richmond of Oxford University, at some time during 1958, and revealed extensive Roman deposits, including those relating to the second century bath house at this site. The finds accessioned by the Lancaster City Museum included pottery (though not Samian ware) and glass.
- 2.2.4 **Leather, 1970-73 (UAD Event 191):** in 1970, the Lancaster Civic Society (an archaeological group), opened five trenches in Vicarage Fields with the object of locating the line of the Wery Wall (Leather 1972; 1979) (Plates 5, 6, 30 and 11). During the course of excavations, the fourth-century ditch in front of the wall's line was located, approximately 5m west of Richmond's bastion, and a section of the wall was observed in the rear garden of 96 Church Street. In 1973 work was also undertaken by Lancaster Archaeology Society to discover the relationship between the ditch, the 'bastion' and Richmond's 'courtyard house' (Leather 1979).
- 2.2.5 **Jones 1971 (UAD Event 153):** an archaeological excavation in the western area of Vicarage Fields by GDB Jones (Manchester University Archaeology Department) in July 1971, revealed extensive Roman, medieval, and post-medieval deposits and finds. These excavations were focused on the north-west part of the area, where the Roman fort is thought to have been, and they were concerned primarily with investigating the western and northern defences (Jones and Shotter 1988). The western defences were cut by a 35m long trench, and a second trench was cut to explore the fort's interior, parallel to and south of the first trench. According to Lancaster City Museum accession information, non-archaeological excavations were undertaken in Vicarage Fields at some point during 1972 (UAD Event 152). Numerous Roman finds were recovered, including metal (bronze and iron), glass, pottery and coins. No other details on the nature of these discoveries is available.
- 2.2.6 **Leather, G, New Vicarage, General Accident Assurance, 1976 (UAD Event 192):** this archaeological excavation was undertaken in two parts: the first part was the excavation of an area measuring 6.0m by 9.0m in the garden of Bushell Cottage, oriented north-south along the eastern side of Castle Hill, and a second followed the demolition of the cottage. The turf rampart of the northern defences of the earliest fort, and the intervallum road to its south, were dated to the first or the early second century. Following the abandonment or disuse of the fort, the area appears to have been built over with timber buildings during the second century.

3. RESULTS OF THE ARCHAEOLOGICAL SURVEY

3.1 INTRODUCTION

- 3.1.1 The results of the archaeological survey consider the archaeological features which are currently exposed within the fenced-off area of the bath house/courtyard building and Wery Wall, the evidence for consolidation works previously undertaken on the monuments, and finally, the present condition of the monuments.

3.2 SURVIVING ARCHAEOLOGICAL FEATURES

- 3.2.1 The currently exposed archaeological features include at least three episodes of archaeological construction. The earliest are walls associated with the earliest courtyard building, followed by the insertion of the bath house into the courtyard building and, finally the surviving remnants of the Wery Wall bastion.
- 3.2.2 **Courtyard Buildings:** the earliest courtyard building was excavated in the 1950s and again in the 1970s (Figs 2 and 3). There is no surviving exposed evidence of the later courtyard building that had been rebuilt over the first; a small stub of wall had been excavated adjacent to the western edge of the Wery Wall bastion but this was then removed. The earliest phase of courtyard building had itself a complex series of constructions, modifications and rebuilding (Plates 3-5). The extant walls on the north and west side of the *caldarium*, as well as one exposed within the interior of the *tepidarium*, are all associated with the several phases of construction in the earliest courtyard building.
- 3.2.3 **Bath House:** the second area of construction relates to the bath house buildings that had been inserted into the earliest phased courtyard house. These structures consist of the complete rooms of the *cCaldarium* and *tepidarium* and the partial survival of an annex room, the *praefurnium*, on the south-west side (Plates 8 - 14). The *caldarium* contained a number of both *in-situ* and displaced wasp-waisted stone *pilae* which would have supported the floor of the room (Plate 15), and an elaborate flue, or fire hole, was exposed on the south end of the room (Plate 16). The east and west walls had also been cut by the later construction of the external ditch for the Wery Wall (Plate 17). The *tepidarium* contained one large rectangular pedestal *pila* used to support the floor and an intact flue/fire hole in the west wall elevation (Plates 9-11). A wall, part of a phase of the earliest courtyard building, was extant within the interior of the *tepidarium* (Plates 18 and 19). The *praefurnium* was excavated after the construction of Mitre House, when the south end of the room had been destroyed before it could be recorded. Partial remains of the west wall elevation of the room survive, as do stepped internal walls, flush with the north end of the room, that are on either side of the flue/fire hole to the *caldarium*.
- 3.2.4 **Wery Wall:** the only visible surviving evidence of the late Roman coastal fort, consists the stump of masonry known as the 'Wery Wall' that is located east of the bath house (Plates 20-22) and the external ditch that would have once surrounded the fort (Plates 17 and 23). This was interpreted as being the inner

core of a multi-angular bastion, being either a corner or interval tower set along the length of a thinner curtain wall (Plates 24 and 25). The foundation stones were cut to form a parallelogram on which was set the massive first course (Jones and Shotter 1988, 80). Shortly after the construction of the foundation courses was started, the structure was enlarged on the northern side and a rough cobble base was added, possibly to consolidate the bastion against future subsidence into the external ditch (*ibid*).

- 3.2.5 The external ditch was excavated and preserved where it had been cut through either side of the *caldarium* room in the bath house. The foundations of the Wery Wall were excavated in the area running west of the bastion during the main 1973 excavations in the north of Mitre Yard (Plate 26) (Jones *et al* 1988). The foundation of the wall was subsequently destroyed by the construction of Mitre House and no evidence of the curtain wall remains. Other evidence of the coastal fort located away from the bath house included a putative section of the fort wall excavated in Trench 6 of the 1970 excavations to the north of the Old Vicarage (Fig 2). In addition, both sides of the putative south gate of the fort were excavated at the south end of Mitre Yard during the 1973 excavations (Plate 27).

3.3 EVIDENCE OF CONSOLIDATION AND REPAIR

- 3.3.1 The Wery Wall and bath house were subject to a robust scheme of consolidation works (and in some cases rebuilding) in the 1970s in order to improve their stability and to allow them to be left permanently exposed (Plate 23). The site has degenerated to a degree and is now in need of a phase of remedial repair works to stabilise the monuments and enable them to be subject to only minimal maintenance in the future.
- 3.3.2 **Wery Wall:** the north side of the masonry bastion was excavated in 1950 and again in the 1970s and the stratigraphy was fully excavated beneath the northern lip of the masonry footings (Plate 19). At this date the northern side of the base of the surviving masonry was consolidated. The consolidation work on this side had involved building up the ground level to roughly 0.25m above the base of the masonry footing and containing it within a retaining wall running along the east side of the bath house (Plate 28). On the downslope, west side of the retaining wall, the base of the masonry was faced with a small curvilinear sandstone wall, which remains intact (Plate 29).
- 3.3.3 The south side of the bastion masonry had been excavated down to the base of the wall footings in 1927 and had been left exposed into the 1970s (Plate 20). The base of the wall was not consolidated in the 1970s as it had been on the north side, but apparently the ground level was built up by roughly 0.25m-0.3m above the base of the masonry (Plate 2).
- 3.3.4 The superstructure of the bastion masonry was consolidated with a cement mortar prior to the 1970s (Plates 21 and 22). It is, however, uncertain if any further consolidation of the masonry occurred when the two post-medieval garden walls were removed from the top of the structure in the 1970s.
- 3.3.5 **Bath House:** the bath house has clearly been subject to an extensive scheme of consolidation work in places, to judge by the 1970s excavation photographs (Plates 15, 17, 31 and 32). This 1970s scheme evidently also included

rationalisation of the walls, including either the removal of stones or the rebuilding of parts of certain walls to leave uniform wall edges exposed across the site (Plate 23). A retaining wall was constructed on the east side of the bath house, running north of the north side of the Wery Wall (Plate 28). The ground level was built up on site, presumably from the spoil heaps of the excavations, to a uniform level and retaining walls were placed on either side of the exposed sections of the excavated ditch external to the original line of the Wery Wall. A cement mortar was uniformly applied to consolidate the walls of the bath house, unfortunately there is no distinction between what is original wall fabric and what has been rebuilt. The stone *pilae* that would have supported the floor within the *caldarium* were left standing *in situ* in the 1970s consolidation works and the internal excavated areas of the *caldarium*, *tepidarium* and *praefurnium* rooms, that had been left exposed, were covered in gravel. The excavated sections of the external ditch of the Wery Wall were supported on the outer edges by modern retaining walls and the built-up/restored ground levels (external to the rooms left exposed) were turf-covered (Plates 23 and 33).

3.2 CONDITION OF THE MONUMENTS

- 3.2.1 **Wery Wall:** the built-up consolidated masonry around the base of the Wery Wall bastion masonry has suffered a degree of erosion due both to unauthorised visitor access to the site and to the dynamics of the loose soil strata and the nearby steep slope (Plate 2). This has, however, only had a limited effect on the structural integrity of the monument. The small 1970s curvilinear sandstone retaining wall at the foot of the north side of the structure remains intact (Plates 33 and 29). The south side of the structure has started to become eroded at the base, however, and is now slightly undercut (Plate 34). Other than at the base of the south side of the bastion, the structural integrity of the rubble fabric in the Wery Wall bastion has remained entirely intact (Plates 29, 33-41). Some of the cement mortar, set between the rubble, however, has now become detached in places due to frost action.
- 3.2.2 **Bath House and Courtyard House:** the surviving walls of the exposed buildings have been robustly consolidated with cement mortar throughout the site. In places, particularly on the vertical sides of the walls, the mortar has become fractured or detached due to frost action. This has not, as yet, compromised the structural integrity of the walls themselves and there is little evidence of wall fabric being displaced. The very eastern tip of the courtyard building wall, where it sits on top of the modern retaining wall on the east of the site, has become displaced. This small section may have, however, been previously rebuilt when the retaining wall was constructed. All retaining walls constructed in the 1970s consolidation works remain sound and the grass-covered profiles of the external Wery Wall ditch, on either side of the *caldarium*, remain intact. Several of the wasp-shaped stone *pilae* within the *caldarium* room have become displaced from their original (or 1970s consolidation) positions and the fire tunnel on the south side of the room has been damaged (Plate 14). A small carved column base, that had been excavated in the *caldarium* (but not shown on the excavation drawings), has become displaced and now resides in the north-east corner of the fenced enclosure (Fig 3).

4. RECOMMENDATIONS

4.1 INTRODUCTION

- 4.1.1 The area containing the bath House/Wery Wall is a Scheduled Ancient Monument (SM 34987), and the Wery Wall is a Grade II Listed Building (no. 383345). As such, consent is required from English Heritage prior to undertaking any intrusive consolidation works.

4.2 HIGH PRIORITY ACTIONS

- 4.2.1 ***Consolidate exposed base of the Wery Wall bastion masonry:*** it is recommended that the south side of the masonry bastion be cleared to the base of the wall and be consolidated under archaeological supervision with a retaining wall in a similar style to that on the north side. The wall should be constructed in a visually different building material, and the mortar used between the stones should be of a different colour to the rest of the bastion masonry so that the new walling is distinctly different from that of the historic fabric.
- 4.2.2 ***Removal of the Garden Wall:*** there are surviving remnants of a short section of post-medieval garden wall attached to the east side of the bastion masonry (Plate 41). The wall is actively eroding at the interface between it and the bastion masonry (Plate 42) and, as a section of free-standing wall, it may become dangerous with further erosion. It is recommended that this section of garden wall be dismantled under archaeological supervision down to the current ground level.
- 4.2.3 ***Removal of the railings on the Wery Wall and renewal of enclosure on east side of the bath house:*** a small section of the iron railings surrounding the bath house uses the north side of the bastion masonry as an anchoring point. This section of railings should be carefully removed and extended to enclose the entire of the bastion masonry within the bath house area. New railings should not be placed immediately adjacent to the bastion masonry of the wall. The removal of the garden wall (*Section 4.2.3*) would be required before the new boundary could be built. Excavation of new fence posts would require Scheduled Monument consent and suitable archaeological monitoring.
- 4.2.4 ***Scheme of on-site maintenance:*** trees have become established adjacent to the north side of the Wery Wall beneath the retaining wall and may make the wall vulnerable to root action (Plate 8). The trees should be felled, the stumps ground down to ground level and treated to stop regrowth. Within the bath house the gravelled areas within the separate rooms should be cleared of vegetation, and the gravel should be removed. A terram layer should be put down to stop weed growth and a new layer of gravel medium placed on top that is suitable to drain the site in bad weather. It may also be necessary to renew the grass sward on the areas surrounding the bath house with a hard-wearing/low-maintenance grass species. A structured timetable of grass cutting and general site husbandry should be planned for the site.
- 4.2.5 ***Site interpretation:*** the Wery Wall and bath house are served by a single heavily damaged interpretative display panel. For such a historically complex

site there is scope for one, and possibly two, new display panels to be constructed external to the fenced boundary; these should recount the history of both the bath house and the Wery Wall. It is envisaged that the interpretation boards could take the form of secured metal panels with coloured engraved and embossed surface detail, a standard urban solution for site interpretation where vandalism is an issue.

- 4.2.6 The current visitor experience and understanding of the site is hampered by lack of access and, particularly with children and wheelchair users, a lack of good views of the site from behind the fence. One solution could be the construction a ramped viewing platform on the sloping ground on the west side of the site, with wheelchair access to it via a consolidated footpath leading from Vicarage Lane. Should the viewing platform be placed near the fence enclosing the site the spikes on top of the fence should be removed to improve visibility

4.3 MEDIUM PRIORITY ACTIONS

- 4.3.1 ***Consolidate mortar between stones on Wery Wall:*** it is recommended that, if it is possible to do so without damaging the fabric of the bastion, the mortar should be removed and repaired using a more sympathetic lime mortar medium. Advice on methodology for the process should be sought from English Heritage building specialists.
- 4.3.2 ***Consolidation to fabric of the bath house:*** a cement mortar was uniformly applied to consolidate the walls of the bath house, but unfortunately, there is no distinction between what is original wall fabric and what has been rebuilt. The cement mortar is mostly intact across the bath house and there are a few areas of damage to the walls. Should the walls require repair it is recommended that the mortar should be removed and repaired using a more sympathetic lime mortar medium. Advice on methodology for the process should be sought from English Heritage building specialists.
- 4.3.3 Several of the stone *pilae* within the *caldarium* room have become displaced from their original (or 1970s consolidation) positions and the fire tunnel on the south side of the room has been damaged. It is recommended that, using the excavation plans and photographs, an attempt should be made to place and secure them back to their original positions.
- 4.3.4 ***Enclosure of Site:*** the fence surrounding the bath house remains unsecured as the gate adjacent to the Wery Wall is open. Should the security of excluding public access to the site be a prime consideration, a new fence layout may be required. The main problem is access into the site from the steep area of ground to the east, beneath Mitre House. This steep slope is not secured and is clearly a safety issue, as well as allowing erosion from visitors. The area beneath the foundations of Mitre House has evidently become a focal point for people drinking and one option may be to fence off access to this slope.

4.4 LOW PRIORITY ACTIONS

- 4.4.1 ***Consolidation of the slope to east of the site:*** continuing soil erosion on the steep slope east of the site may impact upon the structural integrity of both exposed structural features, in particular the bastion masonry of the Wery Wall

and sub-surface archaeological remains. The scale of the problem is particularly evident surrounding the foundations of Mitre House where soil has eroded to such an extent that a large section of the foundations are protruding into mid-air. It is currently uncertain to what degree visitor activity and/or water action has caused this. Erosion is not so evident adjacent to the archaeological monuments but must be monitored. One solution may be to consolidate the top of the slope to reduce further erosion. A scheme of drainage, possibly including shallow French drains, could take surface run-off water away from the monument. The ground surface on the top break of slope could be stabilised and bound together using a strengthening matrix. There are many readily available commercial options for slope stabilisation such as coir matting or flexible reinforced segmented plastic matting that in turn could be covered in a grass sward, that have in many cases been shown to work on archaeological sites where erosion is an issue.

5. BIBLIOGRAPHY

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LM2003.41/386-438, file containing correspondence mainly on 1973 Lancaster excavations (Mitre Yard):

(386-9 - 4 photographs by A W Gillham showing 1973 excavations, in packet marked 'Photographs from Portakabin Wall')

386 northern end of Mitre Yard, looking west

387 northern end of Mitre Yard, looking north

388 eastern side of excavations, next to car park

LM2003.41/439-444, papers etc relating to Manchester University's 1971 excavations on Vicarage Field:

441 Sketch plan showing location of trenches in 1971

442 Another (as above)

LM2003.41/445-449, various rolled drawings:

449 Drawing of part sections and plans of the military bath-house by T W Potter, 1974. [Not used in Jones and Shotter]

LM2003.41/450-456, Roll of drawings marked 'Bath House Sections', but not all are such:

450 Section of trench entitled 'Lancaster 1971 Western Defences', see Jones and Shotter, 27

451 Bath House I section, see Jones and Shotter, 70 (Fig.27)

452 Plan of excavations on W Vicarage Field, 1971 (part of the composite Jones and Shotter Fig.8, p29.

LM2003.41/457-470, roll of drawings labelled 'Vicarage Field Dig Drawings':

459 Dyeline of section at Bath House I, northern Vicarage Field, 1975

461-2 Sections at Wery Wall, 1973 (Jones and Shotter, fig. 26, p 70)

463 Sections of Trench 4a and 4b in western Vicarage Field, 1972, by G M Leather

464 Dyeline Bath House I and Wery Wall, development sequence (Jones and Shotter fig. 22, p 62)

LM2003.41/471-478, roll of drawings labelled 'Bath House Dig':

- 471 Dyeline development sequence of Bath House, as 464
- 472 Lancaster 1958 and 1965, site plan showing extent of Prof. Richmond's excavations
- 473 Dyeline plan of Bath House, July 1973
- 474 Dyeline plan of Bath House, updated to July 1974 - Excavation plan L73/21: Lancaster Bath House – Northern Vicarage Fields, scale 1:50, by GM Leather, dated 16th July 1973, revised 5th July 1974 (*used in Fig 3 of current report*)
- 475 Dyeline section and wall elevation, Bath House (roughly as shown in Jones and Shotter fig. 25, p 68)
- 476 Dyeline site plan of Castle Hill, showing previous excavations (roughly as in Jones and Shotter fig. 11, p 38)

LM2003.41/479-482, roll of drawings labelled 'Bath House Dig Drawings and Plans':

- 479 Plan on permatrace showing Trench 6 and 7 Mitre Yard 1973 with early buildings (Jones and Shotter fig. 21, p 60)
- 480 Working version of above
- 481 Dyeline plan 1972 by Gunton and Gunton of Manchester, showing proposed Mitre House
- 482 Dyeline of early version of 480

LM2003.41/487-492, roll of plans labelled 'Roman 1927 Dig':

- 487 Plan of Trenches I, II, III, IV, 1971 (Jones and Shotter fig. 8, p 29)
- 488 Ditch sections, Trench 6, unidentified.
- 489 Rough site drawings on permatrace of Lancaster 1973, sections of Trenches 13 and 14
- 490 Dyeline working drawing with annotations by G M Leather 1972 showing excavations in Lancaster since 1927
- 491 Working drawing on permatrace showing plan and section of Trench 4, 1973
- 492 Working drawing on graph paper showing Trenches II, III, IV 1971, cf 487

Digital Photographic Images:

- Image 1 - 1986/P20/33 Roman Bath House Site
- Image 2 - LM 553 Mr Bland: 1927, 1928 or 1929
- Image 3 - General view of the northern hearth of the Bath house, 1973
- Image 4 - Ref. 537 Mitre Yard, Wery Wall
- Image 5 - Ref. 53 Wery Wall?
- Image 6 - Ref. 553 Bath House excavations 1974
- Image 7 - Ref. 550 Bath House excavations 1974
- Image 8 - Bath House I, Caldarium looking east

Image 9 - Bath House I

Image 10 - Bath House I, showing Wery Wall ditch?

Image 11 - Bath House I, Caldarium. V shaped line of Wery Wall ditch to right

Image 12 - Bath House I. Caldarium. Internal supports of furnaces

Image 13 - Surviving fragment of Wery Wall bastion, 1973

Image 14 - Ref. 13 Bath House

Image 15 - Ref. 68 Bath House

Image 16 - Ref. 14 Bath House

Image 17 - Ref. 54 Bath House?

Image 18 - Ref. 20 Bath House

Image 19 - Ref. 19. Ditch, two figures

Image 20 - Bath House. JCB

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APPENDIX 1: PROJECT DESIGN

Oxford

Archaeology

North

June 2010

WERY WALL AND BATH HOUSE,

LANCASTER

Lancashire

HISTORIC LANDSCAPE SURVEY

PROJECT DESIGN

Proposals

The following project design is offered in response to a request from Stephen Gardner, Lancaster City Council, to undertake a programme of archaeological survey in advance of conservation works to the Wery Wall.

1. INTRODUCTION

1.1 CONTRACT BACKGROUND

- 1.1.1 Stephen Gardner, Lancaster City Council Conservation Officer, has invited Oxford Archaeology North (OA North) to submit a project design for a programme of historic landscape survey of the extant Wery Wall fragment and the bath house remains on Castle Hill, Lancaster (SD 47480 62030). The wall has sustained limited damage and is in need of limited stabilisation works; the proposed survey is required to provide a mitigative record of the extant structural remains in advance of these works. The monument is a scheduled ancient monument and the archaeological recording is a condition of Scheduled Monument Consent (SM 34987).

1.2 Historical Background

- 1.1.1 The Wery Wall is thought to represent the upstanding remains of part of the late Roman stone fort/installation built on Castle Hill in the fourth century; an installation overlying the remains of the three earlier Roman forts, and post dating the purported 'bath houses' at the north east corner of the top of Vicarage Fields.
- 1.1.2 Sometime during the fourth century, perhaps around the AD 330s, a major new, stone-built, military installation was established on Castle Hill, on an alignment very different to that of the earlier Roman forts that had occupied the site from the late first century onwards (Shotter and White 1990). It is not clear if the presumed late second to third century fort remained in use right up to the time the new installation was built, or if it had gone out of use some time earlier.
- 1.1.3 The only element of this installation visible above ground today is the Wery Wall, at the south-east corner of the former Allotment Field. The surviving remains of the Wery Wall are thought to represent the core of a polygonal external bastion on the north wall of the defences. This was presumably situated at the north-east angle of the defensive circuit. Excavations undertaken between 1927 and 1929 established that the north wall is also present in two places below ground, south-west of the Wery Wall, but how far it ran in this direction is not known (Newstead and Droop 1929). On the south, what appears to have been a gate in the south wall of the installation, has been observed close to the junction of Church Street and Bridge Lane, though the fragment of walling seen here did not seem to share precisely the same alignment as the north wall. No trace of the western and eastern defences has been found to date, and indeed it has been suggested that the installation may never have had an east wall, but was, perhaps, a three-sided (even curvilinear) enclosure designed to defend a harbour or landing stage on the River Lune.
- 1.1.4 At this location, only the inner rubble core of the wall survives, its facing having been robbed for re-use in other buildings at some time before the early eighteenth century (Stukeley 1724). The wall was in excess of 2.5 m thick, and was fronted by a ditch 2.7m wide on its north side (Jones and Leather 1988).
- 1.1.5 Stukeley provides evidence for its original extent: '...A year or two ago a great parcel of it was destroyed with much labour. This reached quite to the Bridge Lane and hung over the street at the head of the precipice in a dreadful manner: it went round the verge of the close north of the church, and took in the whole circuit of the hill, and the ditch on the north side of it is now to be seen. I suppose it enclosed the whole top of the hill where the church and castle stand' (Stukeley 1724, 38).
- 1.1.6 Another visible section of the wall had survived, until its destruction shortly after 1778, near the footpath at the west end of St Mary's Priory (West 1778). West also amends Stukeley's comments on the original wall's extent by reporting: 'The father of the late William Bradshaw, Esq. of Halton, remembered the Wery Wall projecting directly to the river. ...At bridge Lane this wall makes an angle, and runs along the brow of the hill behind the houses in a line to Church Street, which it crosses about Covell-cross. This is attested by the owners of the gardens, who have met with it in that direction...' (West 1778, 17).

1.3 OXFORD ARCHAEOLOGY NORTH

- 1.3.1 OA North (formerly Lancaster University Archaeological Unit) has considerable experience of the evaluation, survey and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 19 years. One of its particular specialisms is in the sphere of landscape recording and assessment. OA North has the professional expertise and

resource to undertake the project detailed below to a high level of quality and efficiency. OA North and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct.

- 1.3.2 OA North has undertaken a large number of upland landscape surveys for a variety of clients (both private and national agencies such as English Heritage and Royal Commission on the Historical Monuments of England (RCHM(E)) and employs a qualified surveyor (James Quartermaine, BA, DipSurv, MIFA) who has many years (since 1984 in the region) experience of the identification and survey of upland landscapes, having worked closely with the RCHM(E) and the Lake District National Park Authority on a large number of projects. To date OA North has undertaken archaeological field surveys of over 1000sqkm of upland landscapes and has recorded over 35,000 field monuments.
- 1.3.3 Since 1982 OA North has been undertaking extensive upland landscape surveys throughout Northern England. Surveys include the Lake District National Park Survey, the Torver Common surveys (Lake District), Haweswater and Thirlmere estate surveys (Lake District), 200sqkm of the Nidderdale AONB (for NYCC), most of the Forest of Bowland AONB (Lancashire), most of the Arnsdale / Silverdale AONB, and a multitude of smaller landscape projects which include the Otterburn Range surveys in the Lake District National Park.
- 1.3.4 OA North has recently completed the compilation of an Urban Archaeological Database for Lancaster which is the collation of all archaeological data for the core of the city, and includes the complex of excavations that have previously been undertaken in the area of the bath house and the Wery Wall.

2. OBJECTIVES

- 2.1 The primary purpose of the project is to inform the management of the site and to provide a mitigative record of the Wery Wall in advance of consolidation works. The aims of this initial project are defined in the project brief as follows:
- to undertake a basic level of documentary search, establishing sources and enhancing the UAD;
 - to provide an accurate level 2 survey of the Wery Wall fragments and the bath house walls;
 - to compile a photographic record of the site as a mitigative record in advance of the consolidation works.
 - to put together recommendations for the long term preservation and interpretation of the site.
- 2.2 The following programme has been designed to provide an accurate archaeological survey of the study area, set within its broader landscape context.

3. METHODS STATEMENT

- 3.1 The following work programme is submitted in line with the objectives of the archaeological work summarised above, and will entail the production of a level 2 survey. It is divided into three elements, desk based research, archaeological field survey, and reporting.

3.2 DOCUMENTARY STUDY

- 3.2.1 The area has been studied as part of the Lancaster UAD, which has provided a digital plan of the excavation plans superimposed onto modern data, and is presented in conjunction with LiDAR mapping of the Vicarage Fields site. The proposed documentary study is intended as a basic level of documentary work to enhance the existing UAD record. It will entail establishing the location of the primary archive for the excavation work by GM Leather (1972) and by JP Droop and R Newstead in 1929 / 1930. This will entail consultation with David Shotter, Andrew White and the Lancaster City Museum to establish the possible locations of the archives and also any photographs of the monuments when they were excavated. Assuming that the archives are identified and accessible they will be briefly examined to assess the content and potential for further investigation.
- 3.2.2 The UAD enhancement will entail refining the entry within the UAD to provide a detailed description of previous explorations of the bath house and Wery Wall from the published

excavation reports (copies held by OA North). The graphic record of the excavation results will be enhanced to show the phasing of the courtyard structures, bath house and the Wery Wall and the more detailed excavation drawings from the Leather (1972) report.

- 3.2.3 The LiDAR coverage will be extended to include the area of field adjacent to the bath house/Wery Wall and will enable the linking of the proposed survey of the bath house and Wery Wall with the survey of the Vicarage fields.

3.3 TOPOGRAPHIC SURVEY

- 3.3.1 Although the bath house and Wery Wall were surveyed by Leather (1972) there is some doubt as to the precise location of the depicted monument, and the drawings do not record the present condition of the monuments. It is therefore proposed to undertake a new survey of the two monuments by means of GPS and total station to locate and provide a detailed record of the reconstructed monument. This will provide a direct comparison between the condition of the monuments now, and with that recorded in 1972, and will allow a precise correlation between these exposed monuments and the earthworks remains, recorded by LiDAR, and also the previously excavated trenching records. To minimise the costs for this element a maximum of one days surveying will be done and this will concentrate on the Wery Wall, and if elements of the bath house have not been completed by the end of the days survey then they will be omitted from the survey and will instead be abstracted from the Leather (1972) plan. If there is usage of the earlier plan it will be clearly shown on the drawing. An inspection will be made of the environs to identify evidence for any extant spoil heaps from the 1970 excavations.
- 3.3.2 **Detail Survey:** it is proposed to undertake a level 2b survey (see OA North survey levels, *Appendix 1*) of the two monuments, which is equivalent to English Heritage level 2. All appropriate topographic detail will be recorded to provide an appropriate context for the archaeological detail. The survey will be recorded using a total station.
- 3.3.2 **Instrument Survey:** survey control will be established over the site by closed traverse and internally will be accurate to $\pm 15\text{mm}$; the control network will be located onto the Ordnance Survey National Grid by the use of Global Positioning Survey (GPS), which will locate to an accuracy of $\pm 0.02\text{m}$.
- 3.3.3 The surface features will be surveyed by EDM tacheometry using a total station linked to a data logger, the accuracy of detail generation being appropriate for a 1:200 output. The digital data will be transferred onto a portable computer for manipulation and later transfer to other digital or hard mediums; film plots will be output via a plotter. The archaeological detail will be drawn up in the field as a dimensioned drawing on the plots with respect to survey markers. Most topographic detail will also be surveyed, particularly if it is archaeologically significant or is in the vicinity of archaeological features. The survey drawings will be generated within a CAD system and will be merged with existing topographic data, and will also be merged with the results from the earlier survey. The results can be output at any scale.
- 3.3.4 **Photographic Survey:** a photographic archive will be generated in the course of the field project, comprising landscape and detailed photography. Detailed photographs will be taken of all sites using a scale bar. All photography will be recorded on photographic pro-forma sheets which will show the subject, orientation and date. This digital archive will be backed up using archivally stable black and white 35mm format photography which will be maintained to archival standards. In addition a detailed record will be compiled using a digital SLR camera of at least 8megapixel resolution.

3.4 PROJECT ARCHIVE

- 3.4.1 **Archive:** the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (Management of Archaeological Projects, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. This archive will be provided in the English Heritage Centre for Archaeology format, both as a printed document and digitally.
- 3.4.2 **Digital Presentation:** the digital data will be collated in a CAD system (AutoCAD 2004). This powerful system can be output in a variety of formats compatible with all major GIS and CAD software packages. In particular it can output in MapInfo format and in AutoCAD DXF and DWG formats. The database will be compiled in Access 97 format, as this provides good

backwards and forwards compatibility with other versions of the software. The survey drawings will be combined with the LiDAR and the UAD graphic record of the earlier excavations within the GIS.

3.5 REPORTING

3.5.1 The primary product of the survey will be an enhanced UAD for the two monuments, and will combine enhanced descriptive text with enhanced graphic depiction of the excavation, LiDAR and survey results within the GIS. A report will be compiled from the UAD dataset, providing the historical background and the archaeological excavation results from the previous interventions. It will also include a methodology statement and a statement of the present condition of the monument. The report will make recommendations for further conservation, consolidation works and will make proposals for improved interpretation.

3.5.2 The report will include the following elements:

- Acknowledgements statement,
- Lists of contents,
- Summary,
- Introduction summarising project design and any agreed departures from them,
- Methods statement and content of any new archives identified,
- Archaeological background, based upon earlier excavation reports,
- Results of the archaeological survey, presented in conjunction with the survey mapping and photography,
- Statement of condition,
- Recommendations for further work and interpretation,
- Bibliography of sources used and location of archival material.

3.5.3 Illustrative Material will include:

- Location Plan,
- Map of Castle Hill, Vicarage Fields and the bath house area showing Roman monuments,
- Map of Castle Hill area superimposed with historic mapping and Roman monuments,
- Detailed map of the bath house area, showing the new survey and the LiDAR,
- Detailed map of the bath house area showing the correlation between the new survey and the earlier transcribed excavation results,
- Detailed photographic record of the monuments.

3.5.4 **Editing and submission:** the report will be subject to the OA North's stringent editing procedure and two bound and one unbound copies of the report will be submitted to the client, and one to the Lancashire HER. In addition to the paper copies of the report digital copies of the report and drawings will be submitted in PDF format. The final drawings will be in AutoCAD 2004 format and GIS shape file format.

3.5.5 Primary archival material, such as negatives and historical mapping will be submitted to the Lancaster City Museum.

3.6 CONFIDENTIALITY

3.6.1 The report is designed as a document for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4. OTHER MATTERS

4.1 ACCESS

- 4.1.1 It is assumed that OA North will have unrestricted pedestrian access to the study area for the duration of the survey.

4.2 HEALTH AND SAFETY

- 4.2.1 Full regard will, of course, be given to all constraints (services) during the survey, as well as to all Health and Safety considerations. The OA North Health and Safety Statement conforms to all the provisions of the SCAUM (Standing Conference of Unit Managers) Health and Safety manual, as well as the OA Health and Safety Statement. Risk assessments are undertaken as a matter of course for all projects, and will anticipate the potential hazards arising from the project.

4.3 INSURANCE

- 4.3.1 The insurance in respect of claims for personal injury to or the death of any person under a contract of service with the Unit and arising in the course of such person's employment shall comply with the employers' liability (Compulsory Insurance) Act 1969 and any statutory orders made there under. For all other claims to cover the liability of OA North in respect of personal injury or damage to property by negligence of OA North or any of its employees there applies the insurance cover of £10m for any one occurrence or series of occurrences arising out of one event.

4.4 PROJECT MONITORING

- 4.4.1 OA North will inform the client of all significant developments, and any potential departures from the agreed programme will be discussed and agreed with them prior to implementation.

5. WORK TIMETABLE

- 5.1 The phases of work will comprise:

5.1.1 *Desk Top Study*

A ten day period is required to collate all the available data.

5.1.2 *Field Survey*

Two days will be required for the field survey

5.1.3 *Archive and Reporting*

Fifteen days would be required to complete this element.

6. OUTLINE RESOURCES

6.1 STAFFING

- 6.1.1 The project will be under the management of **Jamie Quartermaine** (OA North Project Manager) to whom all correspondence should be addressed. He will monitor the progress of the project ensuring adherence to all agreed programmes and timetables. He will also provide technical back-up, advice, and will have editorial control over the compilation of the full report. Jamie Quartermaine will provide advice on the landscape survey and has many years experience of surveying upland landscapes, particularly in the Lake District and Yorkshire Dales National Parks.
- 6.1.2 The field survey will be led by **Chris Wild** BSc who has considerable experience in building recording, excavation and landscape recording. He has been the senior fieldwork buildings archaeologist and surveyor within LUAU/OA North since 1998, and has including a variety of levels of recording and instrument survey work, with extensive experience of Total Station survey, Reflectorless Total Station survey, and GPS survey, and the manipulation of this data to produce report quality drawings via three-dimensional CAD packages. He is competent with many types of photographic recording and regularly implement in-house training on rectified photography and the use of medium format cameras.
- 6.1.3 He has undertaken extensive and detailed recording of extant rural low-status dwellings, most notably the survey of clay-built structures for English Heritage, and a two year project at

Auchindrain Township, Argyll, undertaken on behalf of Historic Scotland. This, provided a 3-d survey and fabric analysis of 18 vernacular structures at the township museum, and was influential in the drafting of the Historic Scotland methodology publication. He has undertaken excavations and extant structure recording of structures relating to several industries, most extensively the textile industries, but also the iron, lead, coal, glass, lime, and gunpowder industries. Most notable of these is the long-term, detailed recording of Murrays' Cotton Spinning Mills in Manchester, which comprised detailed fabric recording, 3-dimensional instrument survey, excavation, documentary research and in-depth analysis of both the mill complex and the early development of the factory system and the textile industry.

- 6.1.4 The documentary investigation and report writing will be undertaken by **John Zant**, BA, MIFA, Post-Excavation Project Officer with OA North. John has nearly 15 years experience of dealing with excavation and post-excavation projects in Carlisle, and also Lancaster, having had a major involvement in the Lancaster UAD. He has considerable expertise of Roman archaeology, mainly relating to that of Carlisle, but also has considerable knowledge of Lancaster's Roman archaeology. He was a key member of the Carlisle Archaeological Unit team that worked on the Carlisle Millennium project in the late 1990s, being responsible for preparation of the site phasing from the primary site records and the authorship of the monograph.

ILLUSTRATIONS

FIGURES

Figure 1: Site Location

Figure 2: Current survey area overlain on previous excavation in Vicarage Field

Figure 3: Detail survey of the Roman bath house and the Wery Wall

PLATES

Plate 1: LiDAR survey of earthworks from Vicarage fields, showing the corner of the early fort ramparts

Plate 2: View of the surviving fabric on the south side of the Wery Wall bastion.

Plate 3: Detail plan of the 1958 Richmond Excavations on the 'Courtyard House' (in Leather 1972)

Plate 4: General plan of all 1958 Richmond Excavations overlain with 1970 Excavations (in Leather 1972)

Plate 5: General Plan of the 1950, 1958, 1970 and 1973-6 Excavations at the Bath House and Courtyard House, Northern Vicarage Fields (Leather 1972)

Plate 6: Drawing of the 1970s Bath House Excavations (Leather, 1972)

Plate 7: View looking west of the north end of the 1973 excavations behind the garden wall of 96 Church Street (Lancaster Museum)

Plate 8: General view looking east of the Wery Wall bastion and bath house

Plate 9: View looking west of the bath house *tepidarium*

Plate 10: View looking south of the interior of the bath house *tepidarium*

Plate 11: Detailed external view of the fire tunnel in the west wall of the bath house *tepidarium*

Plate 12: View looking west of the bath house *caldarium* and Wery Wall external ditch

Plate 13: View looking east of the bath house *caldarium*, Wery Wall bastion and external ditch

Plate 14: Detailed internal view of damage to the fire tunnel in the south wall of the bath house *caldarium*

Plate 15: View looking east of the 1970s excavations in the bath house *caldarium* (Lancaster Museum)

Plate 16: Detailed view of the fire tunnel in the south end of the bath house *caldarium* (Lancaster Museum)

Plate 17: Detailed view looking south-west of the Wery Wall external ditch cutting through the bath house *caldarium* (Lancaster Museum)

- Plate 18: Detailed view of the later period wall cutting through the bath house *tepidarium* (Lancaster Museum)
- Plate 19: Detailed view of archaeological stratigraphy below the north end of the Wery Wall bastion. (Lancaster Museum)
- Plate 20: 1970s view of the south-east side of the Wery Wall bastion (Lancaster Museum)
- Plate 21: 1970s detailed view of the south-east side of the Wery Wall bastion (Lancaster Museum)
- Plate 22: 1970s detailed view of the north side of the Wery Wall bastion (Jones *et al* 1988)
- Plate 23: 1970s view looking east of the bath house after consolidation works and the construction of Mitre House (Lancaster Museum)
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- Plate 38: View of the surviving fabric at the foot of the north-west side of the Wery Wall bastion
- Plate 39: View of the surviving fabric on the south-west side of the Wery Wall bastion
- Plate 40: View looking east along the partially demolished garden wall attached to the Wery Wall bastion

Plate 41: View of the partially demolished garden wall attached to the east side of the Wery Wall bastion

Plate 42: View of the erosion at the interface between the garden wall and Wery Wall fabric on the east side of the bastion

Plate 43: View of a displaced stone column base, possibly the one excavated in the bath house *caldarium*

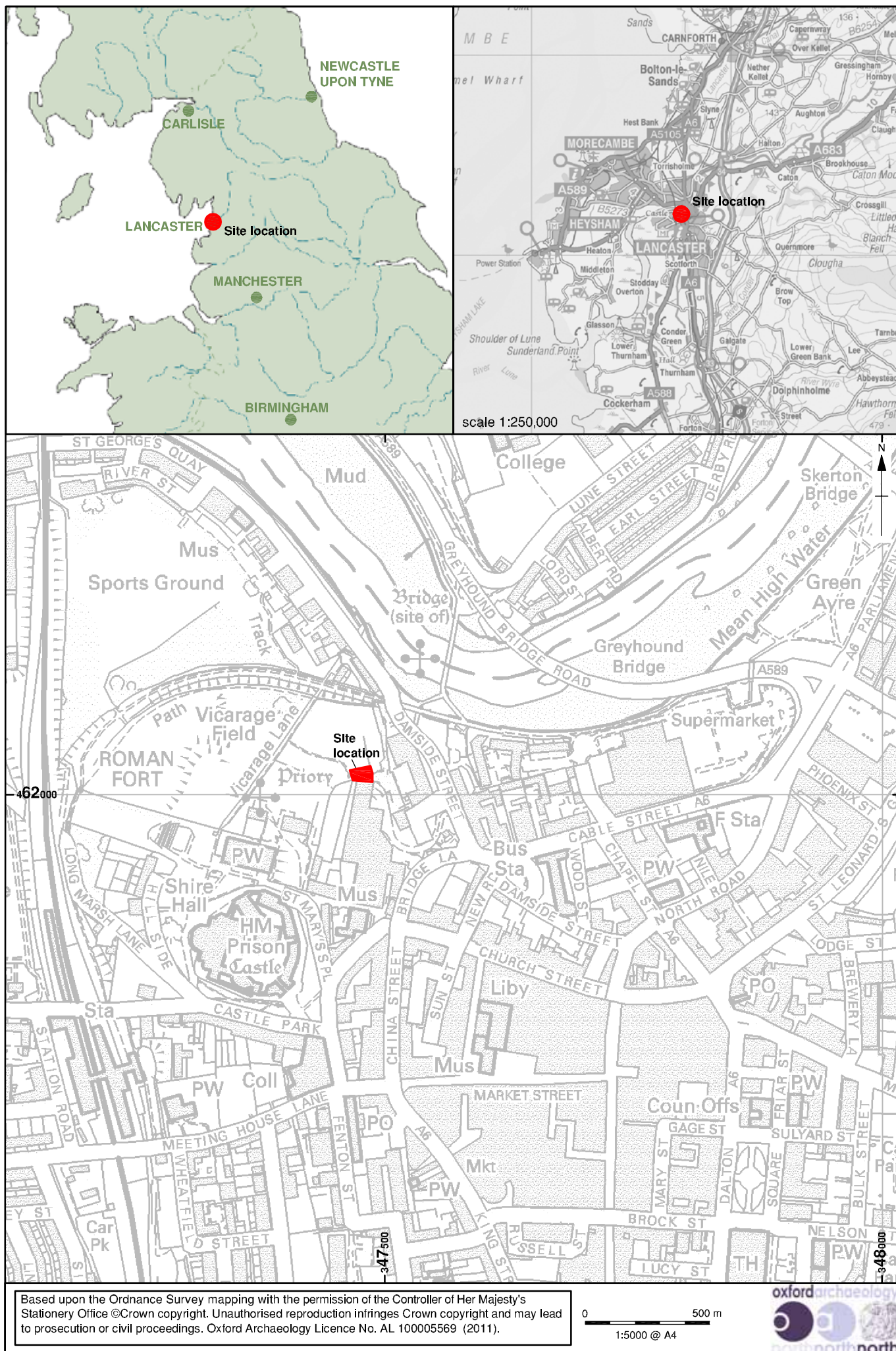


Figure 1: Site location

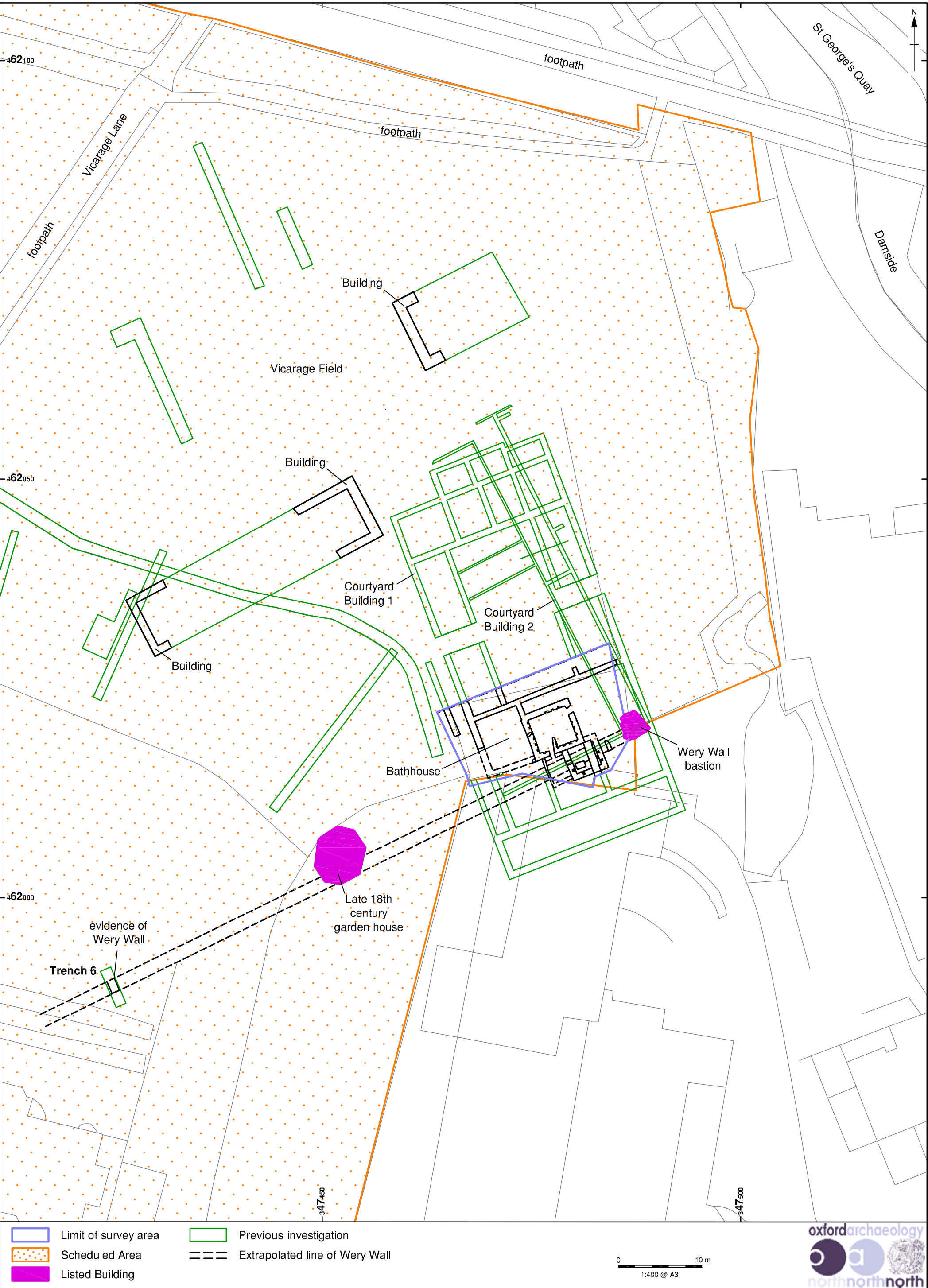


Figure 2: Current survey area overlain on previous excavations in Vicarage Field



Figure 3: Detail survey of the Roman bath house and Wery Wall

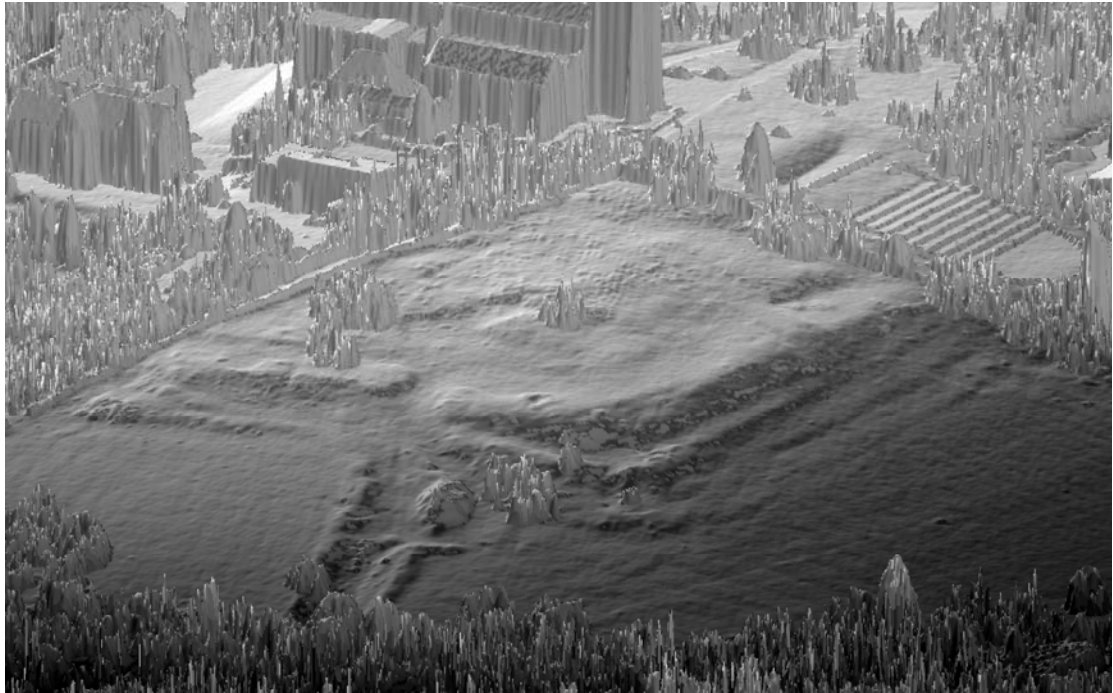


Plate 1: LiDAR survey of earthworks from Vicarage fields, showing the corner of the early fort ramparts



Plate 2: View of the surviving fabric on the south side of the Wery Wall bastion.

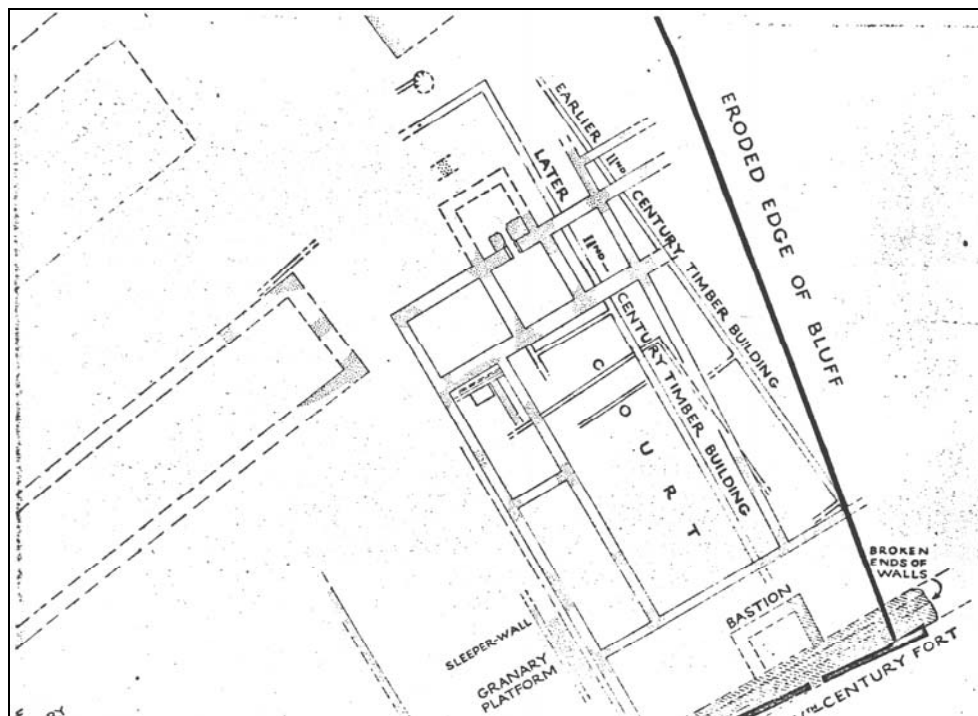


Plate 3: Detail plan of the 1958 Richmond Excavations on the 'Courtyard House' (in Leather 1972)

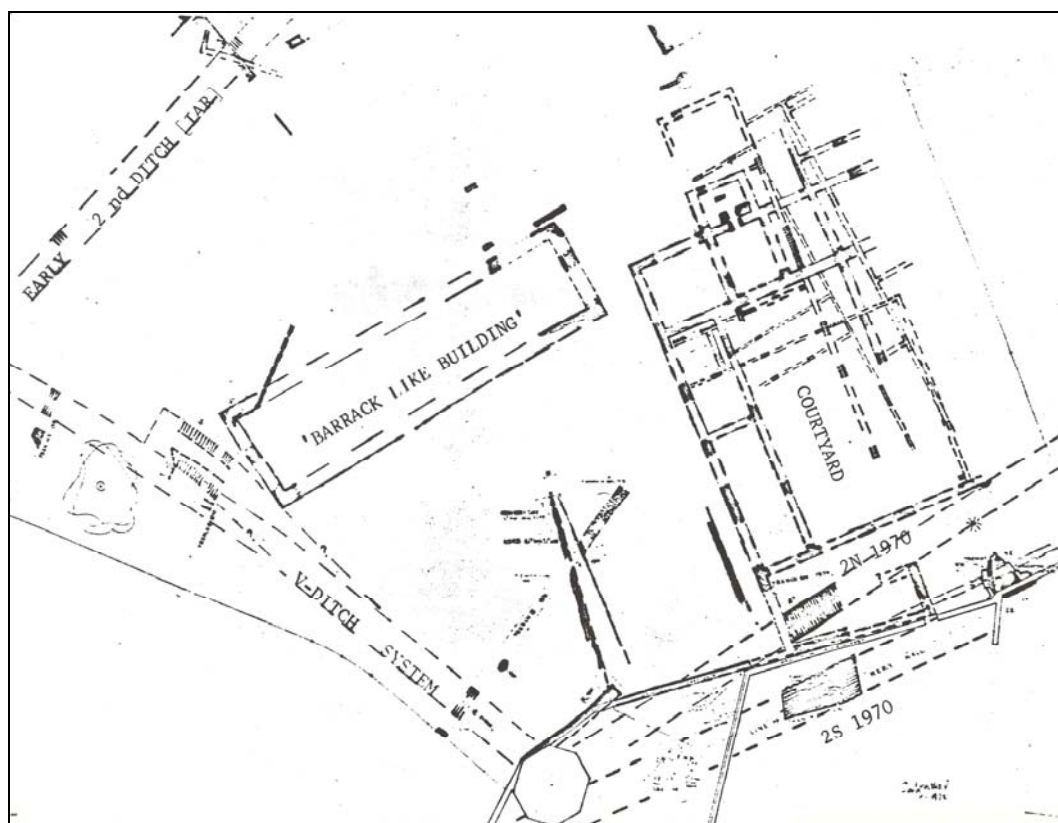


Plate 4: General plan of all 1958 Richmond Excavations overlain with 1970 Excavations (in Leather 1972)

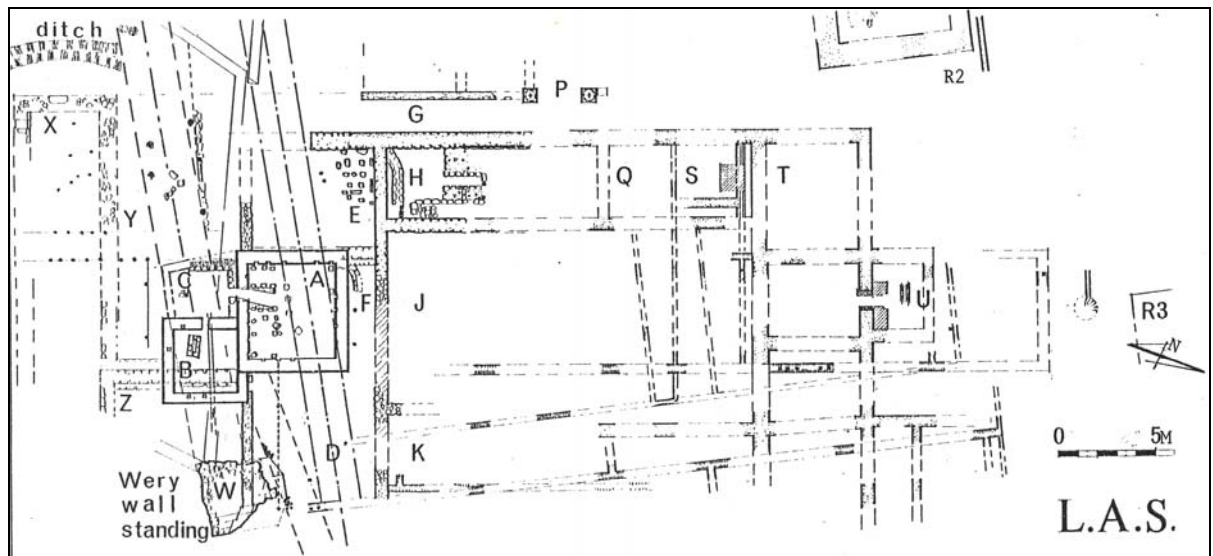


Plate 5: General Plan of the 1950, 1958, 1970 and 1973-6 Excavations at the Bath House and Courtyard House, Northern Vicarage Fields (Leather 1972)

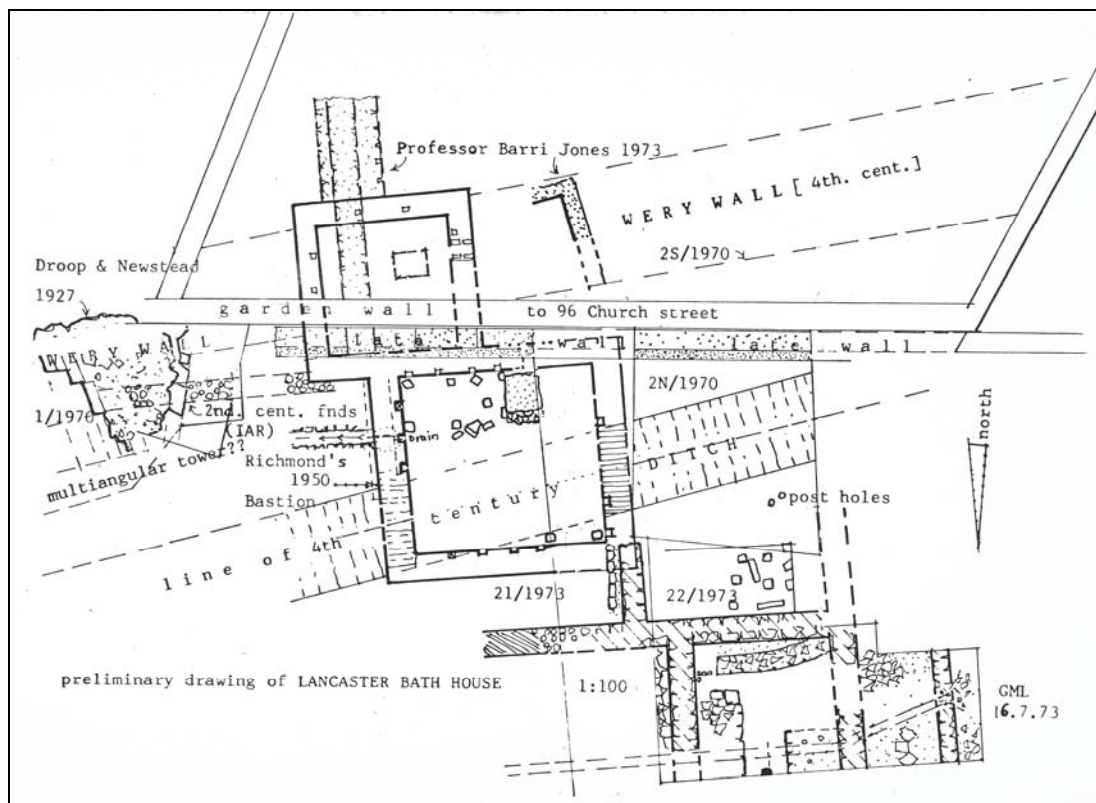


Plate 6: Drawing of the 1970s Bath House Excavations (Leather 1972)



Plate 7: View looking west of the north end of the 1973 excavations behind the garden wall of 96 Church Street (Lancaster Museum)



Plate 8: General view looking east of the Wery Wall bastion and bath house



Plate 9: View looking west of the bath house *tepidarium*



Plate 10: View looking south of the interior of the bath house *tepidarium*



Plate 11: Detailed external view of the fire tunnel in the west wall of the bath house *tepidarium*



Plate 12: View looking west of the bath house *caldarium* and Wery Wall external ditch



Plate 13: View looking east of the bath house *caldarium*, Wery Wall bastion and external ditch



Plate 14: Detailed internal view of damage to the fire tunnel in the south wall of the bath house *caldarium*



Plate 15: View looking east of the 1970s excavations in the bath house *caldarium* (Lancaster Museum)



Plate 16: Detailed view of the fire tunnel in the south end of the bath house *caldarium* (Lancaster Museum)



Plate 17: Detailed view looking south-west of the Wery Wall external ditch cutting through the bath house *caldarium* (Lancaster Museum)



Plate 18: Detailed view of the later period wall cutting through the bath house *tepidarium* (Lancaster Museum)



Plate 19: Detailed view of archaeological stratigraphy below the north end of the Wery Wall bastion.
(Lancaster Museum)



Plate 20: 1970s view of the south-east side of the Wery Wall bastion (Lancaster Museum)



Plate 21: 1970s detailed view of the south-east side of the Wery Wall bastion (Lancaster Museum)

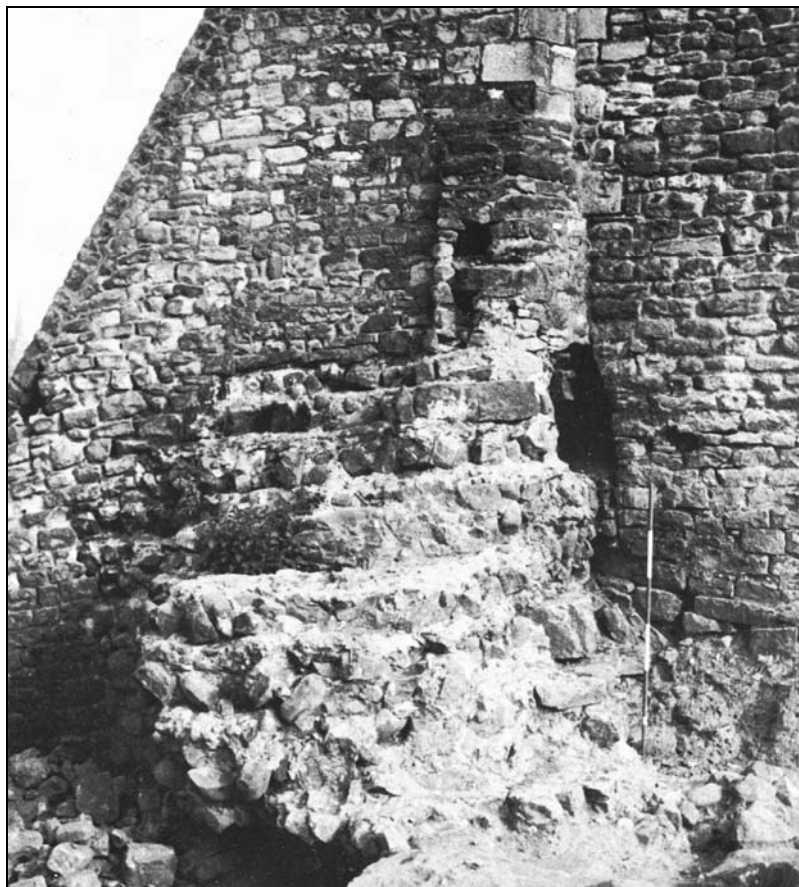


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Plate 23: 1970s view looking east of the bath house after consolidation works and the construction of Mitre House (Lancaster Museum)

excavation trench (Leather 1972)

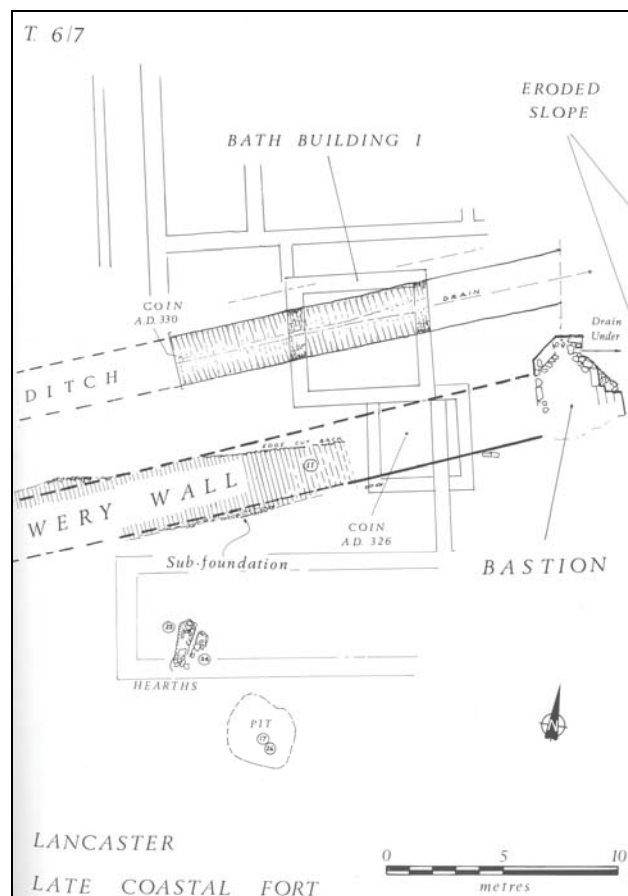


Plate 24: Plan of the excavated areas of Wery Wall and the corner bastion (Jones *et al* 1988)

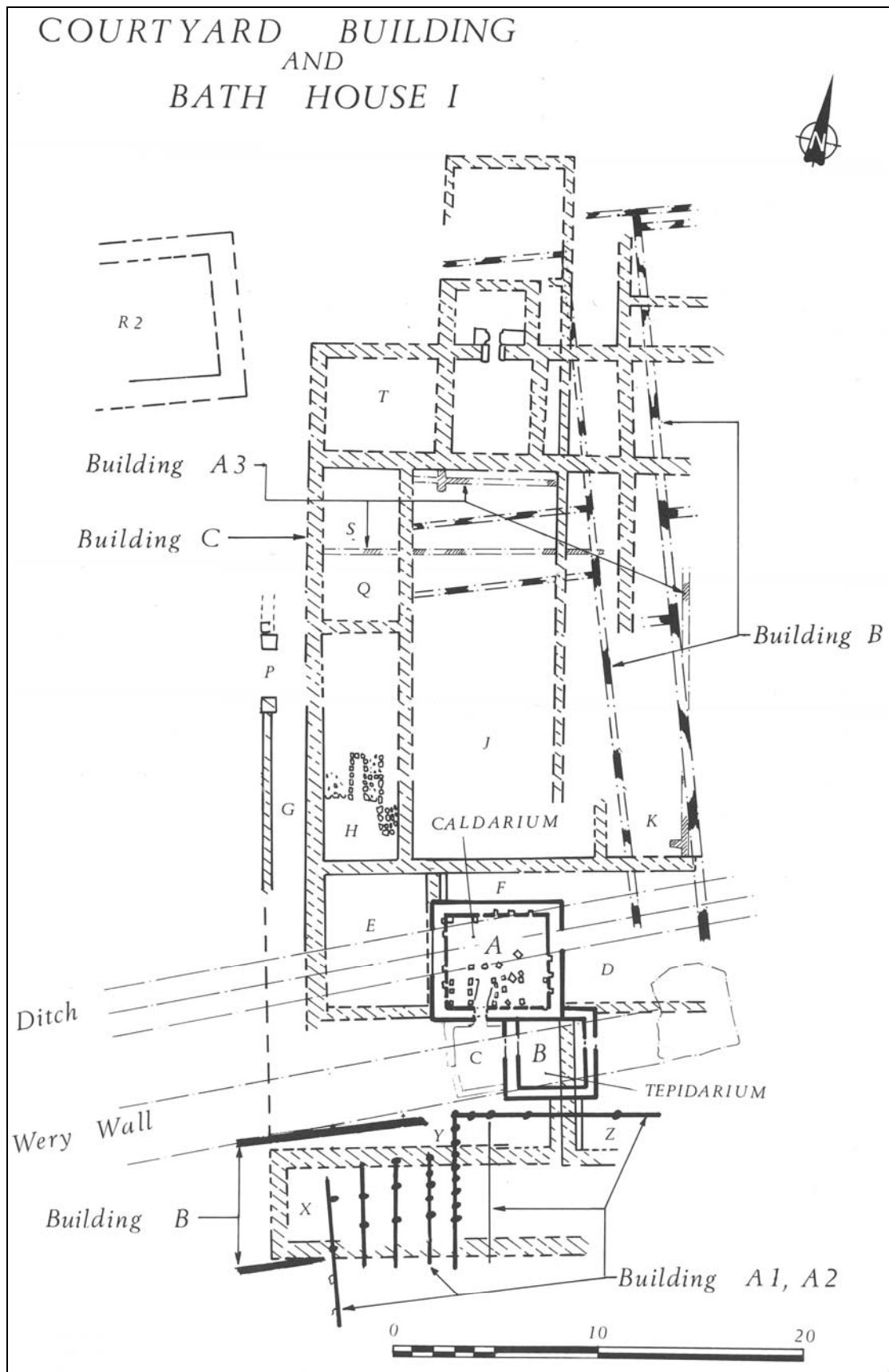


Plate 25: Overall plan of the courtyard buildings and bath house overlain by the Wery Wall (Jones *et al* 1988)

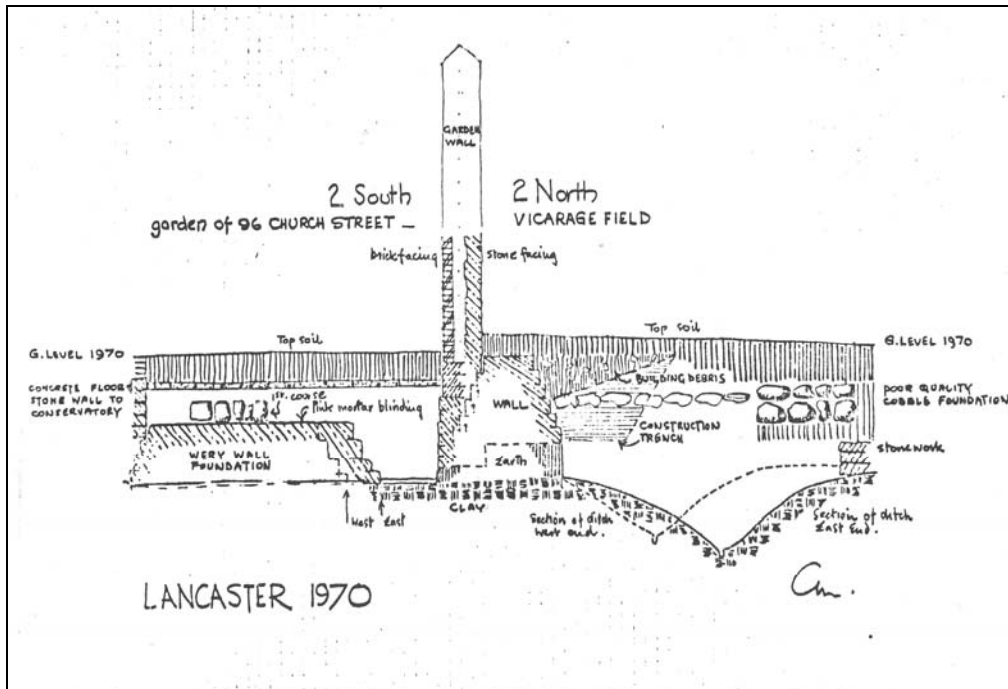


Plate 26: Section through the 1970 bath house

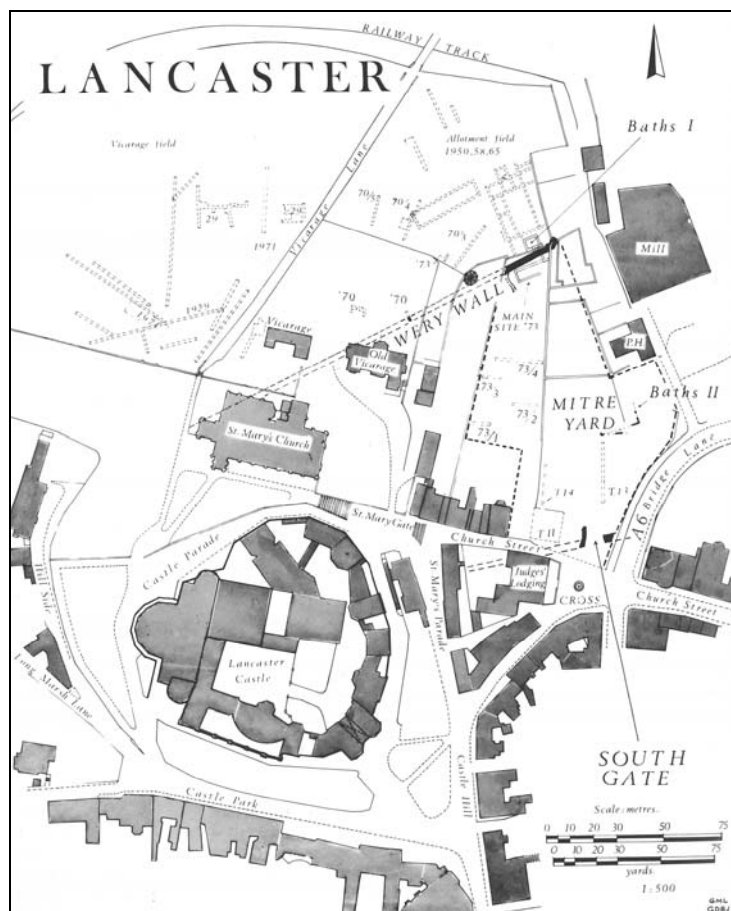


Plate 27: Plan of all Excavations on Vicarage Fields (Jones *et al* 1988)



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Plate 29: View of the consolidation works undertaken at the foot of the north side of the Wery Wall bastion

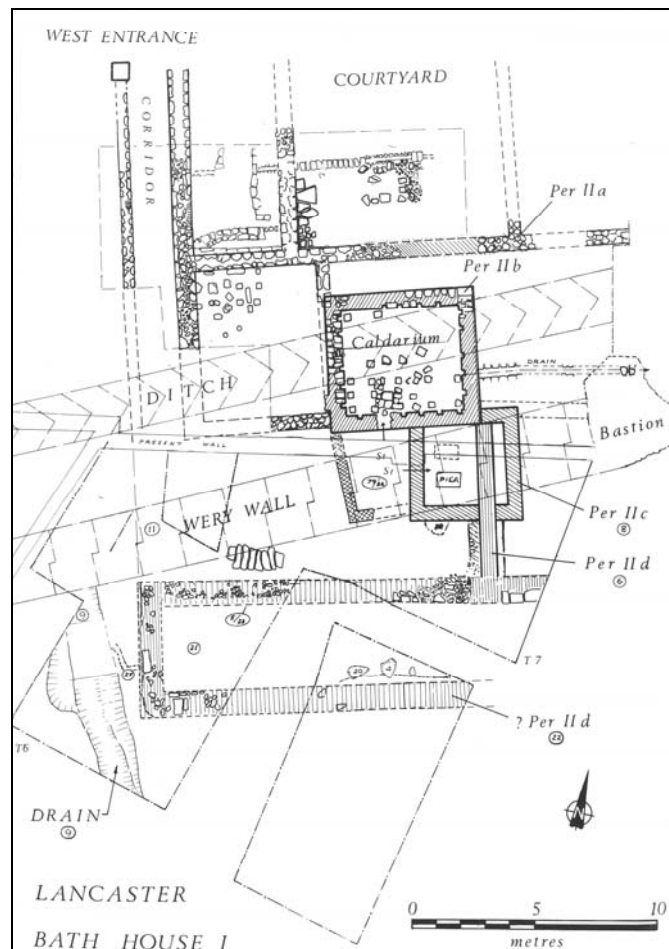


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Plate 43: View of a displaced stone column base, possibly the one excavated in the bath house *caldarium*