



# THE DISTRIBUTION OF WATERLOGGED DEPOSITS IN CARLISLE

## Statement of Significance



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<b>Author</b>	John Zant
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**Oxford Archaeology North**

Mill 3, Moor Lane Mills  
Moor Lane  
Lancaster  
LA1 1QD  
t: (0044) 01524 541000  
f: (0044) 01524 848606

w: [www.oxfordarch.co.uk](http://www.oxfordarch.co.uk)  
e: [info@oxfordarch.co.uk](mailto:info@oxfordarch.co.uk)

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Janus House  
Osney Mead  
Oxford  
OX2 0EA  
t: (0044) 01865 263800  
f: (0044) 01865 793496

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## 1. DESCRIPTION

### 1.1 LOCATION AND TOPOGRAPHY

1.1.1 The city of Carlisle, Cumbria (NY 400 560), occupies a strategically important site, where the principal north/south land route west of the Pennines crosses the River Eden and forms a junction with a major trans-Pennine route through the Tyne-Solway gap. The historic settlement is largely defined by the medieval city defences (Fig 1), though significant Roman and medieval suburban development occurred along the main roads leading north and south. The prominent bluff at the northern end of the city defences was the site of an important military base for much of the Roman period (Zant 2009), and has been occupied by the existing stone castle since the twelfth century (McCarthy *et al* 1990; Fig 2; Pl 1). It forms one of two high points within the city walls; the other, *c* 350m to the south, is occupied by the medieval cathedral. Between these is a shallow, roughly east/west-aligned trough or valley, traversed today by Annetwell Street and Finkle Street (Fig 2). Over the remainder of the city centre, the ground surface is fairly level, but there is a pronounced north/south gradient in the north-eastern part of the historic core, where the ground slopes towards the line of the medieval north wall, which occupied the crest of an ancient terrace of the River Eden (Zant *et al* 2011a).



Plate 1: Aerial view of northern Carlisle, showing the castle, the cathedral, and part of the medieval defensive circuit

### 1.2 GEOLOGY

1.2.1 The solid geology of the area comprises Triassic St Bees sandstone of the Sherwood Sandstone Group (McCarthy *et al* 1990, 1–2), which, at Carlisle, outcrops to form the bluff occupied by the medieval castle. Over most of the city, the bedrock is overlain by several metres of boulder clay (British Geological Survey 1982), which is itself covered by *c* 2-4m of ‘made ground’, comprising

archaeological deposits overlain by modern material. Beyond the north-east corner of the historic core is a buried, pre-Roman, channel of the River Eden, some 300m south of the present river (Zant *et al* 2011a, 10-11).

### 1.3 SETTLEMENT HISTORY

- 1.3.1 A transient mesolithic presence at Carlisle is suggested by a few flints (Zant 2009, 5), and scatters of late neolithic/early Bronze Age lithics are also known from the city centre, though most are residual (*op cit*, 445). Shallow ard-marks recorded at several sites (Stallibrass and Huntley 2011, 27) may be the remains of Iron Age cord-rig cultivation (McCarthy 2002, 43). The Roman fort was constructed in the autumn or winter of AD 72–3 (Caruana 1992), and was rebuilt, again in timber, *c* AD 105. Reconstruction in stone occurred in the early third century (Zant 2009, 413; 2011, 41), with occupation continuing thereafter into the fifth century (Zant 2009, 460-7). South of the fort, a settlement was in existence by the late AD 70s (McCarthy 1990); this subsequently developed into a sizable town and an important administrative centre (McCarthy 2002; Edwards and Shotter 2005).
- 1.3.2 The early post-Roman settlement is difficult to characterise (Newman 2011, 69), but the town is unlikely to have ever been completely abandoned, and historical references survive from the late seventh century onwards. The distribution of early medieval artefacts suggests a focus of activity around the medieval cathedral (McCarthy 1993, 34-5), where a late ninth/tenth-century cemetery is known from excavation (Newman 2011, 81). In the later medieval period, Carlisle served as an important English bastion against the Scots, and suffered accordingly during the Anglo-Scottish Wars (Summerson 1993). The end of Anglo-Scottish hostilities and border raiding allowed the city to recover during the seventeenth and eighteenth centuries, and, by the early nineteenth century, the medieval defences were viewed as a hindrance to expansion. The walls had been largely demolished by 1815 (Perriam 1976), although the city did not begin to expand significantly beyond its medieval boundaries until the second half of the century.

### 1.4 ARCHAEOLOGICAL HISTORY

- 1.4.1 The existence of widespread waterlogged strata within Carlisle's historic centre has been documented since the late nineteenth century (Ferguson 1878; 1880; 1893; Ferguson and Hetherington 1880; McKie 1880), but it was not until the last quarter of the twentieth century that the full significance of the city's waterlogged archaeological resource became apparent, as a result of a series of large-scale 'rescue' excavations (Fig 2), notably at Annetwell Street (Charlesworth 1980; Caruana in prep a; in prep b), Blackfriars Street (McCarthy 1990), the Lanes (McCarthy 2000; 2010; Zant and Howard-Davis in prep), Castle Street (McCarthy 1991), Rickergate (Zant *et al* 2011a), and during the Millennium Project (Zant 2009; Howard-Davis 2009). All these sites, together with a number of smaller investigations undertaken since the 1970s, contained deeply-stratified archaeological deposits, generally *c* 2-3m in depth, including, in the lower levels, extremely well-preserved waterlogged strata. These were found to vary considerably in thickness and complexity, from as much as 1.5m, at sites such as Annetwell Street and the Millennium, to less than 0.5m, for example over much of the Lanes. Invariably, the waterlogged levels are sealed by a roughly equal thickness of complex 'dry' archaeology.

## 1.5 PALAEOENVIRONMENTAL HISTORY

1.5.1 Whilst knowledge of Carlisle's waterlogged archaeology extends back to the nineteenth century (*Section 1.4*), it was only with the formation of the Carlisle Archaeological Unit (CAU) in 1977 that palaeoenvironmental sampling became routine. Prior to this, analyses of charred and waterlogged plant remains (including pollen) were carried out during the early phases of the Annetwell Street excavations, c 1973-6 (Donaldson 1977a; 1977b; 1980; Keepax 1977), and in 1976 at 58-62 Scotch Street (Donaldson 1977c; Fig 2). Subsequently, assessment and/or analysis of charred and waterlogged plant remains and insects was routinely undertaken by CAU, though sampling for pollen was not carried out until the Millennium Project of 1998-2001 (Huckerby 2009), and the Rickergate excavations of 1998-9 (Huckerby 2011). Similarly, little work was done in the field of soil micromorphology, though analysis of soil profiles was undertaken at Blackfriars Street (Keeley 1990), Annetwell Street (Keeley in prep), the Lanes (Macphail 1980), and on the Millennium Project (Guttmann-Bond 2009). During the past decade, the absence of large-scale redevelopment projects within the city has resulted in a sharp reduction in the amount and scale of archaeological excavation carried out, and a concomitant decline in palaeoenvironmental work, a notable exception being the analysis of waterlogged plant remains from a site at 42-48 Scotch Street, excavated in 2004 (Shaw 2010).

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## 2. EVALUATION

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### 2.1 THE EVIDENTIAL SIGNIFICANCE OF CARLISLE'S WATERLOGGED DEPOSITS

- 2.1.1 The national significance of Carlisle's waterlogged archaeological resource has been recognised in the English Heritage (EH) commissioned *Draft Archaeological Management Plan* for Carlisle (Van de Noort 2004) and, at a regional level, in the *Research Agenda and Strategy of the Archaeological Research Framework* for North-west England (Brennand 2007). In 2012, EH commissioned Oxford Archaeology North (OA North) to carry out a desk-based study (OA North 2013), the purpose of which was to generate better understanding of the significance, character and extent of waterlogged archaeological deposits within the city, and their potential vulnerability to future development.
- 2.1.2 The study demonstrated that waterlogged remains survive over much of the area enclosed by the medieval city walls. Limited evidence for waterlogged preservation has also been recorded in the historic suburbs to the north and south (Zant *et al* 2011a; 2011b). On the north, there appears to be particularly good potential for organic survival within the pre-Roman river channel recorded on Rickergate (Zant *et al* 2011a; *Section 1.2*), and in the presumed Roman and medieval river channels further to the north. In addition to waterlogged alluvial silts containing important palaeoenvironmental data (*op cit*, 10-11), these channels could potentially contain all manner of preserved timber structures, such as bridge abutments/piers, jetties and fish traps, ranging in date from prehistory to the eighteenth century. Nothing of this kind has yet been attested archaeologically, though two timber bridge piers have been recorded in the present river channel, close to the Eden Bridge (Hogg 1952, 138-40. These are thought to be the remains of a sixteenth-century bridge (*ibid*), though in fact they remain undated.
- 2.1.3 It seems clear that there is currently no part of the historic city where a lack of waterlogged survival over extensive areas can be presumed (OA North 2013, 33), except where they are known to have been removed by modern excavation and/or redevelopment. There is some evidence that subtle changes in the character of the underlying drift geology can result in a lack of waterlogged preservation in some locations, but this has been demonstrated beyond doubt only at one site (Zant 2009, 43), and it is impossible to predict if (or where) similar conditions may pertain elsewhere in the city. The very best preservation of deep and extensive waterlogged stratigraphy seemingly occurs within the shallow valley between the castle and the cathedral (*Section 1.1.1*). However, extremely good preservation has also been attested by excavation in other parts of the city, including the Lanes, on the east (McCarthy 2000; 2010), and Blackfriars Street, on the south (McCarthy 1990), and even at the cathedral (Simpson 1988), which occupies the highest point within the walled city. Whilst the very best deposits do seem to be located in low-lying areas, therefore, it is clear that topography is not a decisive factor in the preservation of waterlogged strata at Carlisle. A lack of modern excavation in the southern half of the city means that the character and extent of preservation is comparatively poorly understood, but numerous antiquarian observations clearly demonstrate that deep waterlogged strata survive over much of this area too (OA North 2013, 33).

- 2.1.4 Most of the remains are of Roman or medieval date, though some waterlogged environmental materials have been recovered from pre-Roman buried soils (eg Huntley 2010; 2012; Kenward *et al* 2010), and organic preservation in isolated features of early medieval date is attested at the Lanes (McCarthy 2000, 48) and Castle Street (McCarthy 1991, 48). Roman levels tend to exhibit the best preservation, since they lie in closer proximity to the water table and are usually well-sealed. The situation is, however, complicated by the presence of large, deep medieval features, most notably the defensive ditches associated with the castle and the city walls, where complex waterlogged stratigraphy is attested (Zant 2009; Zant *et al* 2011a).
- 2.1.5 For the Roman period, it is clear that exceptionally well-preserved organic remains relating to the fort and its putative southern annexe survive over large areas (OA North 2013, 38-42). These deposits, which include the remains of many military timber buildings and other features (Zant 2009; Pl 2), have yielded large assemblages of organic artefacts (Howard-Davis 2009) and a wealth of palaeoenvironmental data (Huckerby and Graham 2009). Outstanding preservation of structural timbers has resulted in the establishment of the best sequence of late first- to early second-century dendrochronological dates for a British site outside of London (Philpott and Brennand 2007, 60; I Tyers *pers comm*), which has allowed the construction phases within the early Roman forts to be dated with exceptional precision. This has in turn led to significant advances in the understanding of the chronology of the Roman military occupation of northern England (Bidwell and Hodgson 2009, 10). The deep, waterlogged strata in these areas are of national, or even international, significance, being equalled at only a few military sites in northern Europe, such as Vindolanda, in Northumberland (Birley 1994), and Valkenburg, in the Netherlands (Glasbergen 1972). Though generally less deeply stratified, the extensive waterlogged remains recorded elsewhere in the city are also highly significant, since such deposits are rare in urban contexts nationally, being attested over large areas at only a few urban centres, such as York, especially in the early medieval levels (Hall 2004), and in parts of London, notably on the Roman waterfronts adjacent to the River Thames (Milne 1985).



Plate 2: Stake-and-wattle animal pen in the probable annexe on the south side of the Roman fort



2.1.6 Preservation of medieval organic remains tends to be limited, at most sites, to the fills of deep-cut features, such as pits and wells, with little or no survival of waterlogged horizontal stratigraphy. Far better preservation is, though, to be found within the large defensive ditches associated with the city defences and the castle, where thick accumulations of exceptionally well-preserved waterlogged strata survive. These frequently contain large assemblages of organic artefacts, such as the unique late fourteenth-century water-carrier from Rickergate (Mould 2011; Pl 3), whilst, in the castle's outer ward ditch, the remains of timber buildings and other structures encroaching into the ditch were attested by excavation during the Millennium Project (Zant 2009, 393-410).



*Plate 3: Wood and leather water-carrier, probably fourteenth century in date, from the ditch fronting the north wall of the medieval city at Rickergate*

## **2.2 THE EVIDENTIAL SIGNIFICANCE OF CARLISLE'S PALAEOENVIRONMENTAL REMAINS**

2.2.1 A review of the extant palaeoenvironmental data for Carlisle was undertaken as part of the desk-based study commissioned by EH in 2012 (OA North 2013, 52-5). This established that a wide range of ecofacts has been recovered during archaeological investigations at many sites within the study area, including buried soil profiles, macroscopic and microscopic plant remains, and invertebrate remains. The bulk are of Roman date, with particularly large and significant assemblages being recovered from the large-scale rescue excavations undertaken by CAU, both within the fort and in the civilian settlement (*eg* Huckerby and Graham 2009; Huntley 1989; 2010; 2012; Large and Kenward 1987; Kenward *et al* 1998; 2010). However, important data pertaining to the later medieval period also survive at some sites, notably within the massive ditch on the south side of the castle's outer ward, investigated during the Millennium Project (Huckerby and Graham 2009, 934-5), the ditch fronting the city's north wall at Rickergate (Huckerby and Bonsall 2011, 57; Kenward 2011, 58-62), and in the many pits and wells excavated at the Lanes (Huntley 2010; 2012; Kenward *et al* 1998; 2010) and on Annetwell Street (Huntley 1989; Large and Kenward 1987). More limited, though regionally significant, palaeoenvironmental remains of other periods have also been recorded at some sites. These include data pertaining to pre-Roman agricultural activity, from the Lanes (Huntley 2010; 2012; Kenward *et al* 1998; 2010), Rickergate (Huckerby and Bonsall 2011, 57; Huckerby 2011, 58; Kenward 2011, 58-62), and the Millennium site (Huckerby and Graham 2009), and waterlogged assemblages from early

medieval (*ie* pre-Norman) timber-lined pits/wells at Castle Street (Goodwin and Huntley 1991; Kenward *et al* 1991) and the Lanes (Kenward *et al* 2010).

### 2.3 PUBLIC INTEREST AND AMENITY VALUE

- 2.3.1 Opportunities for direct public involvement in the archaeology of Carlisle, either as volunteers on fieldwork projects or on organised site visits, appear extremely limited at present, since the last decade has seen a sharp decline in large-scale redevelopment within the city's historic core, and a concomitant reduction in the amount of archaeological work required. Today, the few comparatively small-scale, commercially-driven investigations undertaken are usually carried out to tight schedules, often within a potentially hazardous 'construction site' environment, which renders them largely unsuitable for community involvement.
- 2.3.2 Notwithstanding this, in recent years there has been a considerable increase in public interest in the history and archaeology of Carlisle. Recent upgrading and refurbishment of the Roman galleries at Tullie House Museum, where many of the most notable discoveries of the past 30 years or so are displayed, has played an important part in this process, but it has also been stimulated by high-profile excavations, such as the Millennium Project, which attracted significant regional, national, and even international, media coverage, and which was the subject of conferences and exhibitions that generated considerable local and regional interest. Much of the attention was focused upon the exceptional waterlogged preservation encountered in the lower strata at the site, most of which was associated with the remains of two superimposed turf-and-timber Roman forts of the late first-mid-second centuries AD. A well-attended conference held to celebrate 30 years of excavation in Carlisle resulted in the publication of a book (supported by EH) detailing the current state of knowledge pertaining to the city's history and archaeology (Brennand and Stringer 2011), whilst growing public interest in specific aspects of the city's past (T Padley *pers comm*) has resulted in other publications, including a 'popular' book on the history and development of the Lanes area (Scott-Parker 2006).

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### 3. MANAGEMENT

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#### 3.1 DEVELOPMENT PRESSURE

- 3.1.1 In any historic British city, the threat to buried archaeological remains, posed by redevelopment, will be ever-present, and in this Carlisle is no different from any other historic urban centre. However, what makes Carlisle exceptional, and renders its archaeological heritage even more vulnerable to the pressures of modern development, is the quality and extent of its buried waterlogged deposits. Such strata face not only the direct threat posed by ground works, common to all buried archaeological remains, but also an indirect, and less easily quantifiable, threat from dewatering, which could potentially result from construction works nearby, or possibly even at some considerable distance, which might impact upon the level of the water table (OA North 2013, 60-1). Whilst there is currently no good evidence to suggest that any of Carlisle's waterlogged strata have been adversely affected in this way (*op cit*, 61), the near-absence of reliable data makes the potential threat impossible to quantify.
- 3.1.2 The actual threat posed to Carlisle's waterlogged archaeology will ultimately be dependent upon future patterns of development, which cannot easily be predicted. However, whilst it is the case that no large development projects on the scale of those seen in the past have taken place within the historic city for over a decade, common sense would suggest that this situation will not continue indefinitely. Furthermore, it is equally evident that small-scale redevelopment and construction projects will also continue to take place within the city, each of which could, potentially, have a major impact upon buried waterlogged archaeology.
- 3.1.3 That said, it is clearly the case that some parts of the city have greater potential for waterlogged survival than others, and are consequently at greater risk, though the situation is never likely to be clear cut. In some areas of seemingly high potential, for example over much of the Lanes site, most waterlogged strata have probably been removed by earlier excavation or by construction works, though 'pockets' of survival may still exist. Elsewhere, any development in the zone of exceptional preservation between the castle and the cathedral is likely to cause significant damage to internationally important remains (*Section 2.1.3-5*), though as most of this area is statutorily protected as a Scheduled Monument (*Section 3.3.2*), the threat from future development is likely to be extremely limited.

#### 3.2 EXISTING POLICIES AND PRACTICE

- 3.2.1 Cumbria County Council's *Historic Environment Strategy* (Cumbria County Council 2005) identifies Carlisle as one of the county's 'cultural gems' (*op cit*, 11), and identifies as a priority the need to assist Carlisle City Council in the development of the city as a centre for heritage and cultural tourism. The *Carlisle District Local Plan* for 2001-2016, adopted by Carlisle City Council in 2008, clearly states that '*development will not be permitted where there is an unacceptable impact on scheduled and other nationally important ancient monuments and their settings*' (Carlisle City Council 2008, 112; policy LE6), and also points out that Scheduled Monument Consent is required for any development

affecting a scheduled monument (*ibid*). Significantly, the Council considers archaeological remains within, and associated with, the ‘former walled area of the city’ to be of international importance (*ibid*), and consequently worthy of preservation, though the city’s internationally significant waterlogged archaeological heritage is not specifically mentioned. The Council will ‘*make full use of its statutory powers to safeguard these archaeological remains and will endeavour to preserve them in situ*’, though in ‘exceptional cases’, where preservation is either not justified or not feasible, the Council will ensure (through the planning process) that the archaeological evidence is recorded by prior excavation (*ibid*). Elsewhere in the Plan, the Council sets out in more detail its requirement that the archaeological aspects of development proposals should be adequately examined and evaluated prior to determination. Wherever possible, the Council considers *in situ* preservation to be the preferred option (*op cit*, 115; policy LE9), but where this is not justified, satisfactory arrangements for the excavation and recording of threatened archaeological remains must be made (*ibid*). Monitoring of the potential archaeological aspects of planning applications within the City and District of Carlisle is undertaken by Cumbria County Council’s Historic Environment Service, based in Kendal.

- 3.2.2 The *Local Plan* also states that the Council will ‘*encourage proposals for the enhancement of major archaeological sites*’ (*op cit*, 116; policy LE11). Since the Council (rightly) considers the historic walled city of Carlisle to be a site of international importance (*Section 3.2.1*), it follows that proposals to enhance the setting, interpretation and promotion of the city’s archaeology, including its nationally and internationally significant waterlogged remains, would be looked upon favourably. However, the Plan itself focuses upon those parts of the Frontiers of the Roman Empire: Hadrian’s Wall World Heritage Site that lie within Carlisle District, rather than the historic city, although the Council will ‘*encourage proposals to be brought forward for other sites of archaeological and historical importance*’ (*ibid*).

### **3.3 EXISTING HISTORIC AND ENVIRONMENT DESIGNATIONS**

- 3.3.1 The historic walled city lies outside the Frontiers of the Roman Empire: Hadrian’s Wall World Heritage Site, and also outside the World Heritage Site’s Buffer Zone. However, the northern end of the walled area, occupied by the medieval castle, is situated only a few hundred metres south of the Buffer Zone’s southern boundary.
- 3.3.2 There are six Scheduled Monuments (SMs) within the study area (Fig 3), but there are currently no areas with environmental designations. Two of the SMs comprise sections of the medieval city walls, one extending the length of West Tower Street (SM 414), now wholly below ground, the other an upstanding section on West Walls (SM 337). The whole of the medieval castle, including the historic outer ward (now occupied by the grassed area of Castle Gardens, south of the main castle complex) and a buffer zone surrounding the castle walls, is scheduled (SM 27657), as is most of the cathedral precinct (SM 546). The two remaining monuments comprise discrete areas of the historic cityscape, bounded, for the most part, by modern streets. One (SM 547) encompasses most of the western half of the area of outstanding waterlogged preservation between the castle and the cathedral, bounded by Annetwell Street on the north, Abbey Street on the west, Castle Street on the

east, and Paternoster Row on the south; the areas of the Annetwell Street excavations of 1973-84 (Caruana in prep a; in prep b) and the Castle Street excavation of 1981-2 (McCarthy 1991) are, however, excluded. The other scheduled area (SM 3) lies towards the south-west corner of the walled city, bounded by Blackfriars Street, on the east, and Heads Lane, to the north.

### 3.4 CONCLUSIONS AND RECOMMENDATIONS

- 3.4.1 On present evidence, the best preservation of waterlogged archaeological deposits within the historic city occurs on the north, particularly in the Annetwell Street area, where internationally significant remains of the early Roman forts and associated features, in places including complex waterlogged strata up to 1.5m thick, survive over considerable areas. This exceptional level of preservation is likely to be largely due to the location of this area within a shallow valley between the two low eminences occupied by the medieval castle and the cathedral. However, it is also clear that survival of waterlogged Roman and medieval strata of regional, national, and (in some cases) international significance can be anticipated almost anywhere within the walled city and, to a more limited extent, in the historic suburbs, especially in the ditches associated with the medieval city defences and in the ancient river channels north of the historic settlement. Whilst there is limited evidence that subsoil variations may result in an absence of waterlogged preservation in some parts of the study area, this cannot be predicted on present evidence.
- 3.4.2 Consequently, it is vital that the greatest vigilance is exercised in the consideration of planning applications pertaining to the study area, and that any potential for waterlogged survival is highlighted during the earliest stages of the planning process. Indeed, since it seems clear that there is the potential for good or exceptional preservation of waterlogged remains almost anywhere within the walled city (and, to a lesser degree, within the historic suburbs), there should be a presumption, in the preparation of all archaeological briefs, that significant waterlogged deposits will survive, at least in the lower strata. It is also of the utmost importance that briefs ensure that adequate provision is made for dealing with such deposits, in terms of excavation, recording, conservation, analysis and publication, if they cannot be preserved *in situ*.
- 3.4.3 Of the six areas of the city currently under statutory protection as Scheduled Monuments, four encompass areas of the historic townscape where significant or exceptional preservation of waterlogged archaeological deposits has either been demonstrated beyond doubt (*ie* by modern excavation), or where such levels of preservation seem certain, based on evidence from other sources, including antiquarian observations and earlier excavations. Most of the area of exceptional preservation known from excavations at Annetwell Street (Caruana in prep a; in prep b), Castle Street (McCarthy 1991) and the Millennium Project (Zant 2009; Howard-Davis 2009), is legally protected, lying within either SM 547 (Annetwell Street/Abbey Street/Castle Street/Paternoster Row), to the south of the Castle Way ring-road (Fig 3), or SM 27657 (Carlisle Castle) on the north. However, the zone traversed by Castle Way itself is not scheduled, though the Millennium excavations demonstrated excellent survival of waterlogged medieval strata, several metres deep, beneath the road, within the defensive ditch on the south side of the castle's

outer ward (Zant 2009, 393-410). Good preservation of some early Roman remains associated with the fort was also recorded (*op cit*, 184-91). Waterlogged remains within the precinct of Carlisle Cathedral are also largely protected (SM 546), though the character and extent of preservation in this area has only been hinted at by limited archaeological works (Simpson 1988). The area around the 1977-9 excavation on Blackfriars Street (McCarthy 1990), where good organic survival in early Roman levels was demonstrated, is also scheduled (SM 3; Heads Lane/West Walls/ Blackfriars Street), though over some parts of this monument such remains are likely to have been wholly or largely removed, either during the excavations themselves, or the subsequent construction works.

- 3.4.4 Since there is clearly the potential for good or excellent preservation of waterlogged archaeological deposits over much of the historic walled city (OA North 2013, 33), except where they are known to have been wholly or largely removed by excavation and/or construction, it is difficult to identify a particular area of the city, not currently scheduled, that might be a candidate for statutory protection. The most obvious area is the eastern part of the shallow valley between the castle and the cathedral (broadly analogous to the area of SM 547 and the north-western part of SM 546, on the west), bounded by Castle Way on the north, Castle Street on the west, Fisher Street on the east, and St Mary's Gate on the south (Fig 3). Logically, there is no good reason why organic preservation in this area should be any less exceptional than that within SM 547, the only difference between the two being in the present state of archaeological knowledge. In the case of SM 547, the significance of the waterlogged archaeological resource has been amply demonstrated by extensive modern excavation (*Section 2.1.3-6*), but, east of Castle Street, virtually no archaeological investigation has occurred within the area under consideration, and there are no useful antiquarian records. Consequently, nothing is certainly known of the character and extent of the waterlogged archaeological remains in this area. However, salvage excavations undertaken in 1977-8 on the south side of St Mary's Gate (Fig 2; Fig 3), immediately south of this area, hinted at good or excellent waterlogged preservation in Roman levels, and in deep-cut medieval features (Neal and Flynn in prep).
- 3.4.5 There may also be a case for offering protection to part of the medieval castle's outer ward ditch, currently situated beneath the Castle Way ring road (Fig 3), where outstanding preservation of waterlogged strata, up to 3m deep, has been proven by modern excavation (Zant 2009, 36; *Section 3.4.3*). These deposits include the remains of timber buildings, fences and other structures within late medieval tenement plots that encroached into and over the partially filled ditch (*op cit*, 392-410).

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## 4. BIBLIOGRAPHY

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- Bidwell, P, and Hodgson, N, 2009 *The Roman army in northern England*, Newcastle upon Tyne
- Birley, R, 1994 *The early wooden forts*, Vindolanda Res Rep, n ser, **1**, Bardon Mill
- Brennand, M (ed), 2007 *Research and archaeology in north-west England. An archaeological research framework for north-west England: Volume 2. Research agenda and strategy*, Archaeol North-West, **9**, Manchester
- Brennand, M, and Stringer, K (eds), 2011 *The making of Carlisle, from Romans to railways*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **35**, Kendal
- British Geological Survey, 1982 *Solid geology*, 1:250 000 map, sheet 54° N 04° W
- Carlisle City Council, 2008 *Carlisle District Local Plan 2001-2016: written statement*, Carlisle
- Caruana, ID, 1992 Carlisle: excavation of a section of the annexe ditch of the first Flavian fort, 1990, *Britannia*, **23**, 45–109
- Caruana, ID, in preparation a *The Roman forts at Carlisle: excavations at Annetwell Street 1973–84*
- Caruana, ID, in preparation b *The Roman forts at Carlisle: excavations at Annetwell Street 1989-90*
- Charlesworth, D, 1980 The south gate of a Flavian fort at Carlisle, in WS Hanson and LJJ Keppie (eds), *Roman frontier studies 1979*, BAR Int Ser, **71**, Oxford, 201-10
- Cumbria County Council, 2005 *Cumbria County Council's Historic Environment Strategy*, Kendal
- Donaldson, AM, 1977a *Botanical report on material from Carlisle, Tullie House (Annetwell Street) excavation 1976*, Ancient Monuments Laboratory Rep, old ser, **2389**, unpubl rep
- Donaldson, AM, 1977b *Botanical report from Carlisle Tullie House excavations*, Ancient Monuments Laboratory Rep, old ser, **3218**, unpubl rep
- Donaldson, AM, 1977c *Botanical report on material from Carlisle, Vasey's excavation 1976*, Ancient Monuments Laboratory Rep, old ser, **2387**, unpubl rep
- Donaldson, A, 1980 *Carlisle 1973-75 Comments on seed reports (addendum to AML report no 2402)*, Ancient Monuments Laboratory rep, old ser, **3222**, unpubl rep
- Edwards, BJN, and Shotter, DCA, 2005 Two Roman milestones from the Penrith area, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 3 ser, **5**, 65–77
- Ferguson, RS, 1878 On the remains of a stockade recently found in Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **3**, 134–40
- Ferguson, RS, 1880 On the remains of a medieval stockade recently found in Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **4**, 41–3
- Ferguson, RS, 1893 On a massive timber platform of early date uncovered at Carlisle: and on sundry relics found in connection therewith, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **12**, 344–64

- Ferguson, RS, and Hetherington, C, 1880 On the remains of a Roman stockade recently found in Carlisle, continued, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **4**, 91–5
- Glasbergen, W, 1972 *De Romeinse Castella te Valkenburg ZH: de opgravingen in de dorpsheuvel in 1962, (Cingula I)*, Groningen
- Goodwin, K, and Huntley, JP, 1991 The waterlogged plant remains and woodland management studies, in MR McCarthy (ed), *The Roman waterlogged remains and later features at Castle Street, Carlisle: excavations 1981-2. Fascicule 1: the structural sequence and environmental remains*, Cumberland Westmorland Antiq Archaeol Soc Res Ser, **5**, Kendal, 54-64
- Guttman-Bond, E, 2009 Pre-Roman soil micromorphology: thin section analysis of Period 1 buried soil 6649, in *The Carlisle Millennium Project. Excavations in Carlisle 1998-2001, Volume 3: appendices*, Lancaster Imprints, **15**, Lancaster, 1525-7
- Hall, RA (ed), 2004 *Aspects of Anglo-Scandinavian York*, York
- Hogg, R, 1952 The historic crossings of the River Eden at Stanwix, and their associated road systems, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **52**, 131–59
- Howard-Davis, C (ed), 2009 *The Carlisle Millennium Project: excavations in Carlisle 1998-2001, Volume 2: finds*, Lancaster Imprints, **15**, Lancaster
- Huckerby, E, 2009 The palynological analysis of pre-Roman buried soil 6649, in *The Carlisle Millennium Project: excavations in Carlisle 1998-2001, Volume 3: appendices*, Lancaster Imprints, **15**, Lancaster, 1528-32
- Huckerby, E, 2011 The pollen, in Zant *et al* 2011a, 58
- Huckerby, E, and Bonsall, S, 2011 The charred and waterlogged plant remains, in Zant *et al* 2011a, 56-8
- Huckerby, E, and Graham, F, 2009 Waterlogged and charred plant remains, in Howard-Davis 2009, 926-36
- Huntley, JP, 1989 *Plant remains from Annetwell Street, Carlisle, Cumbria: a synthesis*, Ancient Monuments Laboratory Rep, new ser, **107/89**, unpubl rep
- Huntley, JP, 1991 *Botanical remains in samples from Tullie House extension (ANN D and ANN E), and Tullie House basement (ABB B) sites (Carlisle)*, Durham Environmental Archaeol Rep, **1/91**, unpubl rep
- Huntley, JP, 2010 The plant and wood remains, in McCarthy 2010, 107-30
- Huntley, JP, 2012 *The Lanes 2, Carlisle - the Roman sequence: charred and waterlogged plant remains and non-structural wood*, unpubl rep
- Keeley, HCM, 1990 The soil profile, in McCarthy 1990, 315-16
- Keeley, HCM, in preparation Geology and soils, in Caruana in preparation a
- Keepax, CA, 1977 *Roman Carlisle: environmental investigations*, Ancient Monuments Laboratory Rep, old ser, **2402**, unpubl rep
- Kenward, HK, 2011 The insects, in Zant *et al* 2011a, 58-60
- Kenward, HK, Allison, EP, Morgan, LM, Jones, AKG, and Hutchinson, AR, 1991 The insect and parasite remains, in MR McCarthy (ed), *The Roman waterlogged remains and later features at Castle Street, Carlisle: excavations 1981-2. Fascicule 1: the structural*



*sequence and environmental remains*, Cumberland Westmorland Antiq Archaeol Soc Res Ser, **5**, Kendal, 65-73

Kenward, HK, Allison, EP, Dainton, M, Kemenés, IK, and Carrott, JB, 2010 The insect and parasite remains, in McCarthy 2010, 131-42

Kenward, HK, Large, FD, and Carrott, JB, 1998 *The archaeological significance of insect and other invertebrate remains from Keay's and Law's Lanes, The Lanes, Carlisle. Technical report*, Environmental Archaeol Unit Rep, **98/32**, unpubl rep

Large, FD, and Kenward, HK, 1987 *Insect remains from Annetwell Street, Carlisle*, unpubl rep

McCarthy, MR, 1990 *A Roman, Anglian, and medieval site at Blackfriars Street, Carlisle*, Cumberland Westmorland Antiq Archaeol Soc, Res Ser, **4**, Kendal

McCarthy, MR, 1991 *The Roman waterlogged remains and later features at Castle Street, Carlisle: excavations 1981-2*, Cumberland Westmorland Antiq Archaeol Soc, Res Ser, **5**, Kendal

McCarthy, MR, 1993 *Carlisle: history and guide*, Stroud

McCarthy, MR, 2000 *Roman and medieval Carlisle: the southern Lanes, excavations 1981-2*, Univ Bradford Res Rep, **1**, Carlisle

McCarthy, MR, 2002 *Roman Carlisle and the lands of the Solway*, Stroud

McCarthy, MR, 2010 *Roman and medieval Carlisle, the Lanes Volume 1: excavations at Old Grapes, Crown and Anchor and Lewthwaite's Lanes 1981-2, Fascicule 1: the stratigraphic sequence, absolute dating and the environmental remains*, [http://archaeologydataservice.ac.uk/archives/view/southlanes\\_eh\\_2010/](http://archaeologydataservice.ac.uk/archives/view/southlanes_eh_2010/)

McCarthy, MR, Summerson, HRT, and Annis, RG, 1990 *Carlisle Castle: a survey and documentary history*, English Heritage Archaeol Rep, **18**, London

McKie, HU, 1880 Remarks and memoranda as to the subsoil, debris, and ancient remains discovered in cutting the sewers in the City of Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **4**, 337-43

Macphail, R, 1980 *Soil report on 'dark earth' at Keay's Lane, Carlisle*, Ancient Monuments Laboratory Rep, old ser, **3058**, unpubl rep

Milne, G, 1985 *The port of Roman London*, London

Mould, Q, 2011 The leather from the medieval defensive ditch, in Zant *et al* 2011a, 35-54

Neal, DS, and Flynn, PA, in preparation *Roman and medieval excavations at Castle Street, Fisher Street and the Market, Carlisle*

Newman, RM, 2011 The early medieval period, in Brennand and Stringer 2011, 69-84

OA North, 2013 *The distribution of waterlogged deposits in Carlisle: final report*, unpubl doc

Perriam, DR, 1976 The demolition of Carlisle city walls, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **76**, 184-98

Philpott, R, and Brennand, M, 2007 The Romano-British period research agenda, in Brennand 2007, 55-72

Scott-Parker, M (ed), 2006 *Memories of the Lanes*, Carlisle

- Shaw, P, 2010 *Analysis of plant macrofossil remains in their stratigraphic sequence from 42-48 Scotch Street, Carlisle, with special reference to the medieval period, with a brief evaluation of the material in relation to other medieval remains from Carlisle*, unpubl thesis, Univ Durham
- Simpson, G, 1988 Further notes on Carlisle Cathedral excavations 1953, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **88**, 87–96
- Stallibrass, S, and Huntley, JP, 2011 Carlisle's early environment and setting, in Brennand and Stringer 2011, 21-32
- Summerson, RT, 1993 *Medieval Carlisle: the city and the Borders from the late eleventh to the mid-sixteenth century*, Cumberland Westmorland Antiq Archaeol Soc, Res Ser, **25**, Kendal
- Van de Noort, R, 2004 Carlisle draft archaeological management plan, *Heritage management of England's wetlands*, unpubl doc
- Zant, J, 2009 *The Carlisle Millennium Project: excavations in Carlisle 1998-2001, Volume 1: stratigraphy*, Lancaster Imprints, **14**, Lancaster
- Zant, J, 2011 The Roman army in Carlisle, in Brennand and Stringer 2011, 33-52
- Zant, J, and Howard-Davis, C, in preparation *Roman and medieval Carlisle: the northern Lanes, excavations 1978-82. Volume 1: the Roman period*
- Zant, J, Miller, I, Howard-Davis, C, and Mould, Q, 2011a The defences of medieval Carlisle: excavations at Rickergate, 1998-9, in RM Newman (ed), *Carlisle: excavations at Rickergate, 1998-9 and 53-55 Botchergate, 2001*, Cumbria Archaeol Res Rep, **2**, Bowness-on-Windermere, 5-69
- Zant, J, Miller, I, Murphy, S, and Hughes, V, 2011b Archaeological excavations on a Roman cemetery, industrial site and medieval suburb at 53-55 Botchergate, Carlisle, 2001, in RM Newman (ed), *Carlisle: excavations at Rickergate, 1998-9 and 53-55 Botchergate, 2001*, Cumbria Archaeol Res Rep, **2**, Bowness-on-Windermere, 70-116

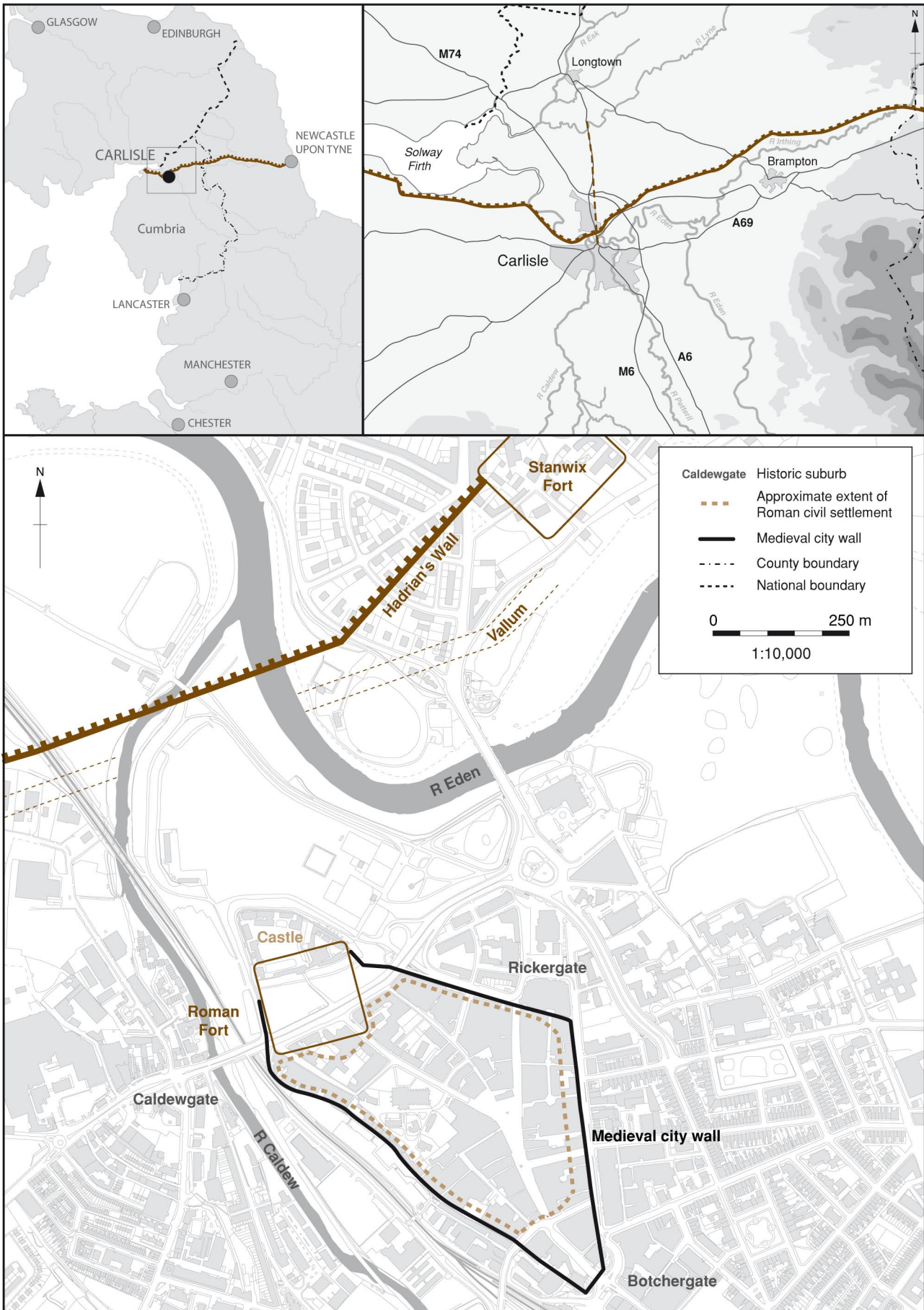


Figure 1: Location plan

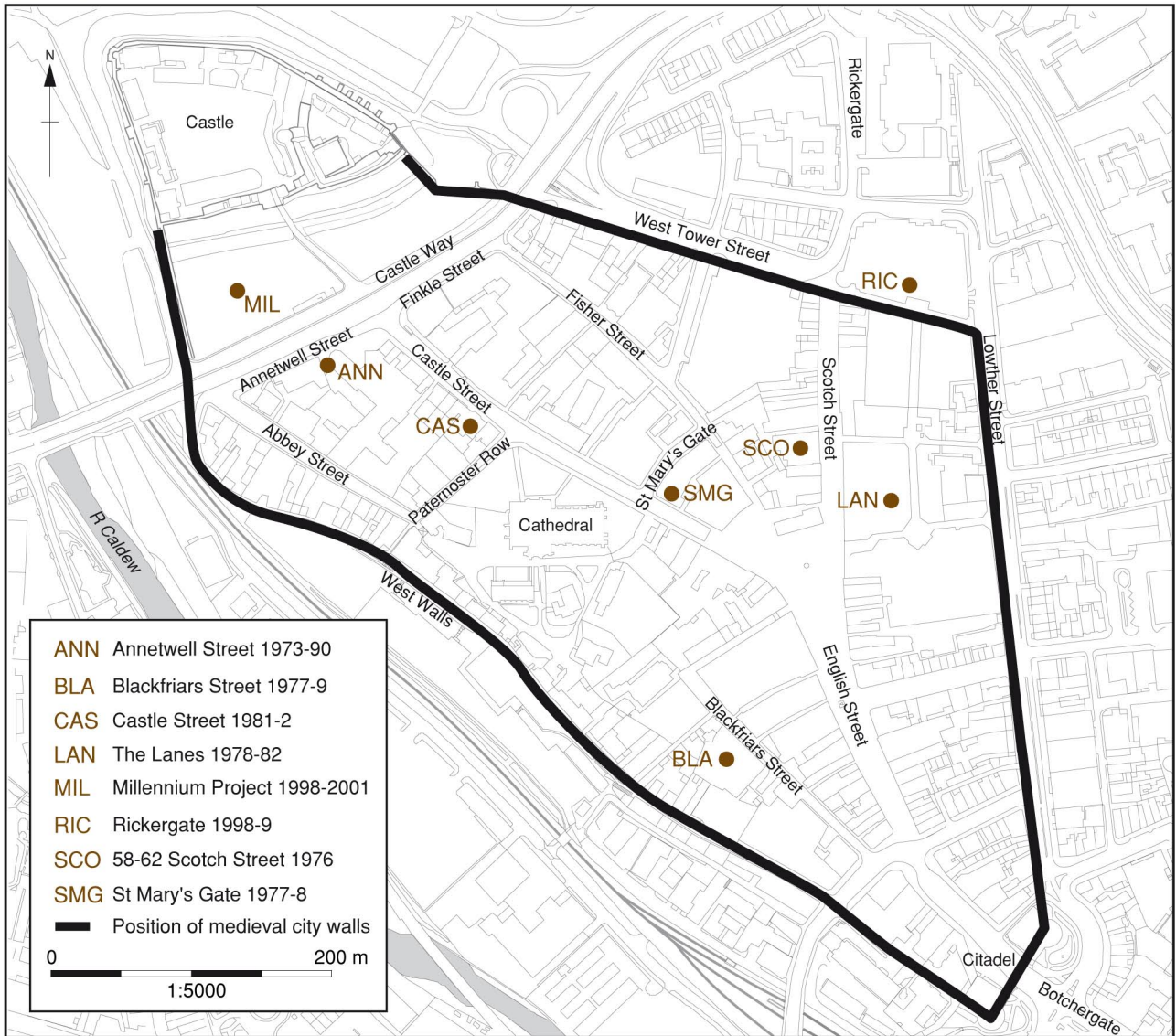


Figure 2: The study area, showing location of major archaeological excavations

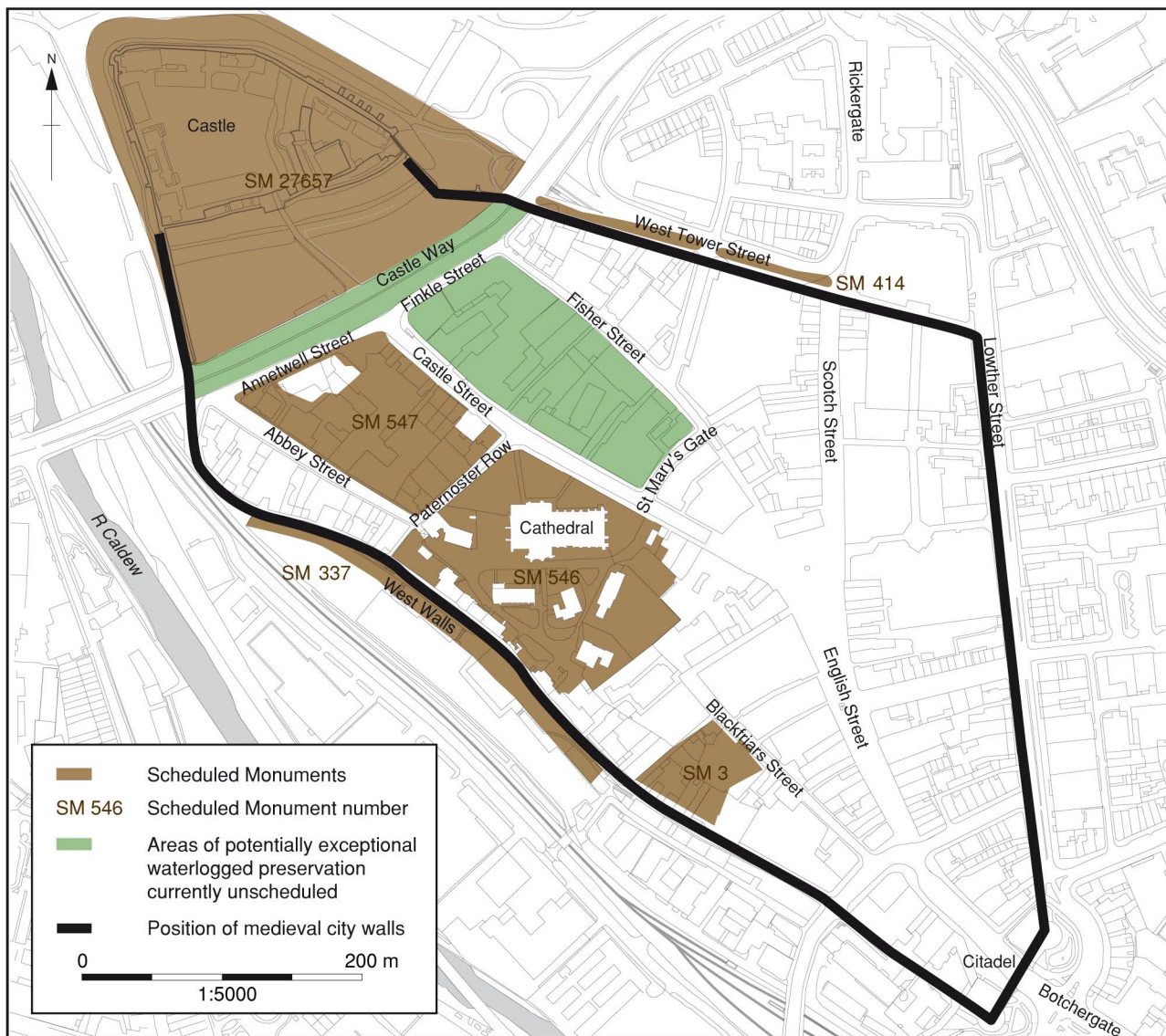


Figure 3: The study area, showing Scheduled Monuments and other areas of potentially outstanding waterlogged preservation



## **Oxford Archaeology North**

Mill 3

Moor Lane Mills

Moor Lane

Lancaster

LA1 1QD

t: (01524 541000

f: (01524) 848606

e: [oanorth@oxfordarch.co.uk](mailto: oanorth@oxfordarch.co.uk)

w: [www.oxfordarch.co.uk](http://www.oxfordarch.co.uk)

Director and Chief Executive:  
David Jennings BA MIFA FSA

Private Limited Company Number: 1618597

Registered Charity Number: 285627

Registered Office: Oxford Archaeology Ltd.  
Janus House, Osney Mead, Oxford, OX2 0ES