



# THE LANES, CARLISLE, VOLUME 2

**Project Design for  
Completion of the  
Publication  
Programme**



**Oxford Archaeology North**

April 2009


English Heritage

English Heritage Project Number:  
**2950**

OAN Issue No: 2009/ 937

OAN Job No: L9675

NGR: NY 4015 5606

<b>Title</b>	<b>THE LANES, CARLISLE, VOLUME 2: PROJECT DESIGN FOR COMPLETION OF THE PUBLICATION PROGRAMME</b>
<b>Project Number</b>	2950
<b>Author</b>	John Zant
<b>Derivation</b>	Preceded by <i>The Northern Lanes, Carlisle, Cumbria: Proposals</i>
<b>Origination date</b>	March 2006
<b>Reviser</b>	Rachel Newman
<b>Date of this, latest, version</b>	April 2009
<b>Version</b>	1.0
<b>Status</b>	Final
<b>Summary of changes</b>	n/a
<b>Circulation</b>	English Heritage: Helen Keeley, Kath Buxton, Barney Sloane
<b>Required action</b>	Comment by 25/06/09
<b>File name/location</b>	X:/Carol/Lanes/Lanes PD/report text/Lanes PD.doc
<b>Approval:</b>	
<b>Rachel Newman (Project Manager)</b>	
<b>On behalf of English Heritage</b>	

**Oxford Archaeology North**

Mill 3  
Moor Lane Mills  
Lancaster  
LA1 1GF  
t: (0044) 01524 848666  
f: (0044) 01524 848606

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

**© Oxford Archaeological Unit Ltd (2009)**

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

Oxford Archaeological Unit Limited is a Registered Charity No: 285627

**Disclaimer:**

*This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees, and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.*

---

## CONTENTS

---

<b>CONTENTS.....</b>	<b>1</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>6</b>
<b>SUMMARY .....</b>	<b>7</b>
<b>1. PROJECT DESCRIPTION.....</b>	<b>9</b>
1.1 Project Name and Number .....	9
1.2 Background .....	9
1.3 The Lanes Excavations .....	10
1.4 The Lanes Standing Building Recording Programme .....	11
1.5 The Lanes Historical Survey .....	11
1.6 The Lanes Post-Excavation Programme .....	11
1.7 Business Case .....	13
1.8 Circumstances of this Project Design and Project Scope .....	15
1.9 The Lanes Archive.....	16
<b>2. AIMS AND OBJECTIVES .....</b>	<b>18</b>
2.2 Aim 1.....	18
2.3 Aim 2.....	18
2.4 Aim 3.....	18
2.5 Aim 4.....	19
<b>3. ASSESSMENT RESULTS.....</b>	<b>20</b>
3.1 Introduction .....	20
3.2 North Lanes Phasing .....	20
3.3 North Lanes Monograph Report (Stratigraphic Narrative).....	22
3.4 North Lanes Monograph (Stratigraphic Narrative) Illustrations .....	22
3.5 North Lanes Standing Building Records.....	24
3.6 North Lanes Historical Research .....	30
3.7 North Lanes Pottery Reports .....	30
3.8 North Lanes Pottery Illustrations.....	31
3.9 North Lanes Artefactual Reports.....	32
3.10 North Lanes Artefactual Illustrations.....	36
3.11 North Lanes Environmental Reports .....	38
3.12 South Lanes Monograph (Stratigraphic Narrative) .....	40
3.13 South Lanes Fascicule 1 (Stratigraphy and Environmental Remains).....	41
3.14 South Lanes Fascicule 2 (Roman and Medieval Finds).....	41
3.15 South Lanes Fascicule 3 (Roman and Medieval Pottery) .....	41
3.16 South Lanes Standing Building Records .....	42
3.17 South Lanes Historical Research.....	48
<b>4. CONCLUSIONS .....</b>	<b>49</b>
4.1 Introduction .....	49
4.2 Summary of North Lanes Assessment .....	49
4.3 Summary of South Lanes Publication Status .....	56
<b>5. STATEMENT OF POTENTIAL .....</b>	<b>59</b>
5.1 Introduction .....	59

5.2	Principal Potential.....	61
5.3	National Research Priorities.....	80
5.4	Local and Regional Research Priorities.....	82
5.5	Publication Strategy.....	89
<b>6.</b>	<b>RECOMMENDATIONS.....</b>	<b>92</b>
6.1	Introduction.....	92
6.2	Execution Stage 1: Assessment.....	93
6.3	Review ( <i>MoRPHE</i> Review Point R3).....	98
6.4	Execution Stage 2: Analysis and Publication.....	98
<b>7.</b>	<b>UPDATED AIMS AND OBJECTIVES.....</b>	<b>115</b>
7.1	Introduction.....	115
7.2	Aim 1.....	115
7.3	Aim 2.....	115
7.4	Aim 3.....	116
7.5	Aim 4.....	117
7.6	Aim 5.....	118
7.7	Aim 6.....	118
7.8	Aim 7.....	119
7.9	Aim 8.....	119
7.10	Aim 9.....	119
7.11	Aim 10.....	119
7.12	Aim 11.....	120
7.13	Aim 12.....	120
7.14	Aim 13.....	121
7.15	Aim 14.....	121
7.16	Aim 15.....	121
7.17	Aim 16.....	122
7.18	Aim 17.....	122
7.19	Aim 18.....	123
7.20	Aim 19.....	123
7.21	Aim 20.....	124
7.22	Aim 21.....	124
7.23	Aim 22.....	124
7.24	Aim 23.....	125
7.25	Aim 24.....	125
<b>8.</b>	<b>METHOD STATEMENT.....</b>	<b>126</b>
8.1	Introduction.....	126
8.2	Execution Stage 1: Assessment.....	126
8.3	Review ( <i>MoRPHE</i> Review Point R3).....	133
8.4	Execution Stage 2: Analysis and Publication.....	134
<b>9.</b>	<b>PUBLICATION SYNOPSIS.....</b>	<b>149</b>
9.1	Introduction.....	149
9.2	Academic Report Structure.....	149
9.3	Outline Synopsis of the Academic Report.....	150
9.4	Outline Synopsis of the Popular Publication.....	1577

---

<b>10. RESOURCES, MANAGEMENT AND PROGRAMMING.....</b>	<b>159</b>
10.1 Programming .....	159
10.2 Management and Project Assurance .....	159
10.3 Project Team.....	159
<b>11. BIBLIOGRAPHY.....</b>	<b>163</b>
Primary Sources .....	163
Secondary Sources .....	163
<b>12. COSTS.....</b>	<b>169</b>
<b>APPENDIX 1: PRE-ROMAN AND ROMAN INDIVIDUALLY REGISTERED FINDS REQUIRING ILLUSTRATION.....</b>	<b>172</b>
<b>APPENDIX 2: POST-ROMAN INDIVIDUALLY REGISTERED FINDS REQUIRING ILLUSTRATION .....</b>	<b>181</b>
<b>APPENDIX 3: LIST OF PRODUCTS AND TASKS .....</b>	<b>186</b>
<b>APPENDIX 4: RISK LOG .....</b>	<b>195</b>
<b>FIGURES.....</b>	<b>196</b>

---

**LIST OF TABLES**

---

Table 1	Summary of principal stratigraphic periods identified on the northern Lanes.....	21
Table 2	Summary status of stratigraphic drawings for the north Lanes monograph.....	23
Table 3	Summary of records available for north Lanes standing building recording events.....	25-6
Table 4	Summary of numbered standing building recording drawings in north Lanes archive.....	27-8
Table 5	Summary of standing building recording written records in north Lanes archive (includes sketches stored with written records).....	29
Table 6	List of former lanes in the north Lanes area with and without street furniture record sheets.....	30
Table 7	Summary status of pottery drawings for north Lanes publication.....	32
Table 8	Summary of archive-standard artefact drawings in the north Lanes archive that are not duplicated by publication-standard drawings.....	37
Table 9	Summary of records available for south Lanes standing building recording events.....	43-5
Table 10	Summary of standing building recording drawings in south Lanes archive.....	45-6
Table 11	Summary of standing building recording written records in south Lanes archive (includes sketches stored with written records).....	46-7
Table 12	List of former lanes in the south Lanes area with and without street furniture record sheets.....	47
Table 13	Availability and completeness of draft north Lanes publication reports.....	49-51
Table 14	Availability and completeness of north Lanes publication drawings and standing building illustrations.....	51-2
Table 15	Availability of draft south Lanes publication reports, standing building records/illustrations, and historical research notes.....	57-8
Table 16	Categories of artefactual and environmental materials requiring assessment.....	94
Table 17	North Lanes specialist reports not commissioned.....	104

Table 18	Partially completed north Lanes specialist reports requiring further work prior to publication.....	106
Table 19	Completed north Lanes specialist reports requiring minor revision prior to publication.....	109-10

---

## ACKNOWLEDGEMENTS

---

OA North is grateful to Mark Bowden, Andrew Davison and Barney Sloane of English Heritage, for their assistance and advice during the preparation of this north Lanes Project Design.

Tim Padley of Tullie House Museum and Art Gallery, and Richard Newman and Mark Brennand of Cumbria County Council's Historic Environment Service, provided advice and assistance throughout the project. Tim also facilitated access to the Lanes project archive currently stored in Shaddon Mill.

OA North is particularly grateful to the following specialists for taking the time to respond to enquiries about their work on the Lanes project and, where appropriate, for providing estimates of resource requirements to revise or complete their reports: Elizabeth Allnutt, Simon Davis, Brenda Dickinson, Celia Harding, Kay Hartley, Martin Henig of the University of Oxford, Louise Hird, Jacqui Huntley of the University of Durham, Harry Kenward of the University of York, Richard MacPhail, Jenny Price, Tim Padley of Tullie House Museum and Art Gallery, David Shotter, Sue Stallibrass, English Heritage Science Advisor for North West England, Chris Tolan-Smith, Cathy and Ian Tyers, Penelope Walton-Rogers of the Anglo-Saxon Laboratory at York, and Sue Winterbottom. Additionally, the following specialists are thanked for providing advice and/or estimates of resource requirements for undertaking work on outstanding aspects of the post-excavation programme, either assessment or analysis: David Higgins (clay tobacco pipes), Tim Young (metalworking debris), David Smith of the University of Birmingham (post-Roman insect remains), and Stephen Wadeson (samian).

For OA North, production of the north Lanes Project Design was managed by Rachel Newman. The report was written by John Zant and edited and checked by Rachel Newman. The illustrations were prepared by Anne Stewardson. Other OA North personnel who provided important contributions to the Project Design include Christine Howard-Davis, Finds Manager, Elizabeth Huckerby, Environmental Manager, Andrew Bates (post-Roman animal bones), Jeremy Bradley (post-Roman pottery), Jo Cook (information technology), Adam Parsons (illustrations and photography), and Chris Wild (standing buildings).

Production of the north Lanes Project Design was funded by English Heritage.



---

## SUMMARY

---

From 1978 to 1982, Carlisle Archaeological Unit (CAU; Carlisle Archaeology Ltd (CAL) from 1999) carried out a programme of archaeological excavation and standing building recording, funded in part by the then Department of the Environment, prior to the redevelopment of the Lanes, a densely built-up area of approximately 2.8ha (6.9 acres) situated within the north-east angle of Carlisle's medieval city defences. In total, some 26 excavation trenches were opened over the site as a whole, and a further 20 areas were subjected to watching brief. Over 2m of deeply stratified archaeological deposits were encountered over much of the area investigated, and these were excavated by hand to the natural subsoil. Extensive and extremely well-preserved strata of Roman and medieval date, including some waterlogged deposits, were recorded, together with more limited prehistoric and post-medieval remains. In total, approximately 10,400 context numbers were issued. Approximately 120 of the 140 standing buildings earmarked for demolition were recorded to some degree. These were mostly of nineteenth-century date, but included some late eighteenth-century structures and a few that were found to incorporate probable late seventeenth-early eighteenth-century elements. An historical survey of documentary evidence pertaining to the development of the Lanes area in the medieval and early post-medieval periods was also undertaken.

Following completion of the fieldwork and basic post-excavation processing, the project remained static for several years. During the 1990s, English Heritage provided funding for a programme of analysis leading to publication. To facilitate this work, the project was sub-divided into the southern and northern Lanes, of which the latter formed by far the largest element (*c* 83%, in terms of context numbers issued). The south Lanes monograph, providing a synthesis and discussion of the stratigraphic sequence, supported by abridged reports on the principal classes of artefactual and environmental data, was published in 2000. However, although a considerable amount of work was undertaken, the north Lanes post-excavation programme remained incomplete, and the data unpublished, when CAL ceased trading in 2001, nor had the detailed finds and environmental data from the south Lanes been adequately disseminated.

At the request of English Heritage, Oxford Archaeology North (OA North) produced a proposal in 2005-6 for the production of a full project design to assess the completeness of the north Lanes publication programme, to complete analytical work, and to publish the results. The current status of the south Lanes publication programme was also to be ascertained. On the basis of the proposal, OA North was commissioned to produce the current project design.

The principal aims of the project design were to provide a detailed assessment of the current status of the north Lanes publication programme, and to produce a method statement and updated project design for the completion of outstanding works and publication of the north Lanes data. Additionally, in view of the likely importance of the standing building recording programme for the Lanes project as a whole (both north and south), the standing building data for the south Lanes were assessed, in order to determine the feasibility of integrating the data into the north Lanes

publication. The current status of the specialist reports prepared for the south Lanes publication programme was also ascertained.

The work involved conducting a thorough search of the north Lanes archive in Shaddon Mill, Carlisle, and establishing contact with relevant specialists, in order to raise awareness of the project, to obtain copies of specialist reports where these were not present in the archive, and to determine resource requirements for revision or completion of existing report texts. As a result, a detailed and comprehensive listing of the current status of all elements of the north Lanes publication programme has been compiled, and missing or incomplete elements have been highlighted. An inventory of the south Lanes standing building records has also been produced, and the current status of the south Lanes specialist reports has been established. Detailed methodologies and resource requirements to bring the north Lanes to publication, and to integrate the south Lanes standing building data into the north Lanes report, have been prepared, together with a publication synopsis.

---

## 1. PROJECT DESCRIPTION

---

### 1.1 PROJECT NAME AND NUMBER

- 1.1.1 The name and number ascribed by English Heritage to the current project are *The Lanes Volume 2: Project Number 2950*. The present project design is intended to provide a comprehensive assessment of the current state of the post-excavation and publication programme for the northern part of the Lanes site in Carlisle, and for the standing building recording programme for both the northern and southern Lanes. It also contains an updated project design and resource requirements to disseminate adequately the results of this major urban archaeological investigation.
- 1.1.2 The project design represents the Initiation stage of the north Lanes project, as defined in English Heritage's *Management of Research Projects in the Historic Environment (MoRPHE)* (English Heritage 2006, 12). It builds upon the initial proposal (OA North 2006), which marked the project's Start-up stage (English Heritage 2006, 12), and makes the case for progressing the project to the Execution stage (*op cit*, 14), which would see the completion of all outstanding assessment and analytical work on the north Lanes material, and publication of the results.

### 1.2 BACKGROUND

- 1.2.1 In the mid-1970s, Carlisle City Council drew up proposals for the redevelopment of the Lanes, a densely built-up but run down area situated in the heart of the historic city of Carlisle, Cumbria (NY 4015 5606; Fig 1). The development site comprised a roughly rectangular block of land approximately 2.8ha (6.9 acres) in extent (McCarthy 2000, 5), bounded on the west by the line of Scotch Street and English Street, which formed a major north-south thoroughfare in the Roman, medieval and post-medieval periods, and on the south by Bank Street, which may have originated as a lane running along the northern boundary of the medieval Franciscan friary (Jones 1981, 160-1). To the north and east, the site was defined by East Tower Street and Lowther Street respectively (Fig 1). In the medieval period, the junction of these streets marked the north-eastern corner of the city defences (Perriam 1976, 193-4), and the proposed development therefore lay wholly within the defended area. In total, the site occupied almost 10% of the entire medieval walled city (McCarthy 2000, 4).
- 1.2.2 The Lanes took its name from 19 narrow lanes or vennels that crossed the area from east to west, and which survived into the 1970s (Fig 2). Most ran between Scotch Street and Lowther Street, although a few terminated short of the Lowther Street frontage, in some cases opening into enclosed yards or courts. At the time of the proposed development, very little was known of the history or archaeology of the area, although it had been suggested that development of the lanes themselves may have begun during the Elizabethan period (*op cit*, 1). Much of the site was densely occupied by buildings of nineteenth- and twentieth-century date, although eighteenth-century structures

were also present, particularly on the Scotch Street frontage. The redevelopment entailed the demolition of approximately 80% of these buildings to facilitate the construction of a shopping centre with underground car parking.

- 1.2.3 Previous archaeological work in the Lanes area had been restricted to small-scale excavations by Robert Hogg in 1953 (Hogg 1955) and by Peter Clack and Paul Gosling in 1975 (McCarthy 2000, 7), both of which confirmed the presence of complex Roman and medieval deposits. Limited work by Tom Clare and Colin Richardson on the opposite side of Scotch Street in 1976 produced similar results (Clare and Richardson in prep; McCarthy *et al* 1988, 3), and a number of antiquarian discoveries had also been noted. This body of work, whilst of limited extent, provided a strong indication that well-preserved and deeply stratified archaeological deposits of Roman and medieval date survived over much of the development site, and that construction of the shopping centre would result in the total destruction of these remains over a large part of the historic city. Consequently, a phased programme of archaeological excavation, standing building recording and historical survey, funded in part by the then Department of the Environment, was undertaken by Carlisle Archaeological Unit (CAU) between 1978 and 1982.

### 1.3 THE LANES EXCAVATIONS

- 1.3.1 The north Lanes excavations comprised a phased programme of archaeological excavations undertaken between 1978 and 1982. In total, some 26 excavation trenches were opened over the site as a whole, and a further 20 areas were subjected to watching brief (Fig 3). In broad terms, two quite different excavation strategies were adopted on the northern and southern parts of the development area. To the north, a large open-area excavation, comprising seven separately-excavated but contiguous trenches, namely Keay's Lane trenches A to D (site codes KLA A-D) and Law's Lane trenches B to D (site codes LAL B-D), was undertaken. Large areas north and south of the main excavation were subjected to salvage excavation and/or watching brief (site codes KLA E, KLA F, KLA G). Several smaller trenches were also excavated in the vicinity, in order to answer specific questions or to investigate fragments of surviving stratigraphy in areas where most of the archaeology had been lost due to cellaring or other disturbances (site codes ETS A and B, GLL A, LAL A, LOL A and B, OBL A, C and D, SEL A and B, UCT A). On the southern half of the site, excavation was confined to a larger number of smaller trenches and watching briefs (McCarthy 2000).
- 1.3.2 The work confirmed that a complex, deeply stratified and largely intact sequence of Roman and medieval deposits survived over large parts of the site. Limited evidence for prehistoric and early post-medieval activity was also recorded. Within the large excavation to the north, over 2m of deposits were present. Intensive Roman activity commenced there in the late first or early second century AD, with at least two phases of substantial timber buildings, possibly of a military and/or official nature, preceded by a possible marching camp. By the later second century, the area had been absorbed into the expanding civil settlement, and occupation continued thereafter to the end of

the fourth century at least. Most structures were of timber, although a stone, or stone-footed, house of the third and fourth centuries was also excavated. Following a prolonged break in intensive occupation, during which deposits of 'dark earth' accumulated, tenements were established on the site from the late twelfth or early thirteenth century. The Lanes themselves were laid out during the early fourteenth century. Thereafter, occupation was probably more-or-less continuous into modern times, although most of the earlier post-medieval (*c* seventeenth-eighteenth-century) levels on the site had been destroyed by nineteenth-twentieth-century redevelopment. On the southern Lanes, a succession of domestic timber buildings with associated yards, property boundaries and roads occupied the area from the late first century AD (*ibid*). Limited evidence for post-Roman occupation was also noted there.

#### **1.4 THE LANES STANDING BUILDING RECORDING PROGRAMME**

1.4.1 Approximately 140 properties within the Lanes area were earmarked for demolition as part of the proposed redevelopment. Consequently, the Lanes project incorporated a significant programme of standing building recording, whereby all threatened buildings pre-dating 1914 were recorded. Assessment suggests that approximately 120 separate properties were recorded to some degree (see *Sections 3.5* and *3.16* for further details). The majority (*c* 70) were photographed and drawn in plan, elevation, and (in a limited number of cases) cross-section, and extensive notes on street furniture were made. A further 50 or so were photographed prior to demolition, although in these cases no drawings and few field notes were made. Approximately 20 buildings underwent no recording prior to demolition.

#### **1.5 THE LANES HISTORICAL SURVEY**

1.5.1 The third element of the Lanes project was an historical survey of the surviving documentary evidence for the development of the Lanes area. Notes held in the Lanes project archive at Shaddon Mill, Carlisle, indicate that a considerable amount of documentary research was undertaken by Bruce Jones, formerly the Cumbria County Archivist (*Section 3.6* and *Section 3.17*), although little use seems to have been made of Jones' data in the Lanes publication programme. The original brief for the work was, however, subsequently expanded to include the entire medieval city (McCarthy 2000, 1), the research being undertaken by Henry Summerson, and resulted in the publication of Summerson's two-volume *Medieval Carlisle: The City and the Border from the Late Eleventh to the Mid-Sixteenth Centuries* (Summerson 1993).

#### **1.6 THE LANES POST-EXCAVATION PROGRAMME**

1.6.1 On completion of the fieldwork in 1982, basic post-excavation work was undertaken, after which the project remained largely static for several years. Following the production of a post-excavation assessment report by CAU in 1988 (McCarthy *et al* 1988), English Heritage provided funding for a

programme of analysis leading to publication. For the purposes of the post-excavation programme, the project was sub-divided into the southern and northern Lanes (sometimes referred to as Lanes 1 and Lanes 2-3, with Lanes 2 representing the Roman element of the north Lanes project and Lanes 3 the post-Roman material). The former position of Old Bush Lane was chosen as the dividing line, since it broadly corresponded to the boundary between the zone of open-area excavation to the north and the area characterised by smaller trenches to the south (Fig 3).

- 1.6.2 Stratigraphic analysis was completed by CAU during the mid-1990s and detailed phasing documents were compiled. At the same time, analysis of the large artefactual and palaeoenvironmental assemblages was undertaken by a team comprising both in-house staff and external specialists. A very limited amount of analysis of the standing building records for the southern Lanes was completed, but similar work was not undertaken on the data from the northern part of the site.
- 1.6.3 In line with the approach to publication adopted by CAU for earlier projects, it was envisaged that the Lanes would be published as a series of monograph reports accompanied by a larger number of specialist fascicules. The monographs would, in effect, provide a synthesis and discussion of the stratigraphic sequences and standing building records, supported by abridged reports on the principal classes of artefactual and environmental data. Full reports on the artefactual and environmental assemblages were to be published separately in the form of spiral-bound fascicular volumes. For the south Lanes, it was envisaged that three fascicules, dealing with the stratigraphic sequence and environmental remains (including dendrochronology), the artefacts, and the pottery, would accompany the monograph. Precise details of the publication strategy for the north Lanes, which generated a far larger body of data, are unclear. It may be the case that two monographs were envisaged, one dealing with the Roman sequence and one with the post-Roman. In terms of the fascicules, it seems clear that a split between at least some of the Roman and post-Roman material was planned (T Padley *pers comm*), a fact confirmed by the way in which the incomplete artefactual reports present in the Lanes archive are laid out. For the north Lanes, the idea of a separate stratigraphic fascicule had been dropped (J Zant *pers comm*). It therefore seems likely that a total of five north Lanes fascicules was envisaged, one covering the Roman environmental assemblages, including dendrochronology (most of the post-Roman environmental data were not subjected to either assessment or analysis; see *Section 3.11*), two dealing with the Roman and post-Roman pottery, and two incorporating the Roman and post-Roman artefacts. For both the southern and northern Lanes, it is not clear where (or indeed if) the detailed data generated by the standing building recording programme were to be published.
- 1.6.4 The south Lanes monograph was published in 2000 (McCarthy 2000), by which time CAU had transferred from Carlisle City Council to the University of Bradford, to become Carlisle Archaeology Ltd (CAL). The accompanying fascicules (the contents of which are tabulated in the monograph) never appeared, however, although copies of mock-ups for all the fascicules have

been located (*Section 3.13-15*), and there is anecdotal evidence that work on preparing at least some of these reports for publication was well advanced immediately prior to the demise of CAL in August 2001. Neither the monograph(s) nor the fascicules for the northern Lanes had been published by the time CAL ceased trading. The results of the south Lanes standing building survey also remain unpublished, although a very brief summary of some of the more interesting data was included in the monograph (*op cit*, 65-8). A chapter incorporating some of the more general standing building information was included in a post-graduate thesis on the social history of nineteenth-century housing in the Lanes area, which was prepared by one of the original fieldworkers (Alfrey *nd*, 41-7). A copy of this is lodged with the Cumbria Record Office in Carlisle, and a considerably condensed version (Alfrey 2006) has recently been published in a ‘popular’ book on the social history of the Lanes (Scott-Parker 2006).

## 1.7 BUSINESS CASE

- 1.7.1 The Lanes excavations provided an unique opportunity to study the origins and development of human settlement over approximately 10% of Carlisle’s historic walled centre. The project represents one of the largest and most significant urban archaeological investigations ever undertaken in northern England, which, together with Carlisle’s undoubted status as one of the key urban centres of the North in the Roman and medieval periods, makes dissemination of the resulting data highly desirable academically. As the present assessment demonstrates, the northern part of the Lanes can be regarded as by far the most important part of the site, both in terms of the quality and quantity of data recovered. Overall, the area subjected to archaeological investigation on the north was more than twice that to the south, and no less than 83% of the contexts issued during the course of the project (*c* 8600 from a total of *c* 10,400) relate to the north Lanes.
- 1.7.2 The Lanes project, comprising as it does a large number of individual archaeological ‘events’, including excavations, watching briefs and standing building recording, is also highly significant when considered as a proportion of the total number of archaeological events undertaken by CAU/CAL from 1977 to 2001. Data generated by Stage 1 of the Carlisle Archives Project (OA North 2003) indicate that, of the 586 individual events carried out by CAU/CAL (only 17 (*c* 3%) of which are regarded as having been adequately published), 251 (*c* 43%) were generated under the auspices of the Lanes project; of these, 115 (*c* 20% of the overall total) formed part of the northern Lanes and a further 114 (*c* 19%) represent standing building recording events undertaken on the southern Lanes, which also fall within the scope of the present assessment (*Section 1.8.3*). In total, therefore, appropriate publication of the north Lanes data, together with that generated by the south Lanes standing building programme, could potentially disseminate the results of 229 archaeological events carried out by CAU/CAL, representing 39% of the total number of events undertaken by the company.
- 1.7.3 Although the Lanes has long been recognised as having a high degree of archaeological significance, the importance of Carlisle in general, and of the

Lanes in particular, has recently been underscored by publication of the *Resource Assessments and Research Agendas* that form part of the *North West Regional Archaeological Research Framework* (Brennand 2006; 2007). These documents, which highlight significant lacunae in current knowledge and formulate initiatives to address these gaps, make frequent reference to the archaeological significance of Carlisle, and stress the urgent need to publish in full the results of investigations carried out in the city (*Section 5*). Furthermore, in recent years the history of the Lanes, and in particular the social history of the area, has generated a considerable amount of public interest within the local community, as evidenced by the recent publication of a ‘popular’ book on the Lanes (Scott-Parker 2006), and by frequent enquiries made to Tullie House Museum and Art Gallery (T Padley *pers comm*).

- 1.7.4 The north Lanes project has the potential to address many of the initiatives and recommendations put forward in the period-based *Research Agendas* for the North West (Brennand 2007). The detailed academic case for publication is set out, with reference to national and regional research priorities, in *Section 5*. However, in support of the project’s business case, a number of initiatives warrant particular attention. Of particular significance is Initiative 5.20 of the medieval period *Research Agenda* (Newman and Newman 2007, 104), which states that ‘*the still unpublished artefact and ecofact assemblages from past major excavations such as The Lanes, Carlisle must be assessed, analysed and published*’. In the same document, The Lanes is identified as ‘*the most significant urban project in the north of England*’ (*op cit*, 102), and the problem of Carlisle’s general publication backlog is noted (*ibid*). Publication of the Carlisle backlog is also specifically highlighted in the regional *Research Strategy* (Brennand *et al* 2007, 187), and Carlisle is singled-out for mention in several of the Initiatives put forward in the *Research Agendas* for the Roman, early medieval, medieval, and post-medieval periods (Hodgson and Brennand 2007, 32; Philpott and Brennand 2007, 64; Newman and Brennand 2007, 79, 83, 90, 92; Newman and Newman 2007, 104; Newman and McNeil 2007a, 129). More generally, the *Research Agendas* for the prehistoric, Roman, early medieval, medieval and post-medieval periods (Hodgson and Brennand 2007, Philpott and Brennand 2007, 55-6; 33; Newman and Brennand 2007, 79; Newman and Newman 2007, 104; Newman and McNeil 2007a, 117, 129) all stress the urgent need to disseminate data lodged in the archives of ‘backlog’ projects such as the Lanes, and, the *Research Agenda* Introduction summarises the extent of the problem regionally (Chitty and Brennand 2007, 18).
- 1.7.5 English Heritage has acknowledged the significance of the Lanes project as a whole, and its very considerable potential to contribute to the advancement of archaeological knowledge, by providing substantial funding both for the fieldwork (under the auspices of the then Department of the Environment) and for post-excavation assessment and analysis. With reference to English Heritage’s own agendas and research programmes, the *Strategic Framework for Historical Environment Activities and Programmes in English Heritage* (SHAPE; English Heritage 2008) established the principle that all projects implemented or commissioned by English Heritage must meet at least one of the organisation’s corporate aims and objectives (*op cit*, 9), as set out in *Making the Past Part of Our Future*, English Heritage’s corporate strategy for



2005-2010 (English Heritage 2005a). The proposed north Lanes publication project has significant potential to address Corporate Objective 1A (English Heritage 2005a; 2008), which seeks to ensure that research addresses the most important and urgent needs of the historic environment. More specifically (since each Corporate Objective is sub-divided into a number of more specific Research Programmes and Sub-Programmes (English Heritage 2008)), the project has the potential to provide a significant contribution to Research Programme A3 (*Unlocking the riches: realising the potential of the research dividend*), and particularly Sub-Programme 11113.110 (*Realising the research dividend from past unpublished historic environment investigations; op cit*, 26), which seeks to ensure that past resources are not wasted, through the assessment, analysis and dissemination of old excavation archives (*ibid*).

- 1.7.6 A recent English Heritage review of palaeobotanical evidence from archaeological sites in northern England has also highlighted a marked imbalance in the study of Roman and medieval data from Carlisle (Hall and Huntley 2007, 158, 185), with the latter being significantly under-represented. The north Lanes has considerable potential to address this issue.
- 1.7.7 OA North is the largest archaeological contractor in the North West, and has successfully undertaken many large-scale programmes of post-excavation analysis and publication. These include publication of monographs on excavations at Ribchester, Lancashire (Buxton and Howard-Davis 2000), the Darrington to Dishforth section of the A1(M) in West Yorkshire (Brown *et al* 2007), Norton Priory, Cheshire (Brown and Howard-Davis 2008), and, in Carlisle itself, the Millennium excavations of 1998-2001 (Zant in press; Howard-Davis forthcoming) and the Rickergate (Lanes extension) project (Zant *et al* forthcoming).

## **1.8 CIRCUMSTANCES OF THIS PROJECT DESIGN AND PROJECT SCOPE**

- 1.8.1 Following the demise of CAL, Oxford Archaeology North (OA North) was commissioned by Carlisle City Council and English Heritage to undertake an assessment of the entire archaeological archive generated by CAU/CAL between 1977 and 2001, the bulk of which remains in storage at Shaddon Mill, Carlisle. Two phases of this Carlisle Archives Project have now been completed, and an inventory of the contents of each individual project archive has been compiled (OA North 2003; forthcoming). For the first time since CAL ceased trading, therefore, it is now possible to determine with some degree of confidence the extent to which the Lanes post-excavation programme had progressed prior to 2001, and to assess the amount of work that remains to be done.
- 1.8.2 At the invitation of English Heritage, a proposal for the production of a full project design to assess the completeness of the northern Lanes publication programme, to complete outstanding analytical work, and to publish the results, was submitted by OA North in June 2005 and revised in March 2006 (OA North 2006). This document formed the Start-up phase of the project, as defined in *MoRPHE* (English Heritage 2006, 12). Following English Heritage's review of the proposal (*MoRPHE* Review Point R1 (English

Heritage 2006, 12)), OA North was commissioned to produce the current project design in March 2006. This represents the planning or Initiation stage of the project, as defined in *MoRPHE (ibid)*, and sets out the detailed case for progressing the project further, to the Execution stage (*op cit*, 14). English Heritage's decision on whether to authorise the project on the basis of the project design will represent *MoRPHE* Review Point R2 (*ibid*). Since production of the project design extended over the period of overlap between the use of the second edition of English Heritage's *Management of Archaeological Projects* (known as *MAP2* (English Heritage 1991a) and the implementation of *MoRPHE*, which effectively replaced *MAP2*, both documents were consulted during preparation of the Lanes assessment and project design.

- 1.8.3 With the exception of the standing building data (*Section 3.16*), the southern Lanes is excluded from this project design, because the status of the publication programme is far less certain than is the case for the northern Lanes. The monograph for this part of the site was published in 2000 (*Section 1.6.4*), and it is understood that work on one or more of the specialist fascicules was proceeding at the time CAL ceased trading. The extent to which this work was continued thereafter has not been addressed, however, and must be resolved before this aspect of the project can move forward. However, since most of the analytical work on the artefactual and ecofactual assemblages from both the northern and southern Lanes was undertaken by the same specialists, it made sense to seek to determine the current status of the specialist reports for both sites during the preparation of this project design. The results of these enquiries are presented in *Section 4.3*.

## 1.9 THE LANES ARCHIVE

- 1.9.1 The Lanes archive is currently stored at Shaddon Mill, Carlisle. This was formerly the site of CAU/CAL's offices, though the archive is presently located on Level 1, having been moved from CAU/CAL's former premises on Level 5 in 2004 (OA North forthcoming). The archive is curated by Tullie House Museum and Art Gallery, which represents the ultimate repository for all the Lanes material, and indeed for all archival materials generated by CAU/CAL on projects undertaken within the City and District of Carlisle in the period 1977-2001.
- 1.9.2 The Carlisle Archives Project quantified and categorised the contents of the archives for each of the archaeological interventions that made up the north Lanes project (*ibid*). Most of the documentary archive comprises primary site data, including approximately 8600 context sheets (*c* 83% of the 10,400 contexts sheets compiled for the Lanes project as a whole), together with materials relating to the initial stages of the analytical process, such as phasing documents, phase plans and artefact/ecofact lists. In addition, the archive also contains paper copies of draft publication reports produced by external specialists and in-house personnel, various publication-standard illustrations, and an incomplete monograph text, all of which were clearly intended for inclusion in the final publication. A large amount of primary data relating to the standing building recording programme, most of which has never been

adequately analysed, is also present, as is a folder of draft notes on the medieval and earlier post-medieval documentary history of the Lanes, prepared by Bruce Jones, the former Cumbria County Archivist. In consultation with appropriate personnel at Tullie House Museum and Art Gallery, some of these materials were temporarily removed to OA North's Lancaster premises for assessment as part of the current project (*Section 3.1*).

- 1.9.3 Also present in the Carlisle archive generally are many (perhaps up to 500) old 5.25-inch floppy disks and approximately 100 3.5-inch disks. From the labelling on some of these disks it was clear, prior to the commencement of the present assessment, that they contained data relevant to the northern Lanes. However, the character and potential significance of these data with respect to the north Lanes publication programme were unclear, whilst the contents of many more disks were entirely unknown, since these were either unintelligibly labelled or not labelled at all. As part of the current project, all computer disks stored in the Carlisle archive were temporarily removed to OA North's premises in Lancaster. The disks that clearly related to the north Lanes, together with those of unknown or uncertain status, were read and the data assessed.

---

## 2. AIMS AND OBJECTIVES

---

**2.1** The following aims and objectives are those which were set out in the original Start-up proposal submitted to English Heritage in 2006 (OA North 2006).

### **2.2 AIM 1**

**2.2.1** *To undertake an assessment of the current status of the north Lanes publication programme.*

**2.2.2** *Objective 1.1:* to conduct a search of the north Lanes archive in Shaddon Mill, Carlisle, in order to determine the presence or absence of publication report texts (including digital copies) and publication-standard illustrations.

**2.2.3** *Objective 1.2:* to contact relevant specialists in order to raise awareness of the current project, to obtain up-to-date copies of specialist reports where these are not present in the archive, and to determine resource requirements for revision of existing report texts.

**2.2.4** *Objective 1.3:* to compile a comprehensive listing of the current status of all elements of the north Lanes publication programme, including report texts and publication illustrations, highlighting missing or incomplete elements.

**2.2.5** *Objective 1.4:* to prepare a report detailing the results of the assessment.

### **2.3 AIM 2**

**2.3.1** *To produce a method statement and updated project design for the completion of outstanding works and publication of the north Lanes data.*

**2.3.2** *Objective 2.1:* to prepare detailed methodologies for the completion of all missing or incomplete elements of the north Lanes publication programme.

**2.3.3** *Objective 2.2:* to produce detailed resource requirements to bring the north Lanes project to publication.

**2.3.4** *Objective 2.3:* to produce a synopsis of the proposed north Lanes publication report(s).

### **2.4 AIM 3**

**2.4.1** *To determine the current status of specialist reports prepared for the south Lanes publication programme.*

**2.4.2** *Objective 3.1:* to contact relevant specialists in order to obtain up-to-date copies of all south Lanes specialist reports for deposition in the project archive at Shaddon Mill.

## **2.5 AIM 4**

- 2.5.1 ***To assess the south Lanes standing building recording programme archive, in order to determine the feasibility of integrating the data into the north Lanes publication.***
- 2.5.2 *Objective 4.1:* to conduct a rapid assessment of the south Lanes standing building records archive in Shaddon Mill, Carlisle.
- 2.5.3 *Objective 4.2:* to produce proposals and a method statement for the integration of data into the relevant section of the north Lanes publication report.
- 2.5.4 *Objective 4.3:* to produce detailed resource requirements to integrate the south Lanes standing building data into the north Lanes publication.

---

## 3. ASSESSMENT RESULTS

---

### 3.1 INTRODUCTION

3.1.1 In consultation with Tullie House Museum and Art Gallery, OA North personnel visited the CAU/CAL archive at Shaddon Mill, Carlisle, and made a thorough search of the north Lanes archive. Archival elements, including floppy disks, publication drawings, and paper copies of phasing documents and publication reports, were temporarily removed and taken to OA North's premises in Lancaster, where they were assessed. Subsequently, all specialists who were known to have worked on north Lanes material, together with a number of others who, it was thought, may have had some input to the project, were contacted, in order to raise awareness of the current assessment, to (hopefully) obtain up-to-date copies of specialist reports, where these were not present in the archive, and to determine the extent to which the existing reports, most of which were produced more than ten years ago, might require revision. Enquiries were also made with regard to the status of the specialist reports for the southern Lanes, in view of the fact that the specialist fascicules relating to that project also remain unpublished.

### 3.2 NORTH LANES PHASING

3.2.1 **Context database:** it should be noted that no trace of a database for the *c* 8600 north Lanes contexts, either in digital or hard copy form, providing details of context type, phasing, and so on, could be located in the north Lanes project archive in Shaddon Mill. The primary context record sheets are, however, present in the archive.

3.2.2 **Phasing documents:** paper copies of the phasing for each of the north Lanes trenches were found in the archive (since each trench was excavated separately, it was necessary to compile individual phase sequences for each). In total, seven documents were found - two detailing the Roman and post-Roman sequences in the core area of excavation (the open area represented by contiguous trenches KLA A-D and LAL B-D), one for minor trench LAL A, one each for salvage excavation/watching brief areas KLA E-G, and one covering the phasing of the remaining minor trenches (ETS A-B, GLL A, LOL A-B, OBL A, C and D, SEL A-B, UCT A). Digital copies of these documents were also located on a number of 3.5 inch floppy disks. Copies of the Roman phasing for all north Lanes trenches is available in Word format, but the post-Roman phasing exists only as Wordstar files. The documents were authored by John Zant, and issued between 2/8/1996 (the date of the earliest document present in archive) and 15/3/1999.

3.2.3 **Phasing concordance document:** in order to comprehend fully the development of the north Lanes site as a whole, and to present a coherent stratigraphic narrative for publication, it had been necessary to establish a concordance between the phase sequences recorded in each individual trench. To this end, an overarching sequence of site periods (pre-Roman to post-

medieval) was compiled by CAU, into which the trench phase sequences were, for the most part, successfully integrated. A brief summary of the stratigraphic sequence is provided in Table 1. The stratigraphic justification for the attribution of trench phases to site periods had been set out in a concordance document, of which both paper and digital copies were present in the archive. The latter was stored in the form of a Wordstar file on a 3.5 inch floppy disk, authored by John Zant, and issued 1/5/1996.

Stratigraphic Period	Description	Approximate date
<i>Pre-Roman</i>		
0	Natural subsoil	-
1	Ploughing and cobbled trackway	Neolithic/early Bronze Age?
2	Buried soil	Iron Age?
<i>Roman</i>		
3	Ditch and contemporary deposits (marching camp?)	Late first-early second century?
4	Massive timber building on Scotch Street frontage (the so-called 'praetorium' or 'mansio'); two sub-periods	Early second century
5	Extensive complex of large timber buildings; two sub-periods	Early/mid-second century
6	Erection of small timber structures on Scotch Street frontage; extensive soil accumulation to rear	Mid-second century
7	Timber structures and associated external features/deposits; possibly initial establishment of two or three 'properties' running back from Scotch Street; two sub-periods. Possible construction of a massive timber building to the rear of the site (the so-called 'temple' or 'mansio')	Mid-second century
8	Development of properties; construction of new timber buildings and of metalled lanes or minor roads; two sub-periods	Mid-late second century
9	Further development within properties; demolition of 'temple/mansio'; two sub-periods	Late second century
10	Further development within properties; most of area occupied by timber buildings and associated road, yards and ?gardens; three sub-periods	Late second-early third century
11	Construction, occupation and development of a stone house in one property and contemporary timber buildings and external deposits in the other properties; five sub-periods	Early third-late fourth/early fifth century
<i>Early medieval</i>		
12	Early post-Roman 'dark earth'-type deposits; some evidence for sub-Roman/early medieval occupation	fifth-twelfth century
<i>Medieval</i>		
13	Establishment of tenement boundaries running back from Scotch Street. Robbing of upstanding remains of the Period 11 Roman stone house through the Period 12 'dark earth'	Late twelfth-early thirteenth century
14	Development of tenements; construction of timber buildings, yards, etc; two sub-periods	Thirteenth century
15	Laying-out of 'the Lanes', a series of cobbled alleyways running east from Scotch Street, between existing tenements. Further development within the tenements themselves; two sub-periods	First half of fourteenth century
16	Further developments within the tenements	Second half of fourteenth century
17	Further developments within the tenements; three sub-periods	Fifteenth-sixteenth century
<i>Post-medieval</i>		
18	Limited evidence for tenement development	Seventeenth-eighteenth century
19	Evidence for tenement development; two sub-periods	Nineteenth-twentieth century

Table 1: summary of principal stratigraphic periods identified on the northern Lanes

### 3.3 NORTH LANES MONOGRAPH REPORT (STRATIGRAPHIC NARRATIVE)

- 3.3.1 It was originally envisaged that two levels of stratigraphic publication would be produced for both the southern and northern Lanes (*Section 1.6.3*): firstly, a fascicule (or fascicules) describing in great detail the stratigraphic development of the site (essentially a detailed phasing document), accompanied by specialist reports on the environmental remains, including dendrochronology; and secondly, a monograph report (or reports) comprising a slightly less detailed (although still thorough) description of the stratigraphic sequence, supported by summaries of the salient artefactual and environmental data distilled from the specialist reports. The monograph would also include a discursive chapter (or chapters) in which the site would be placed in its regional and national context and the most significant aspects of the data analysed and discussed. Whilst this publication strategy was retained for the south Lanes, the idea of a separate stratigraphic fascicule for the north Lanes was subsequently discarded (J Zant *pers comm*), and it was envisaged that the dendrochronological and environmental data would comprise a fascicule in their own right.
- 3.3.2 In the north Lanes archive, an incomplete monograph text of 40,000 words exists as a Word document file (authored by John Zant, issued 2/3/1999). A paper copy is also available. The text comprises a description of the Roman stratigraphic sequence, subdivided into a number of occupational phases or periods. The limited evidence for pre-Roman activity on the site is also described. Whilst for the most part satisfactory, the text appears somewhat light in terms of contextual descriptions, context information, and (in certain areas) descriptive detail, and this should ideally be rectified by incorporating more data from the phasing texts. The report lacks a similar description of the well-preserved and extremely important post-Roman stratigraphic sequence; the introductory and discursive chapters are also absent, as are the artefactual and environmental summaries. It is certain that these sections were never written (J Zant *pers comm*). When it is considered that the stratigraphic report for the Carlisle Millennium excavations (Zant in press), a project of comparable size to the north Lanes (the Millennium generated *c* 7200 contexts compared to *c* 8600 for the north Lanes), runs to approximately 250,000 words, it could be estimated that, in terms of word-count, the north Lanes report may be only *c* 20% complete.

### 3.4 NORTH LANES MONOGRAPH (STRATIGRAPHIC NARRATIVE) ILLUSTRATIONS

- 3.4.1 **Drawings:** in total, 34 incomplete, inked drawings for inclusion in the north Lanes monograph are present in the project archive. Details are provided in Table 2. In summary, the drawings comprise 21 *c* A1-sized phase plans, covering all seven trenches in the core area of excavation (and in some cases also the areas of salvage excavation and watching brief represented by trenches KLA E-G). These drawings illustrate the development of the site from pre-Roman times to the end of the Roman period (stratigraphic Periods 1 to 11 in Table 1), and are all incomplete. In all cases, context and feature labelling is completely absent, and although some appear to be otherwise largely finished, others are clearly at an early stage of production and require



extensive additional work. There are no inked phase drawings for the medieval and post-medieval periods (Periods 12-19, Table 1). The inked illustrations were based on a series of pencil-drawn mock-ups that are also present in the archive (including those for the medieval and post-medieval periods), and which were in turn compiled from the original pencil-drawn trench phase plans. The latter were produced on a trench-by-trench basis and are also present in the site archive. Like the inked drawings, the mock-ups do not contain context or feature numbers, although these are present on the original trench phase plans.

<b>Description</b>	<b>Level of completeness/comments</b>
<i>Existing drawings</i>	
21 A1-sized phase plans of pre-Roman and Roman stratigraphic periods (Periods 1-11), including sub-periods	All inked; varying levels of completeness - some largely complete, others barely started. Contextual information totally absent (present on original trench phase plans only)
Four phase plans (two sheets) showing destruction and robbing of Roman timber building (Period 4)	Three plans on a single sheet and a fourth plan on a smaller sheet. All inked; largely complete but lacking contextual information
Three phase plans showing development of Roman stone building (Period 11) and adjacent external areas	All inked and labelled with (complete?) contextual information. Largely complete, although some finishing work required
Plan showing various antiquarian discoveries in the Lanes area	Inked and wholly or largely complete
Trench location plan, showing pre-development street plan	Inked and wholly or largely complete
Plan showing level of recording undertaken on the Lanes standing buildings	Inked and wholly or largely complete, but lacks street names, building numbers, etc
Plan superimposing two sub-phases of extensive Roman timber building complex (Period 5)	Inked and probably largely complete, although lacking contextual information
Reconstruction of walls of large Roman timber building (Period 4)	Inked and probably largely complete, but unlabelled
<i>Drawings missing or non-existent</i>	
Inked phase plans for one late Roman sub-period (Period 11C) and all post-Roman periods/sub-periods (Periods 12-19) (c 15 drawings)	Pencil mock-ups exist, but lack contextual information. Context labelling present on original trench phase plans
Trench location plan showing present-day topography	Mock-up does not exist
Other detailed phase plans	Not accurately quantifiable at present, but possibly c 20 additional drawings ; mock-ups do not exist
Section/elevation drawings	Not accurately quantifiable at present, but possibly c 10 additional drawings; mock-ups do not exist
Interpretative illustrations for discursive chapter	Not accurately quantifiable at present, but possibly c 20 additional drawings; mock-ups do not exist

*Table 2: summary status of stratigraphic drawings for north Lanes monograph*

- 3.4.2 In addition to the phase illustrations, a further 13 inked and partially complete publication drawings have been located (Table 2). These include a number of more detailed phase plans relating to specific structures or areas of the site, a trench location plan, a plan of various antiquarian discoveries in the Lanes area, a reconstruction drawing of the construction techniques used in the walls of the massive Roman timber building of Period 4, and a plan showing the level of recording undertaken on the Lanes standing buildings. No other stratigraphic drawings, such as sections or elevations, were found, and from what is known of the publication programme, it seems highly likely that none were ever completed (J Zant *pers comm*). It is known that none of the stratigraphic illustrations exists in any kind of digital format; all were hand-drawn.
- 3.4.3 **Photographs:** no list of photographs for inclusion in the monograph report was found in archive, and it is known that no such listing was ever compiled (J Zant *pers comm*). The Lanes photographic archive contains colour slides, black-and-white negatives and black-and-white contact prints. Most appear to be well packaged, adequately labelled and in good condition. The number of individual black-and-white images could not be estimated easily due to current storage conditions, since they are frequently intermixed with images from other projects that happened to be on the same rolls of film. The slides, however, are stored separately and are therefore more accessible. A rapid assessment suggested a maximum total of approximately 11,700 slides for the Lanes excavations as a whole, not including those taken during the standing building recording programme (see *Section 3.5.8*). Of these, it is thought that approximately 8000-8500 (*c* 68-73%) may relate to the north Lanes. It seems likely that the number of black-and-white images, which should mostly replicate the slides, is broadly similar.

### 3.5 NORTH LANES STANDING BUILDING RECORDS

- 3.5.1 No analytical work was undertaken on the north Lanes standing building recording programme prior to the demise of CAL in 2001 (*Section 1.6.2*). The large collection of primary records stored in the project archive has, however, been assessed - initially during the course of the Carlisle Archives Project (OA North 2003; forthcoming) and again, in greater detail, as part of the present assessment. In total, 94 individual north Lanes standing building recording events have been identified, together with an even larger number of events that occurred within the south Lanes area (*Section 3.16*). For the most part, the records comprise three principal elements - scale drawings, written records and photographs, although by no means all of the buildings were subjected to all these methods of recording. In particular, whilst most of the threatened structures were photographed prior to demolition, only a limited number generated written or drawn records. A summary of the records available for each north Lanes standing building recording event is provided in Table 3.

Event code	Event name/address	Written records	Drawings	Photographs
BFL A	Bousfield's Lane	-	-	✓
ETS C	East Tower St (gen)	-	-	✓
ETS D	3 East Tower St	-	-	✓
ETS E	12 East Tower St	✓	✓	✓
ETS F	16-18 East Tower St	-	✓	✓
GLL C	Globe Lane (general)	-	-	✓
GLL D	2 Globe Lane	-	-	?
GLL E	3 Globe Lane	-	-	✓
GLL F	4 Globe Lane	-	-	?
GLL G	5 Globe Lane	-	-	✓
GLL H	6 Globe Lane	-	-	✓
GLL J	7 Globe Lane	-	-	✓
GLL K	8 Globe Lane	-	✓	-
GLL L	9 Globe Lane	-	✓	✓
GLL M	10 Globe Lane	-	✓	✓
GLL N	11 Globe Lane	-	-	✓
GLL O	12 Globe Lane	✓	✓	✓
GLL P	13 Globe Lane	-	-	✓
GLL Q	15 Globe Lane	-	-	✓
GLL R	17 Globe Lane	-	-	✓
GLL S	19 Globe Lane	-	✓	✓
GLL T	21 Globe Lane	-	✓	✓
GLL U	23 Globe Lane	-	-	✓
GLL V	Globe Lane	-	-	✓
HOC A	Hodgson's Court	-	-	✓
KLA H	Keay's Lane	-	-	✓
KLA J	Keay's Lane	-	-	✓
KLA K	Keay's Lane	-	-	✓
KLA L	6 Keay's Lane	-	-	?
LAL E	Law's Lane (general)	-	-	✓
LAL F	2 Law's Lane	-	-	✓
LAL G	4 Law's Lane	-	✓	✓
LAL H	6 Law's Lane	-	✓	✓
LAL J	8 Law's Lane	-	✓	✓
LAL K	10-11 Law's Lane	-	✓	✓
LAL L	12 Law's Lane	-	✓	✓
LAL M	13 Law's Lane	-	✓	✓
LAL N	14 Law's Lane	-	✓	✓
LAL O	15 Law's Lane	-	✓	✓
LAL P	16 Law's Lane	-	✓	✓
LAL Q	17 Law's Lane	-	-	✓
LOL C	Longcake's Lane	-	-	✓
LOW W	89 Lowther St	-	-	✓
LOW X	91 Lowther St	-	-	✓
LOW Y	93 Lowther St	-	-	✓
LOW Z	Lowther St	-	-	✓
LOW AA	Lowther St	-	-	✓
LOW BB	Lowther St	-	-	✓
LOW CC	95 Lowther St	-	✓	✓
LOW DD	97 Lowther St	✓	✓	✓
LOW EE	99 Lowther St	✓	✓	✓
LOW FF	103 Lowther St	✓	✓	✓
LOW GG	105 Lowther St	✓	✓	✓
LOW HH	107 Lowther St	-	-	✓
LOW JJ	109-111 Lowther St	-	✓	✓

Event code	Event name/address	Written records	Drawings	Photographs
LOW KK	113 Lowther St	-	-	✓
LOW LL	121 Lowther St	-	-	✓
SCO D	Scotch St	-	-	✓
SCO F	Scotch St	-	-	✓
SCO G	15 Scotch St	-	-	?
SCO H	17 Scotch St	-	-	✓
SCO J	19 Scotch St	-	-	✓
SCO K	21 Scotch St	-	-	✓
SCO L	27-29 Scotch St	✓	✓	✓
SCO M	29 Scotch St	-	-	✓
SCO N	35 Scotch St	-	-	✓
SCO O	45 Scotch St	-	✓	✓
SCO P	49-51 Scotch St	-	-	✓
SCO Q	51 Scotch St	-	-	✓
SCO R	53 Scotch St	-	-	✓
SCO S	55 Scotch St	-	✓	✓
SCO T	57 Scotch St	-	✓	✓
SCO U	59 Scotch St	-	✓	✓
SCO V	61 Scotch St	✓	✓	✓
TCL A	Three Cannons Lane	-	-	✓
UCT B	Union Court (general)	-	-	✓
UCT C	2 Union Court	-	-	✓
UCT D	4 Union Court	-	-	✓
UCT E	5 Union Court	✓	-	✓
UCT F	6 Union Court	-	-	✓
UCT G	7 Union Court	✓	-	✓
UCT H	8 Union Court	-	-	✓
UCT J	9 Union Court	✓	✓	✓
UCT K	10 Union Court	-	✓	✓
UCT L	11 Union Court	✓	✓	✓
UCT M	12 Union Court	-	✓	✓
UCT N	13 Union Court	✓	✓	✓
UCT O	14 Union Court	-	✓	✓
UCT P	15 Union Court	✓	✓	✓
UCT Q	16 Union Court	-	✓	✓
UCT R	17 Union Court	✓	✓	✓
UCT S	18 Union Court	✓	✓	✓
UCT T	20 Union Court	✓	✓	✓

? = photographs recorded but not located

*Table 3: summary of records available for north Lanes standing building recording events*

3.5.2 Whilst it was standard practice for CAU to issue site codes for excavations, evaluations and watching briefs, it became clear, during the course of the Carlisle Archives Project, that similar codes were not normally issued to standing building recording events, at least during the 1970s and 1980s. In order to facilitate their inclusion in the project database, therefore, it proved necessary to issue new site codes for all these events, a task that was completed as part of Stage 1 of the Archives Project (OA North 2003). The site codes given in Tables 3-6 were issued at this time.

3.5.3 From information provided by Tim Padley, Keeper of Archaeology at Tullie House Museum and Art Gallery and formerly Finds Officer with CAU, it was understood that elements of the Lanes standing buildings recording programme were included in an unpublished MA thesis on the social history of nineteenth-century housing in the Lanes area, authored in the early 1980s by Ms Judith Alfrey, who had worked on the original recording project (Alfrey nd). A condensed version (Alfrey 2006) has also recently been published in a ‘popular’ book on the social history of the Lanes (Scott-Parker 2006). Both reports were consulted as part of the current assessment and Ms Alfrey herself, who is now an Inspector of Historic Buildings for CADW, was contacted. The thesis is largely concerned with social history, particularly patterns of occupancy and building use, but includes a chapter on the vernacular architecture and the archaeology of the standing buildings (Alfrey nd, 41-7). As Ms Alfrey herself states, further analysis of the survey records would be required in order to produce a report suitable for publication. However, the work already undertaken clearly represents a useful starting point, and Ms Alfrey has indicated her willingness, in principle, to contribute elements of her work for inclusion in a more comprehensive Lanes publication, and to provide advice and assistance as required.

3.5.4 **Drawings:** the archive of drawings consists largely of inked plans and elevations of individual buildings, or in some cases of several neighbouring buildings, drawn-up from original pencil drawings made in the field. All are numbered, the numbers being prefixed with the letters ‘SBS’ (Standing Building Survey). Most of the pencil originals also appear to have been retained, although the majority are stored, un-numbered, with the written records. In most cases, a basic ground plan of each floor had been made, together with at least one elevation, usually the principal (front) elevation. In a few cases, a cross-section through the building was also produced, and there are also a small number of drawings of specific architectural features. With few exceptions, all the drawings are at 1:50 scale. A detailed catalogue of the numbered north Lanes standing building drawings is provided in Table 4. None of the drawings exists in a digital format.

Drawing	Event code	Event name/address	Description/comments
14-18	ETS E	12 East Tower St	Plans of ground floor and first-fourth floors
19	ETS E	12 East Tower St	North-facing elevation
20	ETS E	12 East Tower St	Cross-section
21	ETS F	16-18 East Tower St	North-facing elevation
22	GLL K-M	8-10 Globe Lane	North-facing elevation
23-24	GLL O	12 Globe Lane	Ground floor and first floor plans
25	GLL O	12 Globe Lane	North-facing elevation
26-27	GLL S-T	19-21 Globe Lane	South-facing elevation in ink and pencil rough
36-39	LAL G-K	4-11 Law’s Lane	Ground floor and first floor plans
40	LAL G-H	4-6 Law’s Lane	South-facing elevation
41	LAL H-K	6-11 Law’s Lane	South-facing elevation
42-44	LAL L-P	12-16 Law’s Lane	Ground floor and first floor plans
45	LAL L-P	12-16 Law’s Lane	South-facing elevation
82	LOW CC	95 Lowther St	Plan of cellar
83-84	LOW CC-EE	95-99 Lowther St	East-facing elevation in ink and pencil rough
85-86	LOW DD-GG	97-105 Lowther St	Dye-line plans of ground floor and first floor

Drawing	Event code	Event name/address	Description/comments
87	LOW FF-GG	103-105 Lowther St	East-facing elevation
88	LOW GG	105 Lowther St	Plan of first floor wash-house
89-91	LOW JJ	109-111 Lowther St	Ground floor, first floor and second floor plans
92	LOW JJ	109-111 Lowther St	East-facing elevation
93	LOW JJ	109-111 Lowther St	South-facing elevation (onto Keay's Lane)
94	LOW JJ	109-111 Lowther St	East-west cross-section
112-3	SCO L	27-29 Scotch St	South-facing elevation
114-5	SCO O	45 Scotch St	Side (north?) elevation in ink and pencil rough
116-7	SCO O	45 Scotch St	Ground floor plan in ink and pencil rough
118-120	SCO S-U	55-59 Scotch St	Ground, first and second floor plans, ink, pencil and dye-line
121	SCO V	61 Scotch St	West-facing elevation
122-124	SCO V	61 Scotch St	Ground floor and first floor plans
125	SCO V	61 Scotch St	South-facing elevation
126	SCO V	61 Scotch St	Plan of second floor, pencil rough
127	SCO V	61 Scotch St	Roof-truss sections
128-129	SCO V	61 Scotch St	North- and south-facing cross-sections
178-181	UCT J, L, N, P, R	9, 11, 13, 15, 17 Union Court	South-facing elevation in ink, pencil and dye-line
182	UCT K, M, O, Q, S, T	10, 12, 14, 16, 18, 20 Union Court	North-facing elevation
183-184	UCT K, L, M, O, Q, S, T	10, 12, 14, 16, 18, 20 Union Court	Ground floor and first floor plans
185-186	?	Union Court (east); toilet block	Elevation
187	?	Law's Lane	Window details, pencil roughs (scale?)
190	SCO V	61 Scotch St	Window details, pencil roughs (scale?)

Table 4: summary of numbered standing building recording drawings in north Lanes archive

3.5.5 **Written records:** the written record for the Lanes standing building recording programme as a whole (including both the northern and southern Lanes) is currently stored in a total of 32 A4-sized cardboard folders. The archive comprises a series of Buildings Record Cards (normally one for each building for which a record was compiled) accompanied, in some cases, by looseleaf sheets of A4 paper containing supplementary notes and sketches. The CAU Buildings Record Card was an A4 pro-forma sheet on which short descriptions of the main structural components of each building (roof, walls, interior) were made. Although the amount of detail included in each record varies considerably, a typical entry might include brief notes of building type and approximate construction date, type of roof and construction materials, construction of walls (including bond, if brick-built), brief comments on doors and windows, and internal details such as flooring and rendering materials and descriptions of internal fixtures and fittings.

3.5.6 For most events the original, pencil-drawn plans, elevations and cross-sections compiled in the field, from which the inked illustrations in the drawing archive were subsequently copied (*Section 3.5.4*), are stored with the record cards. Since these drawings are duplicated by the inked illustrations catalogued in Table 4, they were not quantified during the current assessment and are not referred to in Table 5.

Event code	Event name/address	Folder no	Description/comments
ETS E	12 East Tower St	14	Buildings Record Card
GLL O	12 Globe Lane	17	Buildings Record Card
LOW DD-EE	97-99 Lowther St	12	Buildings Record Card (not very informative)
LOW FF-GG	103-105 Lowther St	12	Buildings Record Card (not very informative)
LOW GG	105 Lowther St	13	Buildings Record Cards (3)
SCO L	27-29 Scotch St	1	Buildings Record Card; unmeasured sketches of roof-trusses
SCO V	61 Scotch St	2, 32	Buildings Record Card; architectural detail sheets (9); measured sketches of windows and doors; unmeasured sketch of external door to Old Bush Lane (folder 32)
UCT E	5 Union Court	16	Buildings Record Card; measured sketch of window and door; various scribbled notes; unmeasured sketches of minor architectural features
UCT G	7 Union Court	16	Buildings Record Card; measured and unmeasured sketches of doors and windows
UCT J	9 Union Court	16	Buildings Record Card; measured sketches of windows
UCT L	11 Union Court	16	Buildings Record Card
UCT N	13 Union Court	16	Buildings Record Card
UCT P	15 Union Court	16	Buildings Record Card
UCT R	17 Union Court	16	Buildings Record Card; unmeasured sketch of door
UCT S	18 Union Court	16	Rough measured sketches of various minor features, including fireplace and iron range
UCT T	20 Union Court	16	Three pages of notes; measured and unmeasured sketches of various features, including the door, windows, wall brackets, etc
UCT	Toilet block, Union Court	16	Half page of notes

*Table 5: summary of standing building recording written records in north Lanes archive (includes sketches stored with written records)*

3.5.7 In addition, the archive also contains a folder of record sheets that provide brief details of street furniture and road/pavement surfacing for most of the lanes (in both the northern and southern parts of the site) that were due to be swept away by the new development. Those that lay within the area of the north Lanes are tabulated below (Table 6). Each sheet provides an annotated sketch of the lane in question detailing particular types of surfacing (such as cobbles, flags, tarmac or concrete), the position of manholes and inspection covers, and the location of street furniture such as cellar hatches, coal chutes, gas lamps, street signs, pipes, wall-brackets and other miscellaneous features. Each record also includes cross-references to photographs held in the project archive.

Name of Lane	Site code
<i>Lanes with street furniture record sheets</i>	
Bousfield's Lane	BFL
Globe Lane	GLL
Keay's Lane	KLA
Law's Lane	LAL
Longcake's Lane	LOL
Three Cannons Lane	TCL
Union Court	UCT
Unnamed court to rear of 95-99 Lowther St	-
<i>Lanes without street furniture record sheets</i>	
Hodgson's Court	HCT
Sewell's Lane	SEL

Table 6: list of former lanes in the north Lanes area with and without street furniture record sheets

- 3.5.8 **Photographs:** a photographic index exists in archive for each of the north Lanes standing buildings that were subjected to photographic recording. In total, the Lanes standing building archive contains approximately 2100 colour slides, of which perhaps approximately half relate to the north Lanes and half to the south Lanes. There is also an archive of black-and-white prints of similar size to that of the slide archive. It is certain that no selection of photographic images for inclusion in the north Lanes publication report was made prior to the demise of CAL in 2001 (J Zant *pers comm*).

### 3.6 NORTH LANES HISTORICAL RESEARCH

- 3.6.1 Notes held in the Lanes project archive at Shaddon Mill, Carlisle, indicate that a considerable amount of documentary research was undertaken on the Lanes area by Bruce Jones, formerly the Cumbria County Archivist, although little use seems to have been made of his data in the Lanes publication programme. The notes comprise *c* 56 pages of typewritten text, estimated to be in the region of 30,000 words. For the most part, Jones did not differentiate between the northern and southern parts of the Lanes, which are artificial constructs devised purely for the purposes of the Lanes post-excavation programme (*Section 1.6.1*). However, whilst much of the documentation is of a fairly general nature, and cannot be related to a particular part of the site, let alone a specific lane or property, it did prove possible for some research to be conducted on a 'lane-by-lane' basis, thus providing greater potential for linking the historical evidence to the excavated archaeological data. A rapid scan of Jones' notes suggests that they contain more information pertaining to the north Lanes than to the south, although potentially useful data relating to both areas are present.

### 3.7 NORTH LANES POTTERY REPORTS

- 3.7.1 **Samian:** a report on the 7860 samian sherds from the north Lanes (4466 from Roman contexts and 3394 from post-Roman levels) was never commissioned



and therefore does not exist (B Dickinson *pers comm*), although a list of spot-dates (paper copy only) was completed. A draft report on the c 200 samian stamps has been completed but requires checking; a copy is not present in archive but can be provided by the specialist. An incomplete list of stamps is also available (paper copy only); it is estimated that 154 from the total of c 200 are catalogued. This too is not currently present in the archive, but a copy can be supplied.

- 3.7.2 **Roman coarse pottery (including mortaria and amphora):** a draft paper copy of a report on the 38,891 sherds of Roman coarse pottery (including 6455 sherds of amphorae and 1666 of mortaria) is present in archive, authored by Louise Hird and issued on 29/2/1996. The report incorporates information on the mortaria assemblage, but it is understood that this was obtained from a preliminary mortaria report, and that a full report was never prepared (K Hartley *pers comm*). A digital copy of the coarse pottery report was not located.
- 3.7.3 **Graffiti on Roman pottery:** a draft paper copy of the report on the 24 items of Roman graffiti is present in archive, authored by Roger Tomlin and issued on 22/6/1999. A digital copy was not located.
- 3.7.4 **Post-Roman pottery:** no report on the post-Roman pottery assemblage, comprising c 28-29,000 medieval sherds (estimates vary in different paper copies of post-Roman pottery catalogues that were located in the project archive), 348 post-medieval sherds, and 1337 'modern' sherds, is present in the north Lanes archive. The assemblage is currently stored in approximately 186 boxes, of which c 166 contain medieval material (including 49 boxes of material selected for illustration), and c 20 hold post-medieval or mixed medieval/post-medieval material. Within the boxes, the pottery is ordered by trench and context and is bagged by fabric type. In the minutes of a Lanes project meeting held internally by CAU on 8/3/1999, which are present in the project archive, it is stated that no report text had been produced by that date; the report was still outstanding on 19 July of that year, as another set of minutes (the most recent set found in the project archive) attest. Although a date of 31 October 1999 was stated in the minutes as the deadline for the production of a draft text, it seems highly unlikely that a report was produced prior to the demise of CAL in August 2001 (T Padley *pers comm*; J Zant *pers comm*).

### 3.8 NORTH LANES POTTERY ILLUSTRATIONS

- 3.8.1 The north Lanes project archive contains a considerable number of inked, publication-standard pottery illustrations at various levels of completeness. These are detailed in Table 7, together with those categories of drawings (such as illustrations of post-Roman pottery) that are obviously missing from the archive, possibly because they were never completed. Whilst the majority of the existing drawings are in good condition and would, like the artefact drawings, require little additional work, some are inadequately labelled or unlabelled, which poses potentially serious problems of identification. All were hand-drawn and do not exist in a digital format.

Material category	Description/comments/missing drawings
Samian	81 individual inked drawings are present in the archive, labelled with catalogue and context numbers. A further ten sherds, listed as requiring illustration in a catalogue found in the archive, could not be located; of these, eight are listed as 'missing' in the catalogue itself, which was compiled in 1996
Samian stamps	No drawings of samian stamps have been prepared (B Dickinson <i>pers comm</i> )
Mortaria and mortaria stamps	72 archive drawings were located - 49 of stamps, 22 of rims and one of a graffito. A further seven sherds (four stamps and three rims), listed as having been drawn or requiring illustration in a catalogue found in the archive, could not be located. A further 25 stamps requiring illustration have not been drawn (K Hartley <i>pers comm</i> )
Roman coarse pottery	Three large sheets with 34 drawings are present in the archive. Two sheets (labelled with numbers 1-26) represent a group of material derived from a single feature (Roman well LAL D 232). This corresponds to the 26 sherds from that feature that are listed as requiring illustration in the draft pottery report. The identification of the material on the third sheet (numbered 1-6) is not known. All three drawings are fully plated for publication reduction. Excluding the material from the well, 167 sherds are listed for illustration in the draft report. With the exception of the six unidentified sherds noted above, none of these drawings could be located, and it seems likely that they were never completed
Roman graffiti	Eight large sheets with 29 inked drawings of graffiti on samian, amphora, and coarse ware sherds are present in the archive (with catalogue numbers corresponding to those in RSO Tomlin's draft report). This appears to represent a full set of Roman graffiti illustrations
Medieval and post-medieval pottery	No drawings were located in the archive; the minutes of a CAU Lanes project meeting, held on 8/3/1999, indicate that <i>c</i> 50% of the pencil drawings had been completed by that date. The current whereabouts of these illustrations are not known, however. All subsequent project minutes, up to and including the latest set present in the archive, dated 19/7/1999, record no further progress. That material was selected for illustration is, however, clear from the presence of a large number of boxes of post-Roman pottery labelled as 'to draw/drawn' that are present in the project archive. The collection comprises 34 'standard', rectangular cardboard finds storage boxes, 14 rectangular plastic stacking boxes and one oversized cardboard box ( <i>c</i> 750 x 400mm), which are estimated to hold the remains of 233 individual vessels (219 medieval and 14 post-medieval)

Table 7: summary status of pottery drawings for north Lanes publication

### 3.9 NORTH LANES ARTEFACTUAL REPORTS

3.9.1 In the following section, the order in which the different artefactual categories are presented follows, as far as possible, that of the incomplete finds reports in the project archive. The only substantive difference is that, in the draft reports, the Roman and post-Roman objects are split, and appear in two separate volumes.

3.9.2 **Roman coins:** a draft paper copy of the report on the 270 Roman coins is present in the archive, authored by David Shotter and issued on 10/5/1996. A digital copy was not located.

- 3.9.3 **Post-Roman coins:** a draft paper copy of the report is present in the archive, authored by the late Elizabeth Pirie (on the three Northumbrian coins), Barri Cook (on the four medieval coins) and Tim Padley (on the 28 post-medieval coins), and issued on 10/5/1996. The report on the post-medieval coin assemblage comprises only a listing, but was clearly never intended to be anything more. A digital copy of the report was not located.
- 3.9.4 **Gold and silver:** draft paper copies of two separate reports dealing with the assemblage of seven Roman and post-Roman precious metal artefacts (five of certain/probable Roman date, all gold, and two medieval items, one of gold, the other of silver) are present in the archive, both authored by Tim Padley. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. A digital copy was not located.
- 3.9.5 **Copper alloy:** draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Tim Padley. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. In addition, paper copies of two short reports on individual artefacts, authored by John Cherry in 2001, were also found. Digital copies of these reports were not located. In total, 192 artefacts of Roman date and 158 post-Roman items were considered worthy of publication.
- 3.9.6 **Iron:** draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Tim Padley. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. Digital copies were not located. In total, 27 artefacts of Roman date and 17 post-Roman items were considered worthy of publication.
- 3.9.7 **Lead:** draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Tim Padley. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. Digital copies were not located. In total, 12 artefacts of Roman date and 14 post-Roman items were considered worthy of publication.
- 3.9.8 **Tin/pewter:** a draft paper copy of a report on two tin/pewter artefacts is present in the archive, authored by Tim Padley and undated. A digital copy was not located. The report covers the post-Roman assemblage only, presumably because no Roman material was recovered.
- 3.9.9 **Metalworking debris:** a copy of the report is not present in the archive, and it is considered probable that none was ever written (T Padley *pers comm*). No record of the total weight of material recovered from the northern Lanes could be found in the archive. However, the listings of archival materials for each of the north Lanes field events, compiled during Stage 2 of the Carlisle Archives Project (OA North forthcoming), indicate that 13 boxes of metalworking debris are present in the project archive in Shaddon Mill. It was not possible to determine how much of this material was of Roman date and how much was post-Roman. It is presumed that none of this material was ever assessed or analysed.

- 3.9.10 **Stone objects and architectural stone:** draft paper copies of two separate reports, one dealing with the Roman stone (83 objects, including four gemstones) and the other with the post-Roman assemblage (13 items), are present in the archive. The Roman report comprises a series of descriptive catalogue entries with no introduction or other text. Both the Roman stone objects and the Roman architectural stone are integrated into a single report, and it is clear that the post-Roman stone was to be treated in the same way. However, the section dealing with the post-Roman architectural fragments (47 items) does not appear to have been written, and consequently the draft report contains only a basic listing of this material. The project archive does, however, contain photocopies of inked archive drawings of all or most of the architectural pieces. In addition to the 13 individual stone items, the post-Roman stone report includes a lengthy description of an assemblage of 71 medieval sandstone roofing slates from trench KLA C. The reports were authored by Sue Winterbottom and Tim Padley, together with Martin Henig for the gemstones. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. No digital copies could be located.
- 3.9.11 **Prehistoric flints:** a draft paper copy of the report on the 162 pieces of prehistoric lithic material is present in the archive, authored by Christopher Tolan-Smith and issued on 10/5/1996. A digital copy could not be located.
- 3.9.12 **Jet, shale and amber:** the draft paper copy of the report present in the archive merely comprises a series of descriptive catalogue entries with no introduction or other text, authored by Tim Padley, and issued on 10/5/1996. The report covers the Roman assemblage only (seven items), presumably because no post-Roman material was recovered. No digital copy could be found.
- 3.9.13 **Glass:** a copy of the report on the 2225 sherds of Roman glass from the northern Lanes is not present in the archive. Consultations with Professor Jenny Price have established that, whilst the descriptive catalogue was completed, the discussion was never written due to a dispute over outstanding fees for the analytical work, which were never paid (J Price *pers comm*). The finished catalogue was also withheld for the same reason, and the glass itself remains with Professor Price.
- 3.9.14 **Ceramic objects:** the draft paper copy of the report found in the archive, such as it is, comprises a series of descriptive catalogue entries with no introduction or other text, authored by Louise Hird (with comments on crucibles by Justine Bayley), and issued on 10/5/1996. The report covers the Roman assemblage only (33 objects), presumably because no post-Roman material was recovered. No digital copy could be located.
- 3.9.15 **Clay tobacco pipes:** no report on the 392 fragments of clay tobacco pipe recovered from the northern Lanes is present in the archive, and it is considered unlikely that a report was ever written (T Padley *pers comm*). No illustrations were located either. However, the listings of archival materials for each of the north Lanes field events, compiled during Stage 2 of the Carlisle Archives Project (OA North forthcoming), indicate that seven small boxes of clay tobacco pipe fragments are present in the project archive in Shaddon Mill. It is presumed that none of this material was ever assessed or analysed.

- 3.9.16 **Ceramic building materials**: a draft paper copy of the report is present in archive, authored by Louise Hird and issued on 10/5/1996. The report covers the Roman assemblage only, presumably because no post-Roman material was either recovered or retained. No digital copy could be located. In total, 2771 fragments of Roman ceramic building materials were recovered, of which 1484 fragments (54%), weighing 164.5kg, came from Roman deposits.
- 3.9.17 **Bone, antler and ivory**: draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Tim Padley. The Roman report was issued on 14/10/1996, whilst the post-Roman report is undated. Digital copies of these reports were not located. In total, 40 artefacts of Roman date and 12 post-Roman items were considered worthy of publication.
- 3.9.18 **Wooden objects**: draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Tim Padley. The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. There is also a draft paper copy of a short report on the inscribed Roman wooden objects, including graffiti and stylus writing tablets, authored by Roger Tomlin (undated). Digital copies of these reports could not be located. In total, 45 artefacts of Roman date and 30 post-Roman items were considered worthy of publication.
- 3.9.19 **Leather (shoes)**: a draft paper copy of the report on the 166 Roman shoes or shoe-parts is present in the archive. The post-Roman shoes (90 fragments in total) are represented only by a basic table or listing; the report itself was not written (T Padley *pers comm*), although written descriptions of each item exist on CAU medieval shoe cataloguing sheets that are present in the project archive. The existing report and the list of post-Roman shoes were compiled by Tim Padley. The Roman report is dated 10/5/1996, whilst the post-Roman list is undated. Digital copies of these documents could not be located.
- 3.9.20 **Leather (sheet)**: draft paper copies of two separate reports dealing with the Roman and post-Roman assemblages are present in the archive, both authored by Sue Winterbottom. The post-Roman report comprises a series of descriptive catalogue entries with no introduction or other text. However, the author currently holds a more up-to-date version that does include an introduction and discussion (S Winterbottom *pers comm*). The Roman report was issued on 10/5/1996, whilst the post-Roman report is undated. No digital copies of these reports could be located. In total, 105 Roman stitched fragments were considered worthy of publication, together with 11 items of post-Roman date.
- 3.9.21 **Basketry**: a digital (Wordstar) copy of a draft report on two items of Roman basketry, authored by Elizabeth Allnutt, is present in the archive.
- 3.9.22 **Textiles**: a draft paper copy of the report on the 26 textile items (including fragments of raw wool and animal pelts) is present in the archive, authored by Penelope Walton Rogers and issued on 22/3/1995. The report covers the post-Roman assemblage only, presumably because no Roman material was

recovered. No digital copy was present in the archive, but the author kindly provided a copy in Wordstar format.

### 3.10 NORTH LANES ARTEFACTUAL ILLUSTRATIONS

- 3.10.1 *Drawings*: the north Lanes project archive contains a considerable number of inked, publication-standard artefact illustrations (Individually Registered Finds, or IRFs). In the case of the Roman objects (and the prehistoric flints), cross-referencing of the drawings with artefact catalogues contained in the draft finds reports indicates that a full set of illustrations is present in the archive. A list of pre-Roman and Roman IRFs requiring illustration, compiled from the artefact catalogues, is provided in *Appendix 1*. Most of the drawings are in good condition, and would require only a limited amount of additional work to clean and restore. As with the stratigraphic illustrations, all the artefacts were hand-drawn and the illustrations do not exist in any kind of digital format.
- 3.10.2 In the case of the post-Roman IRFs, the situation is somewhat less clear. A considerable number of publication-standard drawings of medieval objects are present in the archive, whilst a draft of the post-Roman finds fascicule found in the archive contains catalogues for most classes of artefactual material. Many of the illustrations were unlabelled, but for the most part it proved possible to identify objects by means of cross-referencing between the publication illustrations, archive drawings (*Section 3.10.3*) and the catalogues. It is clear that only a proportion of the post-Roman IRFs selected for illustration were actually drawn to publication standard prior to the demise of CAL in 2001, as is shown in *Appendix 2*.
- 3.10.3 In addition to the inked publication drawings, the north Lanes archive also contains a large number of CAU inked or pencil-drawn artefactual archive drawings. These illustrations were produced on small pieces of draughting film that were then stuck by means of masking tape to A4-sized archive record sheets. Although apparently compiled principally as an archive record, most of the drawings were completed to a reasonably high standard by appropriately experienced illustrators. This is fortunate, since in the case of those material categories for which no complete or near-complete publication illustrations exist, these drawings could potentially be upgraded to publication standard, obviating the need to draw the objects from scratch. A full listing of the illustrations that may be of use in this respect is provided in Table 8.

Material category	Description/comments	Catalogue located
Roman glass	122 items listed in catalogue, 118 drawings found in archive; 24 inked, 94 pencil. Four drawings not located	✓
Post-Roman copper-alloy (1)	26 inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects C3-C27 and C98-C130 in <i>Appendix 2</i>	✓
Post-Roman copper-alloy (2)	Six inked drawings which are certainly or probably worthy of publication (including an early medieval brooch fragment and a late medieval crucifix), but which do not appear in the draft fascicule text or in the accompanying catalogue. Appears to be an oversight	✗
Post-Roman iron	Six inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects D3-D6 and D8-D16 in <i>Appendix 2</i>	✓
Post-Roman lead	Six inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects E2-E13 in <i>Appendix 2</i>	✓
Post-Roman stone objects	12 inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects G78-G162 in <i>Appendix 2</i>	✓
Post-Roman architectural stone	47 items listed in catalogue, of which 45 said to be drawn; 42 inked drawings located, three unlocated. Photocopies of two of the latter are, however, present in archive	✓
Post-Roman bone objects	Seven inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects K1-K7 in <i>Appendix 2</i>	✓
Post-Roman wood	Seven inked drawings of post-Roman objects located; no catalogue nos, but IRF and context nos definitely correspond to those of objects K23-K29 in <i>Appendix 2</i>	✓
Post-Roman leather (shoes)	Of the 90 fragments of post-Roman shoes listed in the draft post-Roman finds fascicule, pencil archive drawings for a total of 34 are present in archive. The list provides no indication of which items were to be selected for illustration	✗

*Table 8: summary of archive-standard artefact drawings in the north Lanes archive that are not duplicated by publication-standard drawings*

3.10.4 **Photographs:** no publication-standard photographs of north Lanes artefacts are present in the project archive. However, some photographs of *in situ* artefacts are present, and some of these may potentially be suitable for publication.

### 3.11 NORTH LANES ENVIRONMENTAL REPORTS

- 3.11.1 **Human remains:** a draft paper copy is present in the archive. Authored by Celia Harding, the issue date of this report is unknown, although it is believed to have been written *c* 2000 (J Zant *pers comm*). The assemblage derives from 14 separate contexts, all of Roman date; the bones represent the remains of a minimum of seven and a maximum of 14 individuals. A digital copy of the report in Word format has kindly been provided by the author.
- 3.11.2 **Animal bone:** draft paper copies of two reports are present in the archive. The first, authored by Simon Davis and Brian Connell in 1998, constitutes the ‘main’ report. A digital (Word) copy of the report with accompanying tables and appendices is currently held by one of the authors (Simon Davis), who is now based in Portugal (S Davis *pers comm*). The second report, authored by Sue Stallibrass and issued on 15/12/1997, presents the results of a pilot study on residuality and site formation processes with respect to the Roman bone assemblage, an issue that was not addressed (intentionally) by the main report. A digital copy of this report is not available. *It is important to note that both reports deal only with the Roman material.* The post-Roman assemblage was not analysed at all, nor was it subjected to an archaeological assessment. The minutes of an internal CAU Lanes project meeting, held on 21 July 1995, state that, following an internal financial review, a decision had been made not to analyse the post-Roman palaeoenvironmental materials from the site ‘*because of budgetry and timetabling problems*’. However, it is understood that the intention was for this material to be studied ‘at some stage’ (S Stallibrass *pers comm*). It is also worthy of note that, from the total Roman assemblage, which comprised in excess of 26,800 individual fragments, of which *c* 7600 were identifiable to species and anatomical zone (*Section 3.11.3*), only 1573 fragments were selected for full analysis. In total, 2192 fragments were assessed as part of the residuality pilot study.
- 3.11.3 Unfortunately, it has not been possible to estimate accurately the size of the post-Roman animal bone collection, since the Lanes assemblage as a whole is not differentiated by date or period in the boxes in which it is currently stored. However, a crude estimate can be produced if it is assumed that the amount of animal bone recovered from post-Roman deposits was proportionally similar to that from the Roman levels. Using this method of calculation, it is known that the seven main trenches on the north Lanes (KLA A-D and LAL B-D) contained approximately 7300 individual contexts, of which it is estimated that approximately two-thirds (*c* 4900) were of Roman date (including the small number of pre-Roman deposits) and approximately one-third (*c* 2400) were post-Roman. The Roman levels from the north Lanes produced over 26,800 individual bone fragments weighing *c* 640kg (stored in 157 boxes), of which *c* 7600 were suitable for recording to determine species and anatomical zone. If the amount of bone from post-Roman contexts was proportionally similar, it is possible to estimate that the post-Roman assemblage may consist of approximately 13,450 fragments weighing *c* 320kg (*c* 78 boxes), of which some 3800 may be recordable to species and anatomical zone. Whilst it must be stressed that this calculation is based on a series of assumptions that may or may not be correct, the figure of *c* 78 boxes is reasonably close to the estimate



of c 100 boxes of post-Roman bone provided from memory by Dr Stallibrass (*pers comm*).

- 3.11.4 **Structural wood:** a copy of the report is not present in the archive, and it seems probable that a report was never written (T Padley *pers comm*). Neither is there any evidence that the material was ever assessed. The total number of structural wood fragments originally recovered from the site is not known, but 65 pieces were recorded in the project archive during Stage 2 of the Carlisle Archives Project (OA North forthcoming). No illustrations of any kind were located.
- 3.11.5 **Dendrochronology:** draft paper copies of two reports covering the Roman and post-Roman periods are present in the archive. Both were authored by Cathy Tyers (nee Groves) and were issued in August 1996 and September 1996 respectively. In total, 132 Roman-period samples and 71 of medieval date were analysed, of which 62 and 60 respectively were dated. Dr Tyers kindly provided digital (Word) copies of both documents during the course of the present assessment.
- 3.11.6 **Charred and waterlogged plant remains and non-structural wood:** a draft paper copy of a report detailing the results of the palaeobotanical analysis of 148 Roman samples is present in the archive, authored by Jacqui Huntley and issued in February 1999. It does not, however, contain the results of the analysis of non-structural wood recovered from Roman levels; these have yet to be collated (J Huntley *pers comm*). A garbled digital file, possibly copied from a Wordstar document, was also found on a 3.5-inch floppy disc. This document relates only to minor trench OBL A and seems to be the text of an archive report on the plant remains from that site. With this exception, a digital copy of the report could not be located, although Jacqui Huntley has indicated (*pers comm*) that a copy should exist within her records and should hopefully be available at some stage. *As with the animal bone assemblage (Section 3.11.2), a decision was made during the post-excavation programme (internal CAU Lanes project meeting minutes, 21 July 1995) to exclude post-Roman material from the analysis of the north Lanes plant remains due to budgetry and timetabling problems; consequently, the post-Roman samples were not even assessed for their potential.* The research design for the botanical remains, which was authored by Jacqui Huntley and included as an appendix in the CAU research design for analysis of the plant and wood remains that was submitted to English Heritage in 1996 (McCarthy and Huntley 1996) clearly states that only the Roman material was assessed, but stresses the importance of assessing the post-Roman samples at some future date.
- 3.11.7 Several digital databases listing all the north Lanes soil samples by trench, compiled by CAU in 1993-4, were found in the project archive. From these, it was possible to estimate that 264 samples were taken from post-Roman levels on the site (261 from medieval deposits and three from post-medieval contexts), whilst eight were taken from the early post-Roman 'dark earth' (Period 12). Seven of the 'dark earth' samples were analysed for charred and waterlogged plant remains, and the results are presented with those obtained from the Roman samples, but none of the others were assessed or analysed.

- 3.11.8 **Pollen**: no assessment or analysis of pollen was undertaken as part of the north Lanes project. This is unfortunate, since at Rickergate, assessment of waterlogged deposits within the large ditch fronting the medieval city's north wall (OA North 2002, 182-3) found excellent preservation of pollen, and highlighted the potential of at least some medieval strata in Carlisle for pollen survival.
- 3.11.9 **Insects**: a draft paper copy of the report is present in the archive, authored by Harry Kenward, Frances Large and John Carrott, and issued on 8/12/1998 (Kenward *et al* 1998). A digital copy of the report was kindly provided by Dr Kenward. *As with the animal bone assemblage (Section 3.11.2) and the plant remains (Section 3.11.6), a deliberate decision was made to exclude post-Roman material from the analysis because of budgetary and timetabling problems (internal CAU Lanes project meeting minutes, 21 July 1995); consequently, the post-Roman samples were not even assessed for their potential.* Of the 111 sub-samples (from 91 contexts) selected for analysis, only seven (from six contexts) were post-Roman in date, in the (initial) belief that they were Roman (H Kenward *pers comm*). This is in spite of the fact that approximately 264 soil samples were taken from medieval and post-medieval levels on the site (Section 3.11.7). However, most of these samples contained extremely rich assemblages of insects, including the first British record of the human pubic louse (*Pthirus pubis*) in a medieval context (Kenward *et al* 1998, 43).
- 3.11.10 **Soil micromorphology**: a short report on the micromorphology of a sample of late Roman or early medieval (Period 12) 'dark earth' excavated in Keay's Lane Trench C (KLA C) is available as an *English Heritage Ancient Monuments Laboratory (AML) Report* (MacPhail 1980). Since this report was not present in the project archive, a copy was obtained from the Centre for Archaeology. Unfortunately, the report proved to be of limited value, since it does not include the context number of the deposit that was subjected to analysis. The spatial and stratigraphic location of the deposit can therefore be determined only in the most general terms.
- 3.11.11 **Marine molluscs**: a report is not present in the archive; it is understood that a small assemblage of material was recovered from the site, but no further details were available in the project records. The material itself was not recorded during the Carlisle Archives Project (OA North forthcoming), probably because it is stored in mixed artefact boxes that are not labelled with sufficient detail. It is considered unlikely that a report was ever written, or that the material was assessed (T Padley *pers comm*).
- 3.11.12 **Radiocarbon dating**: no programme of radiocarbon dating was undertaken as part of the Lanes project, nor were any deposits assessed for their potential for dating.

## 3.12 SOUTH LANES MONOGRAPH (STRATIGRAPHIC NARRATIVE)

- 3.12.1 The south Lanes monograph was published in 2000 (McCarthy 2000).

### **3.13 SOUTH LANES FASCICULE 1 (STRATIGRAPHY AND ENVIRONMENTAL REMAINS)**

3.13.1 An apparently complete draft of Fascicule 1 in hard copy was located during the course of the present assessment and a copy was made for inclusion in the project archive. The discovery of this draft is particularly fortunate, since the former CAU/CAL archive in Shaddon Mill contains virtually no south Lanes publication texts of any kind. The only texts present in the archive are an early paper copy of the detailed stratigraphic report and digital copies of the animal bone, bird bone, fish bone and palaeobotanical reports. The copy of the stratigraphic report has been heavily edited and must have been superseded by later versions that do not appear in the archive. The animal bone and plant reports are in Word format, but those on the bird and fish bones are available only in Wordstar. No paper copies of any environmental reports are present in the archive. In addition to the above, a digital copy of the dendrochronology report (in Word format) was provided by Cathy Tyers, and digital copies of the insect reports for three separate areas of the south Lanes site were obtained from Harry Kenward. The insect and plant reports (including the wood) are also available as AML reports, although copies were not obtained during the course of this assessment. A full report on the small assemblage of human bone (four fragments) is known to have been produced but could not be located. A summary appears in the south Lanes monograph (Harding 2000), where a reference is provided to the full report in the (unpublished) south Lanes Fascicule 1 (Chapter 13). However, the hard copy of Fascicule 1 recently located contains no Chapter 13 and the human bone report does not appear elsewhere in the volume. No report on the marine molluscs was found and it seems unlikely that one was ever produced. No pollen analysis or radiocarbon dating were undertaken as part of the south Lanes project.

### **3.14 SOUTH LANES FASCICULE 2 (ROMAN AND MEDIEVAL FINDS)**

3.14.1 As with Fascicule 1, an apparently complete hard copy draft of Fascicule 2 was located during the course of the present assessment, and a copy was made for inclusion in the project archive. The archive itself contains digital copies of draft reports on the Roman glass and basketry (in Word and Wordstar formats respectively), but none of the other specialist reports on the Roman and medieval finds are present. A copy of the leather report is currently held by one of the authors (S Winterbottom *pers comm*), but it did not prove possible to obtain any of the other reports from outside sources during the course of the assessment.

### **3.15 SOUTH LANES FASCICULE 3 (ROMAN AND MEDIEVAL POTTERY)**

3.15.1 A complete copy of Fascicule 3 was not located during the course of the present assessment. However, an incomplete paper copy of the fascicule, containing reports on the Roman and medieval pottery from the south Lanes, including the samian ware (B Dickinson), the stamped mortaria (K Hartley), the samian ware graffiti (R Tomlin and B Dickinson) and the medieval pottery (C Brooks), is present in the project archive. The report, which is described on

the front cover as 'Galleys (2)' contains photocopies of the samian and medieval pottery illustrations (but not the mortarium stamps) mounted in the places in which they were to appear in print, but does not include a report on the Roman coarse pottery. This document was probably produced *c* 1993. A digital copy of the samian report (in Word format) was also located in the archive, but no digital copies of any of the other south Lanes pottery reports were located.

### 3.16 SOUTH LANES STANDING BUILDING RECORDS

- 3.16.1 A summary of some of the more interesting data generated by the standing building recording programme in the area of the south Lanes was published in the south Lanes monograph (McCarthy 2000; *Section 1.6.4*). No further work on the south Lanes standing buildings was undertaken, and the bulk of the data therefore remains unpublished. However, as with the north Lanes, some of the results of the standing building recording programme were included in an unpublished MA thesis on the social history of nineteenth-century housing in the Lanes area (Alfrey *nd*; *Section 3.5.3*). A condensed version (Alfrey 2006); has also recently been published in a 'popular' book on the social history of the Lanes (Scott-Parker 2006). Both reports were consulted as part of the current assessment and the author was contacted. The thesis is largely concerned with social history, particularly patterns of occupancy and building use, but includes a chapter on the vernacular architecture and the archaeology of the standing buildings (Alfrey *nd*, 41-7). Further analysis of the primary records would be needed in order to produce a report suitable for publication. However, the work already undertaken clearly represents a useful starting point.
- 3.16.2 As with the north Lanes, the standing building primary records were quantified and assessed as part of the Carlisle Archives Project (OA North 2003; forthcoming) and have been assessed in more detail during the course of the present assessment. In total, 114 individual standing building recording events occurred within the south Lanes area. A summary of the records available for each south Lanes standing building event is provided in Table 9. The level of recording was identical to that undertaken on the north Lanes (*Section 3.5.1*) and generated a similar archive of scale drawings (Table 10), written records (Table 11) and photographs. Street furniture record sheets of the same type as those used for the north Lanes (*Section 3.5.5*) are also present in the archive (Table 12). Most of the threatened buildings were photographed to some degree, but not all generated written or drawn records. As has already been explained with reference to the north Lanes (*Section 3.5.2*), the Lanes standing building recording events were not originally issued with site codes; the codes given in Tables 9-12 were issued during Stage 1 of the Carlisle Archives Project (OA North 2003).

Event code	Event name/address	Written records	Drawings	Photographs
BNK B	Bank St (general)	-	-	✓
BNK C	5 Bank St	-	-	✓
BNK D	7 Bank St	-	-	✓
BNK E	9 Bank St	-	-	✓
BNK F	11 Bank St	-	-	✓
BNK G	13 Bank St	-	-	✓
BNK H	15 Bank St	-	-	✓
BNK J	17 Bank St	-	-	✓
BNK K	19 Bank St	-	-	✓
BNK L	21 Bank St	-	-	✓
BNK M	23 Bank St	-	-	✓
BNK N	25 Bank St	-	-	?
BNK O	27 Bank St	-	-	✓
BNK P	29 Bank St	-	-	✓
BNK Q	31 Bank St	-	-	✓
BNK R	33 Bank St	-	-	✓
BNK S	35 Bank St	-	-	✓
BNK T	37 Bank St	-	-	✓
BNK U	39 Bank St	-	-	✓
BNK V	41 Bank St	-	-	✓
BNK W	43 Bank St	-	-	✓
BNK X	45 Bank St	-	-	✓
BNK Y	47 Bank St	-	-	✓
BNK Z	49 Bank St	-	-	✓
BNK AA	51 Bank St	-	-	✓
CAL J	Crown and Anchor Lane	-	-	✓
CAL K	Crown and Anchor Lane	-	-	✓
CAL M	Crown and Anchor Lane	-	-	✓
CAL N	Crown and Anchor Lane	✓	-	✓
CAL O	Crown and Anchor Lane	-	-	✓
ENG B	English St (general)	-	-	✓
ENG C	1 English St	-	-	✓
ENG D	3 English St	✓	✓	✓
ENG E	5-7 English St	-	-	✓
ENG G	9 English St	-	-	✓
ENG H	11 English St	-	-	✓
ENG J	13 English St	-	-	✓
ENG K	15 English St	-	-	✓
ENG L	17 English St	-	-	✓
ENG M	19 English St	-	-	✓
ENG N	21 English St	-	-	✓
ENG O	23 English St	-	-	✓
ENG P	25 English St	-	-	✓
ENG Q	27 English St	-	-	✓
ENG R	29 English St	-	-	✓
GRL A	Grapes Lane (general)	-	-	✓
GRL B	1 Grapes Lane	✓	✓	✓
GRL C	2 Grapes Lane	✓	✓	✓
GRL D	3 Grapes Lane	✓	✓	✓
GRL E	4 Grapes Lane	✓	✓	✓

Event code	Event name/address	Written records	Drawings	Photographs
GRL F	5 Grapes Lane	✓	✓	✓
KAL O	King's Arms Lane (gen)	-	-	✓
KAL P	King's Arms Lane	-		✓
KAL Q	1 King's Arms Lane	-	✓	✓
KAL R	2 King's Arms Lane	-	✓	✓
KAL S	3 King's Arms Lane	-	✓	
KAL T	King's Arms Lane	-	-	✓
KAL U	King's Arms Lane	-	-	✓
KAL V	King's Arms Lane	-	-	✓
LEL C	Lewthwaite's Lane	-	-	✓
LEL D	1 Lewthwaite's Lane	-	-	✓
LEL E	2 Lewthwaite's Lane	-	✓	✓
LEL F	3 Lewthwaite's Lane	✓	✓	✓
LEL G	4 Lewthwaite's Lane	-	-	✓
LEL H	5 Lewthwaite's Lane	-	-	✓
LEL J	6 Lewthwaite's Lane	-	✓	✓
LEL K	7 Lewthwaite's Lane	-	-	✓
LEL L	8 Lewthwaite's Lane	-	-	?
LIL A	Lion and Lamb Lane	-	-	✓
LOT A	Lowthian's Lane	-	-	✓
LOT B	Lowthian's Lane	-	-	✓
LOT C	Lowthian's Lane	-	-	✓
LOT D	Lowthian's Lane	-	-	✓
LOT E	Lowthian's Lane	-	-	✓
LOW D	Lowther St	-	-	✓
LOW H	45 Lowther St	-	-	✓
LOW J	47-49 Lowther St	-	-	✓
LOW K	51-57 Lowther St	-	-	✓
LOW L	59-65 Lowther St	-	-	✓
LOW M	67-69 Lowther St	-	-	✓
LOW N	71 Lowther St	✓	✓	✓
LOW O	73 Lowther St	-	-	✓
LOW P	75 Lowther St	-	✓	✓
LOW Q	77 Lowther St	✓	✓	✓
LOW R	79 Lowther St	-	-	✓
LOW S	81 Lowther St	✓	✓	✓
LOW T	83 Lowther St	✓	✓	✓
LOW U	85 Lowther St	-	✓	✓
LOW V	87 Lowther St	-	-	✓
OBL E	Old Bush Lane (gen)	-	-	✓
OBL F	1-5 Old Bush Lane	✓	✓	-
OBL G	7 Old Bush Lane	-	-	✓
OBL H	6-9 Old Bush Lane	✓	✓	-
OBL J	11 Old Bush Lane	✓	✓	✓
OGL K	Old Grapes Lane	-	-	✓
OGL L	Old Grapes Lane	-	-	✓
OGL M	2 Old Grapes Lane	-	-	?
OGL N	3 Old Grapes Lane	-	-	?
OGL O	4 Old Grapes Lane	-	-	?
OGL P	5 Old Grapes Lane	-	-	?
PHL B	Packhorse Lane	-	-	✓
PHL C	Packhorse Lane	-	-	✓
PHL D	Packhorse Lane	-	-	✓
PLA B	Peascod's Lane	-	-	✓
PLA C	Peascod's Lane	-	-	✓
PLA D	Peascod's Lane	-	-	✓

Event code	Event name/address	Written records	Drawings	Photographs
SCO W	63 Scotch St	✓	✓	✓
SCO X	65 Scotch St	✓	✓	✓
SCO Y	67 Scotch St	-	-	?
SCO Z	69-73 Scotch St	✓	✓	✓
SCO AA	75 Scotch St	✓	✓	✓
SCO BB	77 Scotch St	✓	✓	✓
SCO CC	79 Scotch St	-	-	✓
SCO DD	81 Scotch St	-	-	✓

? = photographs recorded but not located

Table 9: summary of records available for south Lanes standing building recording events

Drawing	Event code	Event name/address	Description/comments
6-7	CAL N	Crown and Anchor Lane (Cumbria Home Improvements)	Ground and first floor plans
8	CAL N	Crown and Anchor Lane (Cumbria Home Improvements)	South-facing elevation
9-11	ENG D	3 English St	Ground, first and second floor plans
28-30	GRL B	1 Grapes Lane	Ground and first floor plans
31	GRL B	1 Grapes Lane	Plan of WCs, pencil rough
32-33	GRL B-C	1-2 Grapes Lane	North- and south-facing elevations
34	GRL C	2 Grapes Lane	Basement, ground and first floor plans
35	KAL Q-S	1-3 King's Arms Lane	Elevation, pencil rough
46	LEL E	2 Lewthwaite's Lane	Ground floor plan
47	LEL E	2 Lewthwaite's Lane	Front (south-facing?) elevation
48-49	LEL F	3 Lewthwaite's Lane	Ground and first floor plans
50-51	LEL F	3 Lewthwaite's Lane	Front (south-facing?) elevation in two parts
52	LEL J	6 Lewthwaite's Lane	Elevation (north-facing?)
53	LOW Q	77 Lowther St	North-facing elevation
54-57	LOW N	71 Lowther St	Cellar, ground, first and second floor plans
58	LOW N	71 Lowther St	East-facing elevation
59	LOW N	71 Lowther St	Elevation, north-facing?
60	LOW N	71 Lowther St	North-facing cross-section
61	LOW P	75 Lowther St	Detail of south wall, pencil rough. Not to scale?
62-63	LOW P	75 Lowther St	East-facing elevation
64-67	LOW Q	77 Lowther St	Cellar, ground and first floor plans, pencil roughs
68	LOW Q	77 Lowther St	North-facing (?) elevation, pencil rough
69	LOW Q	77 Lowther St	Cellar plan (inked)
70-72	LOW S-U	81-85 Lowther St	Plans of ground, first and second floors, dye-line
73	LOW S-U	81-85 Lowther St	Ground plan of rear premises
74-75	LOW U	85 Lowther St	Elevation of internal faces of south and east walls, pencil roughs
76-77	LOW U	85 Lowther St	South-facing elevation
78-80	LOW U	85 Lowther St	Detail of roof structure in R1 (east-facing), R3, and R4, pencil roughs
81	LOW S-T	81-83 Crown and Anchor Lane	Elevation (north- or south-facing?)
96-99	OBL F	1-5 Old Bush Lane	Plans of cellar and all four floors

<b>Drawing</b>	<b>Event code</b>	<b>Event name/address</b>	<b>Description/comments</b>
100	OBL F	1-5 Old Bush Lane	South-facing elevation
101-103	OBL H	6 Old Bush Lane	Plans of ground, first floor and attic
104	OBL H	6 Old Bush Lane	Cross-section
105	OBL H	6-9 Old Bush Lane	South-facing elevation
106-107	OBL J	11 Old Bush Lane	Plans of ground and first floor
108	OBL J	11 Old Bush Lane	South-facing elevation
109-111	?	Thurnham's warehouse, Old Grapes Lane	North- and south-facing elevations
130-134	SCO W	63 Scotch St	Plans of basement, ground, first and second floors and attic
135	SCO W	63 Scotch St	East-west cross-section
136	SCO W	63 Scotch St	West-facing elevation
137	SCO W	63 Scotch St	South-facing elevation
138	SCO W	63 Scotch St	North-facing elevation
139-141	SCO X	65 Scotch St	Plans of ground, first and second floors
142	SCO X	65 Scotch St	Cross-section
143	SCO X	65 Scotch St	West- and east-facing elevations
144-145	SCO Z-AA	69-75 Scotch St	Plan of cellars, ink and pencil rough
146	SCO AA	75 Scotch St	Plan of cellar, pencil rough
147	SCO Z	69 Scotch St	North-facing elevation
148-155	SCO Z	69-73 Scotch St	Plans of ground, first, second and third floors, ink and pencil roughs
156-157	SCO AA	75 Scotch St	Plans of first and second floors and detail of roof timbers
158	SCO AA	75 Scotch St	West-facing elevation
159	SCO AA	75 Scotch St	East-west cross-section
160	SCO AA	75 Scotch St	South-facing elevation
161-162	SCO BB	77 Scotch St	West-facing elevation
163-164	SCO BB	77 Scotch St	North-facing elevation, ink and pencil rough
165	SCO BB	77 Scotch St	North-facing elevation, detail of door and window, pencil rough (scale?)
166-167	SCO BB	77 Scotch St	South-facing elevation, ink and pencil rough
168	SCO BB	77 Scotch St	Plan of cellar, pencil rough
169	SCO BB	77 Scotch St	Cross-section of cellar, pencil rough
170-175	SCO BB	77 Scotch St	Plans of ground, first and second floors, ink and pencil roughs
176-177	SCO BB	77 Scotch St	East-west cross-section, ink and pencil rough
188	KAL Q	1 King's Arms Lane	Details of windows, pencil roughs (scale?)
189	SCO X	65 Scotch St	Details of windows, pencil roughs (scale?)
191-192	SCO Z-AA	69-75 Scotch St	Details of windows, pencil roughs (scale?)

*Table 10: summary of standing building recording drawings in south Lanes archive*

<b>Event code</b>	<b>Event name/address</b>	<b>Folder no</b>	<b>Description/comments</b>
CAL N	Crown and Anchor Lane (Cumbria Home Improvements)	21	Buildings Record Card
ENG D	3 English St	8, 32	Buildings Record Card; unmeasured sketch of external door to Old Grapes Lane (folder 32)
GRL B-C	1-5 Grapes Lane	22	Buildings Record Card; pencil roughs of the front (south-facing) elevation along most of the lane
LEL F	3 Lewthwaite's Lane	20	Buildings Record Card
LOW N	71 Lowther St	9	Buildings Record Card; a few sketches of minor architectural details



Event code	Event name/address	Folder no.	Description/comments
LOW Q	77 Lowther St	10	Buildings Record Card
LOW S-T	81-83 Lowther St	11	Buildings Record Cards (two); unmeasured rough sketches of roof-trusses
OBL F	1-5 Old Bush Lane	18	Buildings Record Card
OBL H	6-9 Old Bush Lane	19	Buildings Record Card
OBL J	11 Old Bush Lane	19	Buildings Record Card
SCO W	63 Scotch St	3, 32	Buildings Record Card; architectural detail sheets (two); unmeasured sketch of roof-truss; unmeasured sketch of external door to Lewthwaite's Lane (folder 32)
SCO X	65 Scotch St	4	Buildings Record Card; architectural detail sheet; rough, unmeasured sketches of roof-truss and other architectural details
SCO Z-AA	69-75 Scotch St	5	Buildings Record Card; other notes and rough sketches of architectural details (four pages); rough, unmeasured sketches of minor architectural details
SCO AA	75 Scotch St	6	Buildings Record Card; rough measured sketches of roof-trusses, windows and other minor architectural details
SCO BB	77 Scotch St	7, 32	Rough measured sketches of architectural details; unmeasured sketch of external door to Crown and Anchor Lane (folder 32)
KAL Q	1 King's Arms Lane	32	Unmeasured sketch of external door

Table 11: summary of standing building recording written records in south Lanes archive (includes sketches stored with written records)

Name of Lane	Site code
<i>Lanes with street furniture record sheets</i>	
Grapes Lane	GRL
King's Arms Lane	KAL
Lewthwaite's Lane	LEL
Lowthian's Lane	LOT
Old Bush Lane	OBL
Old Grapes Lane	OGL
Packhorse Lane	PHL
Peascod's Lane	PLA
<i>Lanes without street furniture record sheets</i>	
Crown and Anchor Lane	CAL
Lion and Lamb Lane	LIL

Table 12: list of former lanes in the south Lanes area with and without street furniture record sheets

3.16.3 A photographic index exists in the archive for each of the south Lanes standing buildings that were subjected to photographic recording. As has already been noted (*Section 3.5.8*), the Lanes standing building archive contains approximately 2100 colour slides, of which perhaps approximately half relate to the north Lanes and half to the south Lanes. There is also an archive of black-and-white prints of similar size to that of the slide archive. No selection of photographic images for inclusion in the South Lanes publication reports was made prior to the demise of CAL in 2001, with the exception of

two photographs that appear in the South Lanes monograph (McCarthy 2000, figs 48 and 49).

### **3.17 SOUTH LANES HISTORICAL RESEARCH**

3.17.1 Notes held in the Lanes project archive at Shaddon Mill, Carlisle, indicate that a considerable amount of documentary research was undertaken on the Lanes area by Bruce Jones, formerly the Cumbria County Archivist (*Section 3.6*). For the most part, Jones did not differentiate between the northern and southern parts of the Lanes, which are artificial constructs devised purely for the purposes of the Lanes post-excavation programme (*Section 1.6.1*). Much of the information is fairly general in character and cannot be related to a particular part of the site, although it did prove possible for some research to be conducted on a ‘lane-by-lane’ basis, which provides greater potential for linking the historical evidence to the excavated archaeological data. A rapid scan of Jones’ notes suggests that they contain more information pertaining to the north Lanes than to the south, although potentially useful data relating to both areas are present.

## 4. CONCLUSIONS

### 4.1 INTRODUCTION

4.1.1 This section summarises the results of the Lanes assessment, as set out in detail in *Section 3*, and presents conclusions concerning the amount of post-excavation work that remains to be completed in order to bring the north Lanes project to publication, and the nature of the work required. For the south Lanes, only a brief summary of the current state of the publication programme, such as could be obtained from a search of the former CAU/CAL archive in Shaddon Mill and from information provided by the appropriate specialists, is presented.

### 4.2 SUMMARY OF NORTH LANES ASSESSMENT

4.2.1 Tables 13 and 14 present a summary of the current state of knowledge pertaining to the north Lanes publication programme, based on assessment of the project archive and consultation with the relevant specialists. These tables detail, respectively, the status of the written and illustrative elements of the north Lanes publication. The tables also summarise the present status, in so far as it was possible to determine, of the north Lanes standing building recording programme.

Report	Paper copy	Digital copy	Digital format	Dated copy	Author(s)	Bibliography present	Comments
<i>Monograph (stratigraphic narrative)</i>	✓	✓	Word	2/3/99 (paper)	J Zant	✗	Possibly only c 20% complete ( <i>Section 3.3</i> ); Roman narrative only
<i>Standing buildings</i>							
Written records	✓	-	-	-	-	-	Primary site records only
Report(s)	✗	✗	-	-	-	-	Report not written
<i>Historical research</i>	✗	✗	-	-	-	-	Notes present in archive; data never integrated into report
<i>Pottery</i>							
Samian	✗	-	-	-	B Dickinson	-	Report not produced, except incomplete stamps text
Roman coarse pottery	✓	-	-	29/2/96	L Hird	✗	Light editing on paper copy, extensive revision required; full mortaria report not produced
Roman graffiti	✓	-	-	22/6/99	RSO Tomlin	✗	Complete
Post-Roman pottery	✗	✗	-	-	C Brooks	✗	Report almost certainly not produced

Report	Paper copy	Digital copy	Digital format	Dated copy	Author(s)	Bibliography present	Comments
<i>Artefacts</i>							
Roman coins	✓	✗	-	10/5/96	D Shotter	✓	Light editing on paper copy
Post-Roman coins	✓	✗	-	10/5/96	ERE Pirie, B Cook, T Padley	✓	Listing only for post-medieval and modern coins
Gold/silver (all periods)	✓	✗	-	10/5/96	T Padley	✗	Light editing on paper copy of Roman report
Copper alloy (all periods)	✓	✗	-	10/5/96 and 2001	T Padley, J Cherry	✓	Light editing on paper copy of Roman and post-Roman reports
Iron (all periods)	✓	✗	-	10/5/96	T Padley	✗	Light editing on paper copy of Roman report
Lead (all periods)	✓	✗	-	10/5/96	T Padley	✗	Light editing on paper copy of Roman report
Tin/pewter (post-Roman)	✓	✗	-	10/5/96	T Padley	✗	Complete
Metalworking debris (all periods)	✗	✗	-	-	-	-	Probably not reported
Stone (all periods)	✓	✓ (roof slates only)	Word	10/5/96	S Winterbottom, T Padley	✗ (but ✓ for post-Roman roof slates)	Catalogue only for Roman objects; no post-Roman architectural report
Gemstones (Roman)	✓	✓	Word	13/9/94	M Henig	✓	Complete
Flints (prehistoric)	✓	✗	-	10/5/96	C Tolan-Smith	✓	Light editing on paper copy
Jet/shale/amber (Roman)	✓	✗	-	10/5/96	T Padley	✗	Descriptive catalogue only
Glass (Roman)	?	?	?	?	J Price, S Cottam	?	Catalogue withheld due to outstanding payment; no discussion
Ceramic objects (Roman)	✓	✗	-	10/5/96	ML Hird	✗	Descriptive catalogue only; Light editing on paper copy
Clay tobacco pipes (post-Roman)	✗	✗	-	-	-	-	Probably not reported
Ceramic building materials (Roman)	✓	✗	-	10/5/96	ML Hird, J Bayley	✓	Fragment size averages require recalculating
Bone/antler/ivory (all periods)	✓	✗	-	14/5/96	T Padley	✗	Complete
Wooden objects (all periods)	✓	✗	-	10/5/96	T Padley	✗	Light editing on paper copy of Roman report
Inscribed wood (Roman)	✓	✗	-	-	RSO Tomlin	✗	Complete
Leather (shoes; all periods)	✓	✗	-	10/5/96	T Padley	✗	No report for post-Roman shoes; list only; light editing on paper copy of Roman report
Leather (sheet; all periods)	✓	-	-	10/5/96	S Winterbottom	✗	Up-to-date version held by author; light editing on incomplete copy in archive
Basketry (Roman)	✗	✓	Wordstar	24/7/92	ERT Allnutt	✓	Complete

Report	Paper copy	Digital copy	Digital format	Dated copy	Author(s)	Bibliography present	Comments
Textiles (post-Roman)	✓	✓	Wordstar	22/3/95	P Walton Rogers	✓	Light editing on paper copy
<i>Environmental</i>							
Human remains (Roman)	✓	✓	Word	c 2000	C Harding	✓	Light editing on paper copy
Animal bones (main report; Roman only)	✓	✓ (S Davis)	Word	1998	S Davis, B Connell	✓	Roman assemblage only
Animal bones (residuality; Roman only)	✓	-	-	15/12/97	S Stallibrass	✓	Roman assemblage only
Structural wood (all periods)	✗	✗	-	-	-	-	Probably not reported
Dendrochronology (all periods)	✓	✓	Word	8-9/96	C Tyers (nee Groves)	✓	Two reports (Roman and post-Roman)
Plant remains and non-structural wood (all periods)	✓	✓ (OBL only)	Wordstar	2/99	J Huntley	✓	Roman material and Period 12 'dark earth' only; non-structural wood not reported
Pollen (all periods)	-	-	-	-	-	-	No assessment or analysis done
Insects (all periods)	✓	✓	Word (except tables)	1998	H Kenward, F Large, J Carrott	✓	Almost all Roman material only
Soil micromorphology ('dark earth')	✗	✗	-	1980	R MacPhail	-	AML report (MacPhail 1980); not in archive
Marine molluscs (all periods)	✗	✗	-	-	-	-	Probably not reported
Radiocarbon dating	✗	✗	-	-	-	-	No assessment or analysis done

Table 13: availability and completeness of draft north Lanes publication reports

Report	Publication drawings (see Tables 2-4, Table 6 and Appendices 1-2 for details)
<i>Monograph</i>	✓
<i>Standing buildings</i>	
Drawings	✗
Photographs	✗
<i>Historical research</i>	n/a
<i>Pottery</i>	
Samian	✓
Roman coarse pottery	✓
Roman graffiti	✓
Post-Roman pottery	✗
<i>Artefacts</i>	
Roman coins	n/a
Post-Roman coins	n/a
Gold/silver	✓
Copper alloy	✓

<b>Report</b>	<b>Publication drawings</b> (see Tables 2-4, Table 6 and <i>Appendices 1-2</i> for details)
Iron	✓
Lead	✓
Tin/pewter	✓
Metalworking debris	n/a
Stone	✓
Flints	✓
Jet/shale/amber	✓
Glass	✓
Ceramic objects	✓
Clay tobacco pipes	✗
Ceramic building materials	✓
Bone/antler/ivory	✓
Wooden objects	✓
Inscribed wood	✓
Leather (shoes)	✓
Leather (sheet)	✓
Basketry	✗
Textiles	✓
<i>Environmental</i>	
Human remains	n/a
Animal bones (main report)	n/a
Animal bones (residuality)	n/a
Structural wood	✗
Plant remains and non- structural wood	n/a
Pollen	n/a
Insects	n/a
Soil micromorphology	n/a
Marine molluscs	n/a
Dendrochronology	n/a
Radiocarbon dating	n/a

Note: all illustrations were hand-drawn and do not exist in any kind of digital format

*Table 14: availability and completeness of north Lanes publication drawings and standing building illustrations*

4.2.2 **The monograph report (stratigraphic narrative):** the draft text for the north Lanes monograph is available as a Word document. However, at 40,000 words, the report is estimated to be perhaps only around 20% complete (*Section 3.3*), considering that the basic stratigraphic narrative for the eight post-Roman periods has not been written, and that the text lacks both an introductory chapter and a discussion section. It is also probable that some additional information will need to be integrated into the existing Roman stratigraphic narrative, together with relevant artefactual and environmental data (including dating evidence) synthesised from the specialist reports. A major omission is the lack of a database providing basic details for the c 8600 individual contexts recorded during the north Lanes excavations.

4.2.3 In terms of illustrations, the 34 partially completed publication drawings, including the 21 large drawings illustrating the Roman stratigraphic sequence,

require completion, including the provision of full contextual information derived from the original phase drawings. A similar sequence of drawings for the post-Roman phases needs to be produced from the existing pencil mock-ups and all existing drawings will also require digitising. In addition, a number of additional stratigraphic drawings, including sections, elevations and more detailed plans, will be required. A list of plates has not been compiled; this will need to be done, once the report text is complete, following which the relevant negatives must be extracted from the archive, scanned and the plates printed.

- 4.2.4 ***The standing building records:*** the data generated by both the northern and southern Lanes standing building recording programme exist only in the form of primary records, principally photographs and scale drawings, but also including some written records. No detailed assessment or analysis of this material was ever undertaken by CAU/CAL, although elements of the results were included in an unpublished MA thesis in the early 1980s (Alfrey nd) and a more recent ‘popular’ publication about the Lanes area (Alfrey 2006) (*Section 1.6.4*). Consequently, a considerable amount of preparatory work will be required in order to produce a synthesis suitable for publication. Proposals and methodologies for a programme of work designed to disseminate the standing building data adequately from both the northern and southern Lanes are set out in *Sections 6* and *8*.
- 4.2.5 ***The historical research:*** the data gathered by Bruce Jones on the medieval and earlier post-medieval historical records for the Lanes area exist only as typewritten notes in the project archive (c 56 pages, c 30,000 words). A rapid scan suggests that the notes contain information that is potentially of value to understanding the history and development of the northern Lanes during these periods, particularly as there is potential for linking some of the data to the excavated evidence. However, it is clear that they will require a considerable amount of reorganisation, collation, and editing.
- 4.2.6 ***The pottery reports:*** paper copies of the reports on the samian stamps, the Roman coarse pottery and the Roman graffiti are available and will require digitisation by means of text-recognition software. However, examination of the coarse pottery report suggests that it is, of all the specialist reports produced for the north Lanes, the most out of date (due largely to advances in pottery research), and will require major revision. For this reason it can be regarded as an incomplete document, rather than a complete report requiring only minor revision. The samian stamp report is also incomplete. The main reports on the samian ware and the mortaria from the site were never commissioned (although information from a preliminary mortaria report (Hartley nd) was integrated into the coarse pottery report), and will therefore have to be prepared from scratch. The assemblages were, however, assessed, and research designs compiled (Hird and McCarthy 1996; Hird *et al* 1996). No trace of a post-Roman pottery report has been located, and it would appear from copies of CAU/CAL project meeting minutes present in the archive that a report was never produced (*Section 3.7.4*). This too will therefore need to be written from scratch, although the post-Roman pottery assemblage is at least boxed by trench and context, and is bagged by fabric type within each box.

Paper copies of draft post-Roman pottery catalogues are also present in the archive (no digital copies were located), but unfortunately a number of different versions are present and there is no way of knowing, short of checking each version against the actual assemblage, which is the most accurate and complete.

- 4.2.7 A near-complete series of inked samian illustrations is present in the archive, but no drawings of the samian stamps were ever done. A series of mortaria drawings (consisting mostly of stamps, but also including some rims) and a complete set of Roman graffiti illustrations are also available, together with 34 Roman coarse pottery drawings. A further 167 coarse pottery sherds and 25 mortaria stamps selected for illustration appear never to have been drawn, and should be completed prior to publication. Copies of CAU/CAL project meeting minutes found in the archive suggest that *c* 50% of the post-Roman pottery illustrations were completed in pencil (Table 3). None of these are present in the Lanes archive, and there has been no success in tracing their whereabouts. However, the presence, in the project archive, of 49 boxes of post-Roman pottery labelled 'to draw/drawn', which are estimated to hold the remains of approximately 233 individual vessels (219 medieval and 14 post-medieval), indicates that material was selected for illustration. It will therefore be necessary to check this assemblage and prepare illustrations of the selected sherds to publication standard. All existing pottery drawings, of all material categories, will require scanning and plating-up and most will require additional labelling.
- 4.2.8 ***The artefactual reports:*** paper copies of the following specialist reports have been located: Roman coins, post-Roman coins, gold/silver (Roman and post-Roman), copper alloy (Roman and post-Roman), iron (Roman and post-Roman), lead (Roman and post-Roman), tin/pewter (post-Roman), stone (mostly Roman), prehistoric flints, jet/shale/amber (Roman), ceramic objects (Roman), ceramic building materials (Roman), bone/antler/ivory (Roman and post-Roman), wooden objects (Roman and post-Roman), leather shoes (Roman), leather sheet (Roman and post-Roman), basketry (Roman) and textiles (post-Roman). With the exception of the basketry and textile reports, no digital copies of these reports have been located, and it will therefore be necessary to digitise them using text-recognition software. For the most part, only minor revisions of the existing texts, such as updating in the light of recent research and the addition of more recent bibliographic references, is likely to be required, although the author of the flint report has expressed the wish to update the conclusions section of his report. A considerable amount of checking and cross-referencing of IRF numbers, context and phase numbers, figure numbers and so on will be required in all cases. Additionally, some of the reports are clearly incomplete as they stand. For the copper alloy, six post-Roman artefacts that appear to have been overlooked when the report was being compiled (Table 4) require integration into the text, as do two short 'stand alone' reports on individual artefacts, which were written by John Cherry in 2001. The reports on the Roman stone and ceramic objects require expansion (they currently comprise a series of descriptive catalogue entries only), whilst those dealing with the post-Roman architectural stone and post-



Roman leather shoes need preparing from scratch, since they were never written.

- 4.2.9 Artefactual assemblages, that do not appear to have been assessed or analysed at all, are the metalworking debris and the clay tobacco pipes. This material will require assessment prior to appropriate levels of analysis and the preparation of any publication reports.
- 4.2.10 It is understood (J Price *pers comm*) that a descriptive catalogue of the glass was prepared, but no discussion was completed due to issues relating to lack of payment for the work done (*Section 3.9.13*). The glass catalogue was also withheld for the same reason. This issue must be addressed in order that a completed report can be included in the final publication. It should also be noted that payment does not appear to have been made for the analysis of the Roman coins and the production of the coin report.
- 4.2.11 Of the 454 Roman artefacts selected for illustration (including all material categories except the glass), finished drawings for all but seven have been located (six of the seven missing items being fragments of leather, one a wooden item of unknown type). All are in good condition and labelled with the relevant catalogue number, although additional labelling is required. All will need to be scanned and plated-up. The drawing programme for the 151 post-Roman objects selected for illustration is less complete. Some 81 inked publication drawings have been located, although most lack any form of labelling. Illustrations of 66 of the remaining 70 items are available as inked archive drawings; some additional work will be required to bring these to publication standard. No drawings could be found for four post-Roman IRFs selected for illustration (copper-alloy object C 81, tin/tin-alloy objects F1 and F2, and wooden object K21; see *Appendix 2*). As with the Roman illustrations, all the drawings will have to be scanned and plated-up.
- 4.2.12 In addition to the above, 118 archive drawings of Roman glass (mostly pencil-drawn but some in ink) and 34 pencil drawings of post-Roman shoes are present in the archive. These will also require completion and inclusion in the final publication. Four additional glass drawings could not be located. No publication-standard photographs of artefacts are present in the archive, but there are a number of photographs of *in situ* objects that may be suitable for publication.
- 4.2.13 ***The environmental reports:*** the human bone, Roman insects and Roman and post-Roman dendrochronology reports are all available as digital Word documents, as is the main Roman animal bone report, although the latter is currently held by one of the authors (S Davis). That part of the animal bone report dealing with the pilot study of residuality and taphonomic processes is available only in a paper copy. The Roman palaeobotanical report exists both as a Wordstar document and in hard copy, the former currently held by the author (J Huntley). It does not, however, contain the results of the analysis of the non-structural wood, which have yet to be collated (J Huntley *pers comm*). No reports on the assemblages of post-Roman animal bones, insects or plant remains were ever prepared (*Section 4.2.14*). A brief report on micromorphological analysis of a deposit of late Roman or early medieval

(Period 12) 'dark earth' excavated in Keay's Lane Trench C (KLA C) is available as an English Heritage AML report (MacPhail 1980). Since this report was not present in the project archive, a copy was obtained. No trace of reports on the structural wood or the marine molluscs has been found; anecdotal evidence suggests that they were never written. It is known that a fairly large collection of structural timber was recovered from the northern Lanes, and that at least some of this material is still present in the project archive. A small collection of marine molluscs was retained, but has not been assessed, and no pollen assessment or analysis was undertaken; neither were any radiocarbon determinations obtained from any deposits.

4.2.14 The human bone report is short and unlikely to require much revision. For the dendrochronology, animal bone, insect and palaeobotanical reports, a certain amount of revision will be necessary, and in the latter case the small amount of non-structural wood will also need to be written-up from existing notes. Much more importantly, however, the post-Roman assemblages for the animal bones (estimated at *c* 80-100 boxes), insects and plant remains (estimated at up to *c* 264 soil samples) have not even been assessed, let alone analysed. This omission will have to be addressed urgently if the post-Roman data from the site are to be adequately disseminated. In the case of the waterlogged insect and plant remains, it may already be too late, although in order to determine this it will be necessary for any post-Roman samples remaining in the Lanes archive to be inspected by an environmental specialist.

4.2.15 The Wordstar copy of the palaeobotanical report requires converting, whilst the paper copy of the animal bone (residuality) needs to be digitised using text-recognition software. The assemblage of marine molluscs should be located, assessed and a short analytical report compiled, as appropriate. Consideration should be given to undertaking a programme of radiocarbon dating of carefully targeted deposits from certain occupational phases (*Section 6.2.14-16*).

### **4.3 SUMMARY OF SOUTH LANES PUBLICATION STATUS**

4.3.1 This section provides only a brief summary of the current state of the south Lanes publication programme, since for the most part (and with the notable exception of the standing building recording data; see *Section 4.2.4*) the south Lanes lies outside the scope of the current assessment. The data tabulated below (Table 15) are based on information obtained from the former CAU/CAL archive, and from external sources.

Report	Paper copy	Digital copy	Digital format	Author(s)	Bibliography present	Comments
<i>Monograph</i>	✓	n/a	n/a	M McCarthy	✓	Published 2000; copy not present in archive
<i>Stratigraphic and environmental (Fascicule 1)</i>	✓	✗	✗	Various (listed below)	✓	Draft hard copy located; not present in archive, but copied for deposition in archive
Stratigraphic narrative	✓	✗	-	M McCarthy	✗	Paper copy in draft Fascicule 1
Human remains (four fragments only)	✗	✗	-	CM Harding	-	Report not located and not present in draft Fascicule 1; summary in monograph (Harding 2000) possibly sufficient
Animal bones	✓	✓	Word	S Stallibrass	✓	Paper copy in draft Fascicule 1
Bird bones	✓	✓	Wordstar	EP Allison	✓	Paper copy in draft Fascicule 1
Fish bones	✓	✓	Wordstar	RA Nicholson	✓	Paper copy in draft Fascicule 1
Plant remains	✓	✓	Word	JP Huntley	✓	Paper copy in draft Fascicule 1
Pollen	-	-	-	-	-	No pollen analysis undertaken
Insects	✓	✓	Wordstar?	H Kenward <i>et al</i>	✓	Paper copy in draft Fascicule 1
Marine molluscs	✗	✗	-	-	-	Probably not reported
Dendrochronology	✓	✓	Word	C Tyers	✓	Paper copy in draft Fascicule 1
Radiocarbon dating	-	-	-	-	-	None undertaken
<i>Artefacts (Fascicule 2)</i>	✓	✗	✗	Various (listed below)	✓	Draft hard copy located and copied for deposition in archive
Roman coins	✓	✗	-	D Shotter	✓	Paper copy in draft Fascicule 2
Post-Roman coins	✓	✗	-	EJE Pirie <i>et al</i>	✓	Paper copy in draft Fascicule 2
Gold	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Copper alloy	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Iron	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Lead	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Metalworking debris	✗	✗	-	-	-	Not in draft Fascicule 2; probably not reported
Stone	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Flints	✓	✗	-	C Richardson	✓	Paper copy in draft Fascicule 2
Amber	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Glass	✓	✓	Word	J Price, S Cottam	✓	Paper copy in draft Fascicule 2
Ceramic objects	✓	✗	-	ML Hird	✓	Paper copy in draft Fascicule 2
Clay tobacco pipe	✗	✗	-	-	-	Not in draft Fascicule 2; probably not reported
Ceramic building materials	✓	✗	-	ML Hird	✓	Paper copy in draft Fascicule 2
Bone/antler/ivory	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Wooden objects	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Inscribed wood	✓	✗	-	RSO Tomlin	✓	Paper copy in draft Fascicule 2
Leather (shoes)	✓	✗	-	T Padley	✓	Paper copy in draft Fascicule 2
Leather (sheet)	✓	✗	-	S Winterbottom	✓	Paper copy in draft Fascicule 2; copy also held by author
Roman basketry	✓	✓	Wordstar	ERT Allnutt	✓	Paper copy in draft Fascicule 2
<i>Pottery (Fascicule 3)</i>	✓	✗	✗	Various (listed below)	✓	Hard copy of incomplete draft present in archive
Samian	✓	✓	Word	B Dickinson	✓	Paper copy in draft Fascicule 3; digital copy in archive
Stamped mortaria	✓	-	-	K Hartley	✓	Paper copy in draft Fascicule 3
Roman coarse pottery	✗	✗	-	ML Hird	-	Report not located
Roman graffiti	✓	-	-	RSO Tomlin	✓	Paper copy in draft Fascicule 3
Post-Roman pottery	✓	-	-	C Brooks	✓	Paper copy in draft Fascicule 3

<b>Report</b>	<b>Paper copy</b>	<b>Digital copy</b>	<b>Digital format</b>	<b>Author(s)</b>	<b>Bibliography present</b>	<b>Comments</b>
<i>Standing buildings</i>						
Written records	✓	-	-	-	-	Primary site records only
Report(s)	✓	-	-	-	-	Summary only published (McCarthy 2000, 65-8)
Drawings	✓	-	-	-	-	Many field drawings (Table 10); no publication work undertaken
Photographs	✓	-	-	-	-	Many in archive
<i>Historical research</i>	X	X	-	-	-	Notes present in archive; data never integrated into report

*Table 15: availability of draft south Lanes publication reports, standing building records/illustrations, and historical research notes*

---

## 5. STATEMENT OF POTENTIAL

---

### 5.1 INTRODUCTION

- 5.1.1 The Lanes excavations of 1978-82 provided an unique opportunity to study the origins and development of human settlement over an extremely large area within Carlisle's historic city centre. On the northern Lanes in particular, the investigation was carried out by means of modern open-area excavation on a scale not seen previously within the city, and not surpassed since. The development area of approximately 2.8ha (6.9 acres) represented almost 10% of the entire medieval walled city (McCarthy 2000, 4-5), and whilst by no means all of the site was investigated, to this day the project represents one of the largest and most significant urban excavations ever undertaken in northern England. Prior to the Lanes, archaeological work in Carlisle had, with the exception of the Annetwell Street and Blackfriars Street excavations (which were then ongoing), been confined to a handful of small-scale investigations and a number of observations made during construction works. The area of the Lanes itself had been subjected to very little archaeological investigation, although the work that had been done clearly demonstrated the archaeological potential of this part of the city (*Section 1.2.3*).
- 5.1.2 From an early twenty-first-century perspective, the Lanes project was, in many ways, a product of its time. In common with many of the large-scale rescue projects of the late 1970s and early 1980s, the investigation strategy was not based on a series of carefully considered research aims and objectives set out in a formal project design, but developed as a somewhat *ad hoc* response to the imminent destruction of what was clearly, even on the limited evidence then available, an extremely significant archaeological resource (*Section 1.2.2-3*). Nor were any strategies developed to limit the highly damaging effect of the proposed development on the historic cityscape or the underlying archaeological strata; as has been noted (McCarthy 2000, 10), in the late 1970s, the concept of mitigation strategies lay years in the future.
- 5.1.3 The factors influencing the sampling strategies adopted during the course of the Lanes excavations have been described elsewhere (*ibid*). The most important considerations were the availability of open spaces in which to locate excavation trenches, and constraints imposed by the fact that many properties continued to be occupied almost up to the moment of their demolition. On the northern Lanes, the positioning of a large open-area excavation in the Keay's Lane/Law's Lane area was due entirely to the existence of an accessible surface car-park. The original area of excavation within the car-park was subsequently expanded following the phased demolition of adjacent buildings to create what was, in effect, a large open-area site of some 1450m<sup>2</sup>. Only a proportion of the whole site was under excavation at any one time, however, which is why this area was sub-divided into seven separate trenches - Keay's Lane trenches A-D (KLA A-D) and Law's Lane trenches B-D (LAL B-D). This work represented by far the largest and most important element of the north Lanes excavation programme, since within this large area all archaeological deposits were hand-excavated to the natural subsoil. It was,

however, supported by a larger number of smaller trenches, often located in areas of restricted access or at the base of late post-medieval cellars, which were opened in order to answer specific questions posed by the main excavation. Large areas north and south of the main site were also subjected to watching brief or salvage excavation towards the end of the project.

- 5.1.4 The north Lanes excavations provided extremely important evidence for the character of Roman occupation in this area, from probable military or quasi-official origins in the late first-early second century, to the development of civil settlement in the mid-late second century and occupation thereafter, which continued to the end of the fourth century at least. No less significant were the extensive and very well-preserved remains of several medieval tenements, which provided extremely good evidence for the development of the medieval city from the late twelfth or early thirteenth century into the earlier post-medieval period, an area of research that has as yet resulted in the production of very little adequately published data. Limited evidence for prehistoric and earlier post-medieval (seventeenth- and eighteenth-century) occupation was also noted. In the latter case, archaeological strata appear to have suffered extensive truncation as a result of nineteenth- and earlier twentieth-century construction works, although in some places these levels may have been removed during machine clearance in the late 1970s. Overall, the results of the Lanes excavations, and in particular the large open-area excavation conducted on the northern part of the site, are of considerable significance and can be regarded as being of national importance for both the Roman and medieval periods. Additionally, the excavated post-medieval remains can be considered to be of major regional significance.
- 5.1.5 It is perhaps fair to say that the Lanes standing building recording programme has been, if not overlooked, then certainly overshadowed by the buried archaeological resource. This is unfortunate, particularly when it is considered that, over the development area as a whole, around 120 individual properties pre-dating the First World War were recorded to some degree (*Section 1.4.1*). The resulting records complement the data gathered from the underlying archaeological deposits and have clear potential to shed light on the intensive redevelopment of this part of the city that occurred during the late eighteenth and nineteenth centuries. These data can be regarded as being of major regional, and possibly national, significance.
- 5.1.6 The historical research undertaken on the medieval and earlier post-medieval documentary evidence for the Lanes area also has clear potential to complement both the archaeological and standing building recording data, for whilst much of the evidence is fairly generalised, some can be related to specific lanes and, perhaps, to particular properties adjacent to the lanes. Further analysis and collation of Bruce Jones' notes has the potential to provide important links between historical records of named individuals or families, whose social status and/or trade are, in some cases at least, known, and the physical evidence provided by archaeology and building survey.

## 5.2 PRINCIPAL POTENTIAL

- 5.2.1 It is clear that the northern Lanes has considerable academic potential. As one of the largest excavations ever undertaken on deeply stratified Roman and medieval deposits in northern England, the Lanes project as a whole has long been recognised as having a high degree of archaeological significance. The archaeological importance of Carlisle in general, and of the Lanes in particular, has recently been highlighted in the *Resource Assessments and Research Agendas* that form part of the *North West Regional Archaeological Research Framework* (Section 5.4; Brennand 2006; 2007). The northern Lanes itself can arguably be regarded as the most important part of the entire Lanes site, both in terms of the quality and quantity of data recovered. Overall, the area subjected to archaeological investigation in the northern part of the site was more than twice that to the south. Furthermore, the northern Lanes also contained an extensive open-area excavation within which almost the entire 2m-plus accumulation of archaeological deposits was excavated by hand to the natural subsoil.
- 5.2.2 The undoubted status of Carlisle as one of the key urban centres of the North in the Roman and medieval periods makes dissemination of the northern Lanes data highly desirable academically. Furthermore, in recent years the history of the Lanes, and in particular the social history of the area during the first half of the twentieth century, has generated a considerable amount of public interest within the local community, as evidenced by the recent publication of a ‘popular’ book on the Lanes (Scott-Parker 2006), and by enquiries made to Tullie House Museum and Art Gallery (T Padley *pers comm*). The excavations have clearly generated a wealth of information that will significantly advance understanding of the development of Carlisle during the Roman and medieval periods, and the role that the Roman town, and later the medieval city, played in the history and economy of the wider region. A more limited, though potentially significant, amount of early medieval (*c* fifth-late eleventh century) and earlier post-medieval (seventeenth- and eighteenth-century) archaeology was also excavated, periods in Carlisle’s history that have been subjected to little archaeological investigation. For the later post-medieval period, the large corpus of standing building data, supplemented by historical records, clearly has the greatest potential to advance understanding of the development of the Lanes area from the late eighteenth century to the twentieth century, although a limited amount of excavated archaeological data is also available. For the early medieval period, the site is unusual in yielding clear evidence for occupation, in the form of cut features and laid surfaces, in addition to the more usual accumulation of ‘dark earth’ that frequently characterises this period, both at Carlisle and in other former Romano-British urban centres. For the medieval and post-medieval periods as a whole, perhaps the most important aspect of the site is the potential it provides to chart the development of a number of city tenements from their origins, probably during the late twelfth-early thirteenth century (in some cases with boundaries influenced by upstanding Roman remains), to the late twentieth century.
- 5.2.3 Post-excavation analysis undertaken by CAU on the primary stratigraphic records, including *c* 8600 individual contexts, established a long and complex

sequence of activity on the north Lanes site from the pre-Roman to later post-medieval periods (Table 1). Likewise, CAU's work on the artefactual and environmental assemblages highlighted those elements that had the greatest potential to advance archaeological knowledge, and which required detailed analysis leading to full academic publication. The survival and condition of the artefacts is similar to that produced by other city-centre excavations. Certain material classes, such as the ceramics, animal bones and Roman glass, are well-preserved, whilst others are less so. The condition of the metalwork, for example, varies considerably and has clearly been influenced by local depositional micro-environments. There was good organic survival in many of the deeper Roman and medieval features, including palaeoenvironmental material, artefacts of wood and leather, preserved structural timbers, and a small assemblage of post-Roman textiles. Waterlogged preservation was not, however, as outstanding as that encountered in the early Roman fort levels at Annetwell Street (Caruana in prep) and the Millennium site (Zant in press), or in the large medieval defensive ditches excavated at the Millennium (*ibid*) and at Rickergate (Zant *et al* forthcoming).

5.2.4 **Project driver and delivery method:** English Heritage's *Strategic Framework for Historical Environment Activities and Programmes in English Heritage (SHAPE; English Heritage 2008)* established the principle that all projects implemented or commissioned by English Heritage must meet at least one of the organisation's corporate aims and objectives (*op cit*, 9), as set out in *Making the Past Part of Our Future*, English Heritage's corporate strategy for 2005-2010 (English Heritage 2005a). The principal method of delivery (*Activity Type*), as defined by *SHAPE* (English Heritage 2008, 9), must also be defined. In the case of the proposed north Lanes publication project, the primary driver will be Corporate Objective 1A (English Heritage 2005a; 2008), which seeks to ensure that research addresses the most important and urgent needs of the historic environment. More specifically (since each Corporate Objective is sub-divided into a number of more specific Research Programmes and Sub-Programmes (English Heritage 2008)), the project has the potential to provide a significant contribution to Research Programme A3 (*Unlocking the riches: realising the potential of the research dividend*), and particularly Sub-Programme 1113.110 (*Realising the research dividend from past unpublished historic environment investigations; op cit*, 26), which seeks to ensure that past resources are not wasted, through the assessment, analysis and dissemination of old excavation archives (*ibid*). The principal Activity Type required to deliver the project, as defined by *SHAPE* (*op cit*, 9), is Research.

5.2.5 **Research themes:** the present assessment has succeeded in providing an overview of the current status of the northern Lanes publication programme, establishing which elements of the project have been wholly or largely completed, and identifying those where additional work is required to bring them to publication standard (*Section 4*). The following section assesses in some detail the potential of the north Lanes data, as contained in the archive in both the completed and incomplete specialist reports, to advance archaeological knowledge of human occupation in Carlisle in all chronological



periods from prehistory to the later post-medieval period. The principal research themes can, however, be summarised as follows:

- the nature of the pre-Roman, Roman and post-Roman landscape, environment and economy;
- the nature and dating of pre-Roman activity on the site;
- evidence for military and civilian interactions during the Roman period;
- evidence for Romano-British religious beliefs and practices, including ritual or votive activities;
- processes of change, including the impact of the arrival of the Roman army on the local landscape, the putative shift from a military and/or quasi-official function to civil occupation in the Roman period, the nature of sub-Roman/early medieval occupation, and the transition from medieval to post-medieval traditions;
- the development of the site during the Roman, medieval, and post-medieval periods, including the origins and development of Roman properties, medieval and post-medieval tenements, and of the lanes themselves, and the spatial and chronological changes that occurred within the properties/tenements;
- evidence for perceptions and expressions of status and social and cultural identity within the Romano-British and post-Roman communities;
- information on the economy of the site in the Romano-British, medieval and post-medieval periods, including industry, manufacture and repair, patterns of trade, supply, and consumption, and resource exploitation;
- daily life in the Roman, medieval and post-medieval periods, including evidence for diet, standards of living, pastimes, costume and personal adornment.

5.2.6 **Prehistory:** the evidence for prehistoric occupation on the north Lanes site, whilst of limited extent, represents a useful addition to the corpus of data for pre-Roman activity in central Carlisle, and can be regarded as being of regional significance. Stratigraphic remains comprised fragmentary plough marks scoring the surface of the natural clay, together with a cobbled track sharing a common alignment with the ploughing and a few other possible features (Period 1). These features were overlain by a buried soil (Period 2), the top of which represented the ground surface at the beginning of the Roman period. Artefactually, the prehistoric period is represented by 162 fragments of flint, of which more than half are small waste flakes. The bulk of the assemblage, some 80% of which were residual in Roman and later contexts, is of probable late neolithic-early Bronze Age date, although small quantities of probable late mesolithic material are also present. A possible posthole of Period 1 produced a few charred grains of barley and oats. The Period 2 buried soil in trenches KLA C and LAL C contained no surviving seeds or other plant remains, but the same deposit in LAL D did yield preserved plant remains, principally of taxa indicative of damp, broken ground with some grassland elements.

5.2.7 Little additional work would be required to bring the prehistoric data to publication. That section of the stratigraphic report dealing with the pre-Roman levels is complete and will require only minor revision. In common

with the rest of the stratigraphic narrative, no discussion of the prehistoric evidence has been prepared, although this would not take long to complete. The report on the flint artefacts, including the catalogue, is complete but would benefit from minor revision by the author to take account of research undertaken in the period of more than a decade since it was prepared. The small quantities of palaeobotanical material recovered from deposits of Periods 1 and 2 have also been reported upon, although there too the report may require minor revision by the author.

- 5.2.8 **Roman activity:** there can be no doubt that the data recovered from the northern Lanes have extremely high potential to advance current knowledge of the origins, development and character of the Roman civil settlement at Carlisle from the late first- to late fourth century and perhaps beyond. Detailed analysis of the site records and material remains already undertaken by CAU has clear potential to advance significantly understanding of the chronology, morphology, character and extent of occupation over an extensive area within what was the only truly urban centre in the Roman North West (and the only known *civitas* capital; Edwards and Shotter 2005), and in so doing to make an extremely important contribution to ongoing research on Roman settlement in the frontier zone, and indeed in the province of *Britannia* as a whole.
- 5.2.9 It is probably true to say that, in many respects, the study of Roman settlement in the North has, until comparatively recently, been hindered by the tendency of excavators to concentrate on fort interiors, to the detriment of other types of settlement in the region. Any substantial stratigraphic or artefactual assemblage from any other type of site, and particularly one as large, varied and well preserved as that generated by the Lanes project, must therefore be regarded as being of considerable national importance. For the earlier Roman period, the northern Lanes offers an opportunity to study the transition from probable military or quasi-official use in the late first and early second centuries AD to civilian occupation thereafter. Analysis of these data, together with the evidence for the subsequent development of the civil settlement from the second to fourth centuries, has the potential to address directly recent concerns regarding current understanding of the origins, development, and character of Roman urban centres in the frontier zone (Burnham *et al* 2001, 69; Millett 2001, 66).
- 5.2.10 **Stratigraphy:** the stratigraphic data are generally of high quality and form the principal source of information for the occupational history of the site during the Roman period. The importance of the sequence for understanding the origins and development of Roman settlement at Carlisle, and for advancing knowledge of the character of non-military occupation in the frontier zone as a whole, cannot be overstated. The excavations revealed a complete occupational sequence spanning the entire Roman period, and found potentially highly significant evidence suggesting that the site originated during the late first or early second century AD as a possible military-controlled or quasi-official enclave containing a multi-phase complex of large timber buildings (Periods 3-5). After a period of possibly reduced activity (Period 6), the area was absorbed into the expanding civil settlement. The excavations revealed the full occupational history of at least two properties

that were established in the mid-late second century on the east side of a road beneath modern Scotch Street (Periods 7-11). Occupation was intensive and continued without interruption to the end of the fourth century at least. In the southernmost property, a simple rectangular stone or stone-footed building of early third-century date developed into a winged-corridor house with a hypocausted room during the late third and fourth centuries.

- 5.2.11 Recommendations for the work required to bring the Roman stratigraphic narrative to publication are presented in *Section 6* of this report, but can be summarised as follows. The stratigraphic narrative is largely complete, although revisions, including the provision of more detailed contextual information, will be required to bring the text to publication standard. A discussion of the wider significance of the Roman remains has not been written and will have to be prepared. The accompanying illustrations are less advanced, and require a considerable amount of work to make them publishable. Additional drawings are also very likely to be needed, and a complete series of plates will have to be selected and printed.
- 5.2.12 *Pottery*: the large assemblage of Roman pottery recovered from the northern Lanes represents an extremely important addition to the corpus of Roman material from northern England, particularly in view of the fact that the material derives from a non-military (or largely non-military) context. The samian assemblage of 7860 sherds, 57% of which (4466 sherds) came from stratified Roman contexts, represents by far the largest group of samian recovered from the city (and over 37% of the total assemblage recovered from the major CAU excavations of the late 1970s and early 1980s), and one of the largest collections from a single excavation anywhere in northern England (Hird and McCarthy 1996, 1). The collection of 38,891 sherds of other Roman pottery (mortaria, amphorae, coarsewares and other finewares) also represents the largest assemblage from any excavation in the city.
- 5.2.13 In terms of national and regional research priorities, it is clear that these extremely large and well-stratified ceramic assemblages hold great potential. The precision with which samian ware and, to a lesser extent, other pottery can be dated, and the ubiquity of pottery on most Romano-British sites, makes it, together with coins, one of the primary sources of dating evidence for the Roman period. It is therefore fortunate that a comprehensive listing of all the north Lanes samian sherds recovered from Roman deposits, containing contextual, phase and dating information, is present in the project archive. No such listing is, however, available for Roman material recovered from post-Roman levels, except for within the early post-Roman 'dark earth' of Period 12.
- 5.2.14 The assessment of the north Lanes samian, which was undertaken in the mid-1990s, stressed the national importance of the assemblage (Hird and McCarthy 1996, 8), and highlighted its great potential to contribute to an understanding of the chronology, character and development of Roman occupation on the site and to the advancement of samian studies in the North (*op cit*, 4-8). Further study of the material, and in particular of chronological and spatial changes in the assemblage, has the potential to highlight differences in the status and/or function of specific parts of the site, and to shed light on changes in the

character of occupation during the late first and second centuries. The assemblage also has good potential to contribute to ongoing research on the supply of samian ware to the North and the possible role of Carlisle as a redistribution centre (*op cit*, 5). As an example of the potential for further study, the assessment highlighted a change in the pattern of samian deposition in the AD 160s, which appears to suggest either a change in the use of the site or in the supply of samian at this time (*ibid*). Whilst it is tempting to relate this to the shift from military/quasi-official to civilian use suggested by the stratigraphic data, further work is required to test the hypothesis. With the exception of the stamps, for which an incomplete report exists, no report on the north Lanes samian was ever written. The illustrations do appear to be largely complete, although none of the large and important assemblage of stamps have been drawn and some additional work on the other illustrations is required.

- 5.2.15 The report on the other pottery (including the mortaria) is complete but requires extensive revision prior to publication in order to accommodate pottery research conducted since the report was drafted in 1995-6. In particular, it will be necessary to update the fabric series, insert revised dating throughout the text, prepare an overview of the significance of the assemblage, and expand the section dealing with the second-century ceramics. The latter were not reported fully, since it was envisaged that by the time the north Lanes report appeared in print the good assemblages of second-century material recovered from the south Lanes and Annetwell Street excavations would be fully published, and that extensive work on the north Lanes material would therefore amount to unnecessary duplication. In the event, however, neither the south Lanes nor the Annetwell Street assemblages have yet been published, considerably increasing the importance of the north Lanes material. Additionally, very few of the accompanying illustrations appear to have been prepared.
- 5.2.16 *Artefacts*: as with the pottery, the large, varied and generally well-preserved assemblage of Roman artefacts recovered from the northern Lanes represents one of the largest and most significant collections of material recovered from a single excavation in the North, particularly as the material derives from what is unquestionably a largely non-military site. As might be expected, the finds suggest a variety of activities, principally of a domestic nature but with some evidence for industrial processes, with an underlying military ‘background noise’, such as might be expected at a civilian site situated on the frontier and in close proximity to a fort.
- 5.2.17 The assemblage of 270 Roman coins has been fully reported and the report should require only relatively minor revision by the author to take account of recent advances in research. Publication of the coin report and the accompanying catalogue is fundamental to the establishment of a closely dated sequence of Roman activity on the site and is of considerable importance for the contribution the analysis of the coins can potentially make to elucidating changes in the character of occupation, both chronologically and spatially across the site.

- 5.2.18 Publication of the large and varied collection of other Roman artefactual materials (metalwork, metalworking debris, stone, gemstones, jet/shale/amber, glass, ceramic objects, ceramic building materials, bone/antler/ivory, wood, leather, and basketry) has considerable potential to advance understanding of the development of the north Lanes in Roman times, to shed light on the types of activities that were occurring on different parts of the site, and to provide information on changes in the character of occupation throughout the Roman period. Certain elements of the assemblage, such as the shoes, glass and items of personal ornament, may supplement the dating evidence obtained from other sources. There is also some potential to address issues relating to trade practices and to pinpoint structures or areas of the site where small-scale craft or industrial processes, such as smithing and bone working, may have been carried on. Detailed comparison of the assemblage with collections of material from other sites in the region will also contribute to an understanding of how the North West developed during the Roman period.
- 5.2.19 The collection of waterlogged organic artefacts, though not nearly as extensive as those recovered from the early fort levels at Annetwell Street (Caruana in prep) and the Millennium site (Howard-Davis forthcoming), is nonetheless fairly large (45 wooden objects, 166 shoes or shoe parts, 105 pieces of stitched leather and two basketry fragments), and represents an important addition to the corpus of such items, which remain uncommon finds in Britain. Whilst Carlisle can still be regarded as the most notable site in the region for the recovery of waterlogged Roman objects, a growing number of other sites in the North West, such as Ribchester in Lancashire (Buxton and Howard Davis 2000) and Nantwich in Cheshire (Philpott 2006, 81-3), have in recent years produced assemblages of material that provide good comparators for the material from the city.
- 5.2.20 The main significance of the assemblage of Roman ceramic building materials recovered from the north Lanes (2771 fragments, of which 54% came from Roman levels) lies in its potential to aid understanding of the way in which some of the structures on the site were constructed and their internal and external appearance. The amount of ceramic building material associated with particular phases of occupation remains small throughout the Roman period, but increases steadily to a peak in the period from the late second-early third century to the late third-early fourth century, after which deposition tails off markedly.
- 5.2.21 The bulk of the artefactual reports for the northern Lanes have been completed, although the majority will require revision in the light of advances in research made over the last ten years or more. Furthermore, since many reports exist only as paper copies, they will require digitisation, either through the use of text-recognition software or (as may be necessary in the case of some annotated texts) by manually keying the report into a computer. In the case of the reports for the stone, jet/shale/amber, glass, and clay objects, discussion sections have not yet been prepared; the metalworking debris has not been reported upon at all.
- 5.2.22 *Environmental data*: whilst not as good as the exceptional waterlogged preservation of organic materials encountered in the early fort levels at

Annetwell Street and the Millennium site (Caruana in prep; Zant in press; Howard-Davis forthcoming), the northern Lanes nonetheless contained extensive waterlogged strata of early Roman (approximately late first- to mid-second-century) date. Several later Roman features, such as wells and pits that had been dug to a sufficient depth, also produced preserved organic materials. Large quantities of animal bones had survived, although preservation was variable. A small assemblage of human bone was also recovered. With a few notable exceptions (*Section 5.2.25-27*), analytical work on the Roman environmental remains was completed prior to the demise of CAL in 2001. In all cases, the work clearly demonstrated the large potential of this dataset to inform understanding of the character of settlement throughout the Roman period, and in particular of the earlier occupational phases, where waterlogged preservation was at its best.

- 5.2.23 The collection of human remains has been fully reported and is unlikely to require much additional work, other than the inclusion of phasing information and possible minor revisions to take account of recent research. The assemblage represents a minimum of seven individuals (two neonates, one sub-adult and four adults), although only the neonates, one of the adults, and possibly the sub-adult were represented by complete or partially articulated skeletal remains. The remainder comprised only single bone fragments. A close study of the stratigraphic provenance of most of the bone has not yet been undertaken, but has the potential to shed light on the date and circumstances of deposition. Since the site was settled from a fairly early date, the existence of a cemetery seems unlikely, although the eastern part of the Lanes area may initially have been peripheral to the core area of settlement. The only remains where a provenance is already well established are those of a middle-aged male who suffered severe cranial trauma as a result of an attack with a sharp-edged weapon and possibly also a blunt instrument. His body was thrown down a well in the northernmost property on the site, probably during the later third century.
- 5.2.24 The Roman animal bone assemblage has been reported upon, although only 1573 of the 7590 fragments recommended for analysis in the assessment report (Stallibrass 1997, 4) were studied (from an overall total of 26,872 fragments), for reasons that are not immediately apparent. Additionally, a pilot study of the residuality of the bone assemblage, an area of study not addressed by the main report, was also carried out. Whilst the results of this pilot appear to have been promising, the report requires refinement and revision prior to dissemination. Publication of the animal bone assemblage has excellent potential to contribute to the study of patterns of occupation across the site, and in particular to activities such as food preparation, consumption and rubbish disposal. In addition to their fundamental importance to studies of ancient diet and techniques of animal husbandry, animal bones also have the potential to shed important light on issues such as the ethnicity and social status of the resident population, resource exploitation and supply.
- 5.2.25 Dendrochronological analysis of 132 timbers from the early Roman (late first-second century) levels has been completed and a report prepared. The work resulted in the dating of 62 samples from 55 timbers and the production of a

tree-ring chronology spanning the period 434 BC-AD 118. This extended and consolidated the chronology obtained from other Carlisle sites, and as such proved to be of considerable importance for dendrochronology studies. Since many of the samples lacked sapwood, precise dating was not often achieved; however, the data have considerable potential to contribute to studies of woodland exploitation in the Roman period, and to provide important information on the age and character of the woodland that existed in the vicinity of Carlisle in the early Roman period. The study shows, for example, that much of the timber utilised on the north Lanes site came from mature oaks over 300 years of age, in marked contrast to timbers of similar date from London, whilst comparison of ring-widths suggests (perhaps not surprisingly) that trees in the Carlisle area were growing at a slower rate than those in the south-east of England.

- 5.2.26 No analysis of the structural timbers recovered from the northern Lanes appears to have been undertaken by CAU. Stage 2 of the Carlisle Archives Project established that 65 fragments of structural timber from the site remain in storage in Shaddon Mill, Carlisle, together with an unknown number of additional samples stored in nine boxes (OA North forthcoming). It is not known how many of the timbers are of Roman date and how many are post-Roman, nor can their present condition be determined, since it was considered inadvisable to unwrap them during the course of the Archives Project. Analysis of the surviving timber may provide information on tool marks, species and age at felling, together with possible evidence for coppicing and woodland management, which has the potential to aid understanding of the interaction between the inhabitants of the site and the immediate hinterland. The remaining assemblage would, however, require assessment, both of its potential for further study and of its condition.
- 5.2.27 Analysis of the palaeobotanical and invertebrate remains from the north Lanes is largely complete, although both reports will require revision to bring them up-to-date. The palaeobotanical report also requires the integration of the results of the non-structural wood analysis, which have yet to be collated. The work has demonstrated that many early Roman features and deposits, together with a small number of deep, later Roman features, contained useful quantities of identifiable plant and insect remains, publication of which has the potential to advance knowledge of the environment and economy of the site and shed light on the nature and function of individual features and activity areas. There is potential within the plant assemblage to enhance understanding of patterns of food consumption, which in turn may contribute to other areas of research, including differentiation of social space and trade practices. The data can also be compared with extensive datasets from other sites in Carlisle, in particular those from the excavations within the fort at Annetwell Street (Huntley 1989a; 1989b; 1989c; Kenward in prep) and the Millennium site (Huckerby forthcoming; Smith and Tetlow forthcoming). No pollen analysis was undertaken by CAU.
- 5.2.28 The assemblage of marine molluscs from the site has not been reported. The size of the collection is not known (*Section 3.11.11*) but it is unlikely to be large. Analysis of the molluscs has some potential to contribute to a study of

patterns of food consumption on the site and to provide information on the exploitation of natural resources. The material would, however, first require assessment.

- 5.2.29 **Early medieval activity:** potentially significant stratigraphic evidence for probable sub-Roman/early medieval activity (Period 12) was recorded in a number of the excavated trenches, principally in association with the remains of a late Roman stone house (Period 11). For the most part, the latest Roman occupation levels in and around this structure were overlain by layers of ‘dark earth’, of a kind well-known in other Romano-British towns, and which have also been recorded within the fort at Carlisle (Zant in press). In some places, these soils were cut by shallow features and overlain by metallated surfaces, indicative of continuing (or renewed) occupation in and adjacent to the Roman building. This activity is not closely dated on present evidence, but the deposits were, for the most part, sealed by a further build-up of dark soils containing small quantities of twelfth-thirteenth-century pottery, in addition to much Roman material. Some of the walls of the Roman house were subsequently robbed through these soils, probably during the early thirteenth century (*Section 5.2.35*).
- 5.2.30 The north Lanes therefore has good stratigraphic potential to advance understanding of occupation at Carlisle during the late Roman/early medieval transition. Furthermore, the data represent a potentially good comparator for the evidence recovered from within the fort during the Millennium project (*ibid*), and provide an important opportunity to compare datasets from the fort and the adjacent civil settlement. The potential importance of the Lanes data is further highlighted by a micromorphological study of a ‘dark earth’ deposit from Keay’s Lane Trench C (MacPhail 1980), which suggested the possible presence of faecal material (*Section 5.4.6*) and indicated that the deposit may have been formed, in part at least, by dumping of refuse from adjacent occupation areas.
- 5.2.31 **Artefacts:** groups of artefacts from the ‘dark earth’ were collected, although these assemblages consist, seemingly, almost entirely of residual Roman material (but see *Section 5.4.7*). The only diagnostic early medieval artefacts from the site are three base-metal Northumbrian *stycas* of ninth-century date, all of which were residual in later contexts. A report on these, prepared by the late Elizabeth Pirie, will represent a useful addition to the corpus of early medieval coins recovered from Carlisle.
- 5.2.32 **Environmental data:** seven environmental samples from the ‘dark earth’ were analysed for preserved plant remains, and a single sample was also analysed for insect remains. Reports were prepared, but the results were seemingly of limited academic value because of generally poor preservation; a summary should, however, be published. It may also be possible to undertake a programme of radiocarbon dating of charcoal, animal bones or other suitable material from carefully targeted Period 12 features and deposits, including material from features and deposits above and below the ‘dark earth’, as well as from the dark soils themselves, in order to provide a more detailed chronological framework for this activity (Newman and Brennand 2007, 74-6, 84, 90; Initiatives 4.3, 4.28, 4.45, 4.48).



- 5.2.33 **Medieval activity:** the north Lanes excavations recovered a large corpus of generally high-quality data from as many as five medieval tenements situated on the east side of Scotch Street. These data, which relate to the development of the properties from their origins in the late twelfth or early thirteenth century to the sixteenth century (and beyond; see *Section 5.2.52-54*), can be regarded as being of extremely high academic value. Generally speaking, the medieval levels excavated at the southern Lanes and published in 2000 (McCarthy 2000, 47-52) were of poor quality, certainly by comparison with the evidence recovered from the northern part of the site. The significance of the northern Lanes is further enhanced by the current lack of published data relating to the archaeology of medieval Carlisle, and a general, historical bias towards the excavation of military and religious sites in the region.
- 5.2.34 **Stratigraphy:** the stratigraphic evidence for medieval occupation of the north Lanes site is, by and large, at least as good as that for the Roman period. Indeed, in some respects, the medieval data are probably of higher quality, for whilst the post-Roman strata lack the important waterlogged organic element (excepting only a few deep pits and wells), much of the 'dry' stratigraphy had suffered comparatively little truncation or fragmentation by the digging of later features. This was less the case in the latest medieval levels, however, which suffered increasingly severe disturbance as a result of late post-medieval groundworks. Although it is unfortunate that the Scotch Street frontage was not accessible to the excavators, important evidence was recovered from the 'backlands' of the excavated tenements. The deposits included the remains of a considerable number of ancillary buildings, together with yard areas and gardens containing rubbish pits, wells and other features.
- 5.2.35 The medieval data are generally of high quality and form the main source of information for the development of the site from the late twelfth century to the sixteenth century. The potential of the north Lanes stratigraphic sequence to contribute to an understanding of the origins and development of the medieval city, and for advancing knowledge of the character of occupation in one of the few truly urban centres in the North West during the medieval period, is extremely high. As has been noted, parts of up to five tenements were revealed, within which a complete sequence of medieval occupation was excavated. Although most of the late Roman remains were sealed by early medieval 'dark earth' of Period 12 (*Section 5.2.29*), it is clear that elements of a late Roman (Period 11) stone building remained upstanding into the late twelfth or early thirteenth century and were robbed through the dark soil (Period 13). It is also clear that by the time the robbing occurred, the Roman remains had already influenced the positioning of some of the tenement boundaries in this area. The tenements and the boundaries between them were maintained throughout the thirteenth century (Period 14) and in turn dictated the position of the lanes themselves, which appear to have been laid out during the fourteenth century (Period 15) but remained in use into the second half of the twentieth century. Good evidence for the development of the properties from the late fourteenth century to the sixteenth century (Periods 16 and 17) was also recovered.

- 5.2.36 Recommendations for the work required to bring the medieval stratigraphy to publication are presented in *Section 6* of this report, but can be summarised as follows. A stratigraphic narrative has not been prepared, although a detailed phasing document does exist; a text suitable for publication will therefore need to be synthesised from the site phasing. A discussion of the wider significance of the medieval archaeology will also have to be prepared. The accompanying illustrations are less advanced than those for the Roman stratigraphic report; the principal phase illustrations exist only as unlabelled pencil mock-ups, and it seems highly likely that additional drawings will be needed. A complete series of plates will also have to be selected and printed.
- 5.2.37 *Historical research*: the historical research notes compiled by Bruce Jones for the Lanes area represent a potentially important source of data that appears to have been completely ignored during the post-excavation programme. Much of Jones' data seemingly relate to the earlier post-medieval period (approximately seventeenth-early eighteenth century), but documentary evidence of medieval date has also survived. Whilst much of the information is quite generalised, and would therefore be of only limited use in the context of the north Lanes publication programme, some of Jones' research relates to specific lanes in the north Lanes area. It therefore seems likely that some of these data could potentially be linked to the individual medieval tenements identified by excavation, thereby providing an important opportunity to integrate the archaeological and documentary evidence for these properties. A considerable amount of re-organisation and editing of the existing notes would, however, be required.
- 5.2.38 *Pottery*: the large and well-stratified assemblage of medieval pottery recovered from the northern Lanes represents an extremely important addition to the corpus of material from northern England, and clearly holds great potential in terms of national and regional research priorities (Mellor 1994; Edwards 2000; C Newman 2006, 138-40; Newman and Newman 2007, 95-7, 113-4). The assemblage from all excavated areas comprises approximately 28-29,000 sherds weighing over 460kg, making it one of the largest groups of material recovered from a single site in the North. It also represents approximately 90% of all the medieval pottery from the Lanes project as a whole (north and south). The exact number of sherds is unclear, since different figures can be calculated from documents present in the Lanes archive (27,867 from figures provided in the assessment report (McCarthy *et al* 1988); 28,844 from a database compiled in 1988).
- 5.2.39 For the medieval archaeology of Carlisle, where coinage and timbers suitable for dendrochronological dating are generally scarce, pottery represents the principal source of dating evidence. Detailed analysis of the ceramic assemblage is therefore fundamental to the establishment of a chronology for the medieval occupational sequence on the north Lanes, which makes the lack of a report and illustrations, and of completed versions of the accompanying catalogues, particularly unfortunate. This major omission will have to be rectified if the post-Roman data from the north Lanes are to be disseminated adequately.

- 5.2.40 In addition to providing dating evidence, analysis of the pottery has the potential to inform many other areas of study. Chronological and spatial changes in the assemblage may highlight differences in the status and/or function of specific parts of the site, and could shed light on changes in the character of occupation during the medieval period. The collection also has good potential to contribute to ongoing research on the supply of pottery to Carlisle. For the most part, medieval ceramic traditions in the North West are still imperfectly understood and the north Lanes assemblage, which is both large and well stratified, is therefore likely to provide new and important information. There is also considerable potential for comparative studies between the Lanes material, which comes from a wholly civilian and domestic context, and collections from other types of sites within the city, such as the Dominican friary at Blackfriars Street (McCarthy and Taylor 1990), the outer ward and outer defensive ditch of the medieval castle at the Millennium site (Bradley and Miller forthcoming), and the ditches fronting the city wall in the Rickergate suburb (Zant *et al* forthcoming). Further analysis of the material will also go some way to providing a more balanced view of medieval pottery in the region, which in the past has seen a bias towards the excavation of high-status sites that are unlikely to produce a representative sample of the pottery in everyday use. Furthermore, detailed study also has the potential to enhance the form and type series compiled as a result of earlier work in Carlisle, in order to provide a more comprehensive understanding of medieval pottery supply to the city. It also presents a rare opportunity to compare a major assemblage with material retrieved from other medieval urban centres in the region.
- 5.2.41 *Artefacts*: as with the Roman material, the large and varied collection of medieval artefacts represents one of the most substantial and most significant groups recovered from an excavation in northern England, although, as is usual in Carlisle, the assemblage is considerably smaller than that from the Roman levels. Unsurprisingly in view of their provenance, the finds are principally domestic in nature, although limited evidence for industrial processes is also apparent.
- 5.2.42 The small assemblage of medieval coins, comprising four pennies, has been reported and requires little additional comment. Publication of the report will contribute to establishing a closely dated sequence of medieval occupation on the site, for the pennies all came from stratified medieval levels. Post-Roman coins of any period are uncommon finds on sites in Carlisle, so the north Lanes group represents a useful addition to the corpus of material from the city.
- 5.2.43 Publication of the large collection of other medieval artefacts (metalwork, metalworking debris, stone, wood, bone/antler, leather, and textiles) has considerable potential to advance understanding of the development of the medieval tenements excavated at the north Lanes site, to shed light on the types of activities that were occurring within these properties, and to provide information on changes in the character of occupation throughout the medieval period. Certain elements of the assemblage, such as the shoes and items of personal ornament, may supplement the dating evidence provided by the

pottery, coins and dendrochronology. There is also some potential to address issues relating to trade practices and social status, and to pinpoint specific areas where industrial processes or other activities may have been undertaken. The collection of waterlogged organic artefacts (30 wooden objects, 90 shoes or shoe parts, 11 pieces of stitched leather and 18 textile fragments) represents a useful addition to the corpus of such items, which remain uncommon finds in Carlisle and in northern England generally.

5.2.44 Most of the artefactual reports for the north Lanes medieval collections have been completed, although the majority will require revision in the light of advances in research made over the last ten years. In most cases, the accompanying catalogues, whilst largely complete, lack figure numbers and some other details. As with the Roman period reports, many exist only as paper copies and will require digitisation, either through the use of text-recognition software or by manually keying the report into a computer, where extensive annotation of the extant copy makes the use of such software unfeasible. In the case of the architectural stone, shoes and metalworking debris, reports have not been prepared at all, although basic listings of the stone and shoes are available. Accompanying illustrations are also far from complete; of the 151 post-Roman objects selected for illustration, 81 appear to have inked publication drawings, although most lack labelling. Illustrations of the remaining 70 items are available as inked archive drawings, which will require additional work to bring them up to publication standard.

5.2.45 *Environmental data*: whilst it is known that a considerable body of palaeoenvironmental data was recovered from the medieval levels on the north Lanes (*Section 3.11*), it is clear that scarcely any of the material was analysed by CAU. This appears to have been the result of changing deliberate policy, consequent upon 'budgetary and timetabling problems' which became evident during the wider post-excavation programme (internal CAU Lanes project meeting minutes, 21 July 1995), although anecdotal evidence suggests there was a clear understanding of the importance of the data, and that there was the intention that analysis should be undertaken 'at a later date' (J Huntley *pers comm*; S Stallibrass *pers comm*). The only part of the environmental assemblage that has been fully reported is the dendrochronology. A chronology spanning the period AD 892-1275 was obtained from 60 timbers, which more than doubled the number of dated post-Roman timbers from the city at the time the report was prepared in 1996. Lack of sapwood on most of the samples, together with clear evidence for the reuse of timbers, meant that the data were of limited value in establishing a closely dated occupational sequence. As with the Roman samples, however, the analysis extended and consolidated the chronology obtained from other Carlisle sites and therefore proved to be of considerable importance for dendrochronology studies. The data also have considerable potential to contribute to studies of timber exploitation and to provide important information on the age and character of the woodland that existed in the vicinity of Carlisle in the late twelfth and thirteenth centuries. The dendrochronology report will require some revision to take account of advances in research made over the last ten years.

- 5.2.46 With the exception of the dendrochronology, the precise significance of the environmental remains is difficult to determine, since none of the assemblages was properly assessed, or even adequately quantified. In so far as it is possible to tell, the post-Roman animal bone assemblage probably comprises somewhere in the region of 80-100 boxes (*Section 3.11.3*), although there is no way of knowing how many individual fragments this gross estimate represents, or what the weight of the assemblage may be. The collection must also include bone from post-medieval deposits, but the proportion of medieval to post-medieval material is not known.
- 5.2.47 In the case of the botanical and insect remains, a few post-Roman samples were analysed in the mistaken belief that they were of Roman date. Plant remains from the fill of a late twelfth-century well, which was subjected to salvage excavation in one of the areas of watching-brief adjacent to the main excavation, were analysed, whilst a sample from the fill of a gully and five pit fills of Period 14 (approximately thirteenth century) were analysed for insect remains. The well yielded only limited waterlogged plant remains (Huntley in prep), but most of the others yielded rich assemblages of insects, including the first British record of the human pubic louse (*Pthirus pubis*) from a medieval context (Kenward *et al* 1998, 43). Databases dating from 1993-4, present in the project archive, indicate that c 261 soil samples were taken from medieval levels on the site (*Section 3.11.7*). Of these, 80 came from context-types, such as posthole fills and the fills of wall construction trenches (both timber and stone), that are likely, by their very nature, to have had high levels of residuality, and which can therefore be regarded as having low palaeoenvironmental potential. Furthermore, in view of the fact that the samples have now been in storage for close on 30 years, it seems highly probable that a large proportion of the remaining samples (up to 181) have deteriorated to the point where they no longer have any academic value. However, without assessment by suitably experienced palaeoenvironmental specialists, a process beyond the scope of the current work, it is impossible to determine how many of the remaining samples might still be suitable for analysis.
- 5.2.48 No analysis has been undertaken on the medieval structural wood, or on the marine mollusc shells. As has been noted (*Section 3.11.4*), an assemblage of 65 fragments of structural timber from the north Lanes remains in storage in Shaddon Mill, and a collection of mollusc shell is also known to exist. It is, however, impossible to determine at the present time how much of each of these assemblages derives from post-Roman levels and how much is of Roman date. Both collections require assessment of their archaeological potential. No pollen analysis was undertaken as part of the north Lanes project and the site did not produce any post-Roman human remains.
- 5.2.49 It is unfortunate, to say the least, that so little analytical work, or even assessment, appears to have been completed on the medieval environmental remains, since this dataset is likely to have similar potential to the Roman remains for advancing understanding of many facets of everyday life in medieval Carlisle, including fundamental aspects, such as use of space, functionality of buildings, external areas and individual features, consumption

and preparation of food, diet and health, environmental conditions, and animal husbandry (see *Sections 5.2.23-27*). It is difficult to see how the medieval data from the north Lanes could be adequately disseminated without the inclusion of at least some of the environmental evidence. Analysis of the medieval data would also go some considerable way to rectifying the clear imbalance in the study of Roman and medieval paleoenvironmental remains from Carlisle that has recently been highlighted (Hall and Huntley 2007, 158, 185).

5.2.50 **Post-medieval activity:** the archaeological evidence for the development of the north Lanes area from the seventeenth century onwards, whilst unquestionably limited by comparison with that for the Roman and medieval periods, can nevertheless be regarded as being of considerable academic value in view of the almost complete lack of published archaeological data for the post-medieval period in Carlisle (McNeil and Newman 2006a, 152; Newman and McNeil 2007a, 122). Survival of earlier post-medieval (seventeenth-eighteenth-century) levels over the site as a whole was extremely variable, and appears to have been determined to a significant degree by the structural history of individual tenements (which saw uninterrupted occupation from the medieval to post-medieval periods) during the nineteenth and earlier twentieth centuries. In some cases, later post-medieval development resulted in comparatively little ground disturbance, whilst in other areas, the digging of deep wall foundations and cellars or episodes of levelling resulted in extensive destruction and/or fragmentation of the underlying strata. It also seems to be the case that recording of post-medieval deposits was more thorough for some parts of the site than others, particularly with regard to the later post-medieval (nineteenth-early twentieth-century) archaeology. In some areas, it is clear that the remains of nineteenth-century brick-built structures, together with sewer/drainage systems, 'garden' soils and other contemporary deposits, were removed mechanically down to what were presumably considered to be more interesting and/or important levels. This approach may also have led to the inadvertent removal of earlier post-medieval deposits in some places, although it is now difficult to tell from the records whether truncation of these levels was the result of nineteenth-twentieth-century groundworks or machine clearance in the late 1970s. On the other hand, in the Law's Lane area, the structural history of at least one cellared building was recorded in detail, from its origins in the eighteenth century to its demolition in the late twentieth century.

5.2.51 Undoubtedly, the element of the north Lanes project with the greatest potential for contributing to a study of the development of the site in the later post-medieval period is the large body of data generated by the extensive standing building recording programme. These data, together with the archaeological evidence described above (supplemented by the historical research undertaken by Bruce Jones), take the story of the structural development of the tenements down to the 1970s, when most of the buildings were demolished to make way for the new shopping centre, and the ancient system of lanes, courts and vennels was largely swept away.

5.2.52 **Stratigraphy:** as has been noted above, the stratigraphic evidence for post-medieval occupation on the north Lanes site is of variable quality, but can nonetheless be regarded as highly significant, given the paucity of published

archaeological data pertaining to this period in Carlisle's history. In three of the seven trenches that made up the large, open-area excavation (trenches KLA D, LAL B and LAL C), earlier post-medieval deposits (Period 18) had been completely removed by later post-medieval truncation (Period 19), whilst the later remains were themselves removed without record during machine-clearance. Little or nothing of seventeenth-earlier eighteenth-century date was recorded in two further trenches (KLA B and LAL D), although in the latter area the remains of a cellared building of probable eighteenth-century origin, which was subsequently modified and occupied well into the twentieth century, were recorded in some detail. The best evidence for early post-medieval activity came from trenches KLA A and KLA C. In the former, a system of probable bedding trenches, perhaps part of a vegetable garden, was cut by a few pits that were in turn sealed by extensive 'garden' soils of probable eighteenth-nineteenth-century date. This soil was itself overlain by the remains of brick-built structures and associated deposits dating from the nineteenth-twentieth century. In KLA C, slight traces of a possible early post-medieval timber structure in one tenement were found in association with two hearths or furnaces constructed of hand-made bricks, at least one of which appears to have been associated with copper-alloy working. In the neighbouring property, slight structural remains of broadly contemporary date were recorded, together with extensive 'garden' soils. These deposits were overlain by extensive remains of late post-medieval brick buildings.

5.2.53 As for the Roman and medieval periods, the stratigraphic data form the main source of information for the development of the site during the seventeenth and eighteenth centuries, although the historical notes present in the archive have some potential to shed light on the occupational history of the Lanes area during this period. For the later post-medieval period, the archaeological information is supplemented by the important corpus of standing building recording data (*Section 5.2.54*). The potential of the north Lanes sequence to contribute to an understanding of the development of this area of the city in the post-medieval period must be regarded as good, in spite of the limitations described above, since much of the data is of good quality and sheds light on the archaeology of a period in the city's development that is scarcely represented in published sources. Recommendations for the work required to bring the post-medieval stratigraphy to publication are presented in *Section 6* of this report, but are essentially the same as those summarised for the medieval sequence in *Section 5.2.36*.

5.2.54 *Standing buildings*: the large collection of primary records generated by the north Lanes standing building recording programme represents by far the best corpus of data generated by the project that pertains to the development of the Lanes area from the late eighteenth-early nineteenth century to the twentieth century. The records have been broadly quantified elsewhere, and their contents summarised (*Sections 3.5* and *3.16*), whilst recommendations for dissemination of the data are presented in *Section 6*. There can be little doubt that the records, which were not subjected to any form of analysis by CAU, have considerable potential to make a major contribution to the study of Carlisle in the industrial age. In particular, analysis of the data has the potential to enhance understanding of the way in which the north Lanes

developed from what seems, from map evidence, to have been a fairly lightly built-up and essentially residential area in the seventeenth and eighteenth centuries, to the dense warren of poor-quality housing, light industrial premises, warehouses and other buildings depicted on maps of the mid-nineteenth to mid-twentieth centuries, and which survived in large part into the 1970s. The importance of this information is potentially enhanced by complementary data on the social history of the Lanes area during the nineteenth century. Much potentially significant material is contained in an unpublished MA thesis prepared by a former CAU staff member who had worked on the Lanes standing buildings project (Alfrey nd; *Section 1.6.4*). The thesis also includes a chapter on the vernacular architecture of the Lanes, based on data generated by the standing building recording programme, which could potentially be utilised for publication purposes, subject to the author's agreement. Additional social history data could also be easily obtained from on-line census records and other readily accessible sources, such as trade directories.

- 5.2.55 *Historical research*: the historical research notes compiled by Bruce Jones for the Lanes area represent a potentially important source of data for the post-medieval history of the Lanes, and in particular for the development of the area in the earlier post-medieval period (approximately seventeenth-eighteenth century). Much of the information is quite generalised, and would therefore be of only limited use in the present context; however, some of the data relate to specific lanes, and it therefore seems likely that they could potentially be linked to individual medieval and post-medieval tenements identified by excavation, thereby providing an important opportunity to integrate the archaeological and documentary evidence for these properties. A considerable amount of re-organisation and editing of the existing notes would, however, be required.
- 5.2.56 With the exception of the information contained in Ms Alfrey's thesis (*Section 5.2.54*), little work has been done on the documentary evidence for the Lanes area in the nineteenth and early twentieth centuries. This could potentially be addressed to some degree by rapid analysis of census data, now readily available on-line at minimal cost, and the study of nineteenth-century trade directories. Map regression analysis has the potential to shed light on the structural development of the Lanes from as early as the mid-sixteenth century (the earliest surviving map of Carlisle was produced *c* 1560; Lysons 1815), although a good series of maps of the city only really exists for the period from the mid-eighteenth century onwards. To a certain extent, some of this work has already been undertaken for the Carlisle Urban Archaeological Database (UAD); for example, the map of *c* 1560 has been rubber-sheeted and superimposed on the modern topography of the city, and images of buildings pre-dating 1750, the UAD cut-off date, have also been collated (OA North 2007). Some of these data will certainly be of considerable value to an historical study of the Lanes area, but will need to be supplemented by additional research that focuses specifically on the Lanes area, since the UAD was of course concerned with the city as a whole.



- 5.2.57 For the condition of the Lanes area in the first half of the twentieth century, when many buildings of nineteenth-century (and in some cases earlier) date remained in use, aerial photographs may be of value, although the availability of these has not been assessed. Similarly, an assessment of early photographs of the Lanes, and of any other contemporary (or earlier) images (drawings, paintings and so on), would potentially be of value, since such images could provide additional information in support of the standing building recording data, and might serve as a source of illustrative material for the report.
- 5.2.58 *Pottery*: compared to the very large collections of Roman and medieval pottery recovered from the northern Lanes, the assemblage of 1685 post-medieval sherds (described in CAU documents as comprising 348 ‘post-medieval’ (presumably seventeenth-eighteenth-century) sherds and 1337 ‘modern’ (presumably nineteenth-twentieth-century) sherds) weighing *c* 67kg appears fairly insignificant. However, in view of the almost total lack of published post-medieval ceramics from Carlisle, and the relative scarcity of published assemblages from sites in the North West generally, the group can be regarded as having an academic value that far outweighs its size. The assemblage is particularly significant in that it was recovered, for the most part, from a sequence of well-stratified deposits that can be tied to specific properties, and to particular buildings, external areas and features within each property. In addition to providing crucial dating evidence, therefore (in the absence of dendrochronological dates and with only a limited coin assemblage), the ceramics also have good potential to contribute to many other areas of study, including differences in the status and function of specific parts of the site, and changes in the character of occupation during the post-medieval period. The collection also has good potential to contribute to the establishment of a continuous ceramic typology for Carlisle and the wider region from the seventeenth century to the twentieth century, and to shed light on the distribution of pottery in the region during this period.
- 5.2.59 *Artefacts*: the north Lanes site appears to have yielded very few post-medieval artefacts, or at least few that were considered worthy of reporting. Excluding coins, only 20 objects in the draft artefact catalogues and four pieces of moulded sandstone (architectural fragments) came from deposits of post-medieval date. The bulk of these items, which were almost all recovered from deposits of nineteenth-twentieth-century date, were almost certainly residual medieval objects. With the exception of the moulded stones, which may have been contemporary with the deposits in which they were found, only seven artefacts may have been genuinely of post-medieval date, although it is possible that some unstratified items may also belong to this period. Publication of the small collection of artefacts has some potential to contribute to understanding the types of activities that were occurring on the site in the post-medieval period. There is no report on the metalworking debris from these levels and it is not known if any material was recovered. However, as mention is made in the phasing text of evidence for copper-alloy working in at least one of the tenements, it might be supposed that some debris was collected, although assessment of the north Lanes assemblage as a whole would be required in order to determine the potential significance of any such material.

- 5.2.60 In total, 26 post-medieval coins were recovered; all came from late post-medieval levels of Period 19, or were unstratified. Single coins of James I and William III, five issues of George III and one of George IV were the only types pre-dating the Victorian period. A listing has been prepared and requires little revision prior to publication. The group has little potential for providing useful dating evidence or for other forms of study.
- 5.2.61 *Environmental data:* the amount of environmental material recovered from post-medieval levels on the north Lanes site appears to have been very limited, although at the present time it is difficult to differentiate between medieval and post-medieval material in some of the environmental assemblages in the north Lanes archive. From databases compiled by CAU in 1993-4, and located in the project archive, it is known that only three soil samples were taken from post-medieval levels on the site. All three of these appear to have very low palaeoenvironmental potential, since two came from what were later realised to be modern features (Period 19B) formed by machine clearance of the site, whilst the third was taken from a wall-footing of Period 18. Carlisle is conspicuously absent from a recent review of paleoenvironmental evidence from post-medieval deposits in northern England (Hall and Huntley 2007, 185-206).
- 5.2.62 It seems likely that animal bone was recovered from post-medieval deposits, although this cannot be proved without assessment of the entire post-Roman bone assemblage. The same also applies to the mollusc shells, assuming any were collected from the later levels. It is known that the post-medieval deposits produced no human remains, structural wood or dendrochronological samples, and that no pollen analysis was undertaken.

### 5.3 NATIONAL RESEARCH PRIORITIES

- 5.3.1 In 1991, English Heritage produced a document, *Exploring Our Past*, which included a strategy for dealing with the problems and opportunities that would be encountered during the following decade (English Heritage 1991b). Many of the ideas first raised in *Exploring our Past* were developed further in a draft *Research Agenda* (English Heritage 1997), which outlined a series of archaeological research priorities (*op cit*, 40-54). The government's own strategy and vision for the historic environment, *A Force for Our Future*, was published by the Department of Culture, Media and Sport (DCMS) in 2001 (DCMS 2001). The most recent English Heritage research strategy documents are *Making the Past Part of Our Future* (English Heritage 2005a), English Heritage's corporate strategy for 2005-2010, *Discovering the Past, Shaping the Future* (English Heritage 2005b), which sets out the organisation's research strategy for the period 2005-2010, and the *English Heritage Research Agenda* (English Heritage 2005c), an introduction to English Heritage's research themes and programmes. However, these documents are effectively strategies for English Heritage itself, and as such do not set out detailed archaeological research priorities; consequently, the draft 1997 *Research Agenda* continues to be of value in this respect. Indeed, the document contains a number of research objectives that remain pertinent to the north Lanes site. These can be summarised as follows:

### ***Processes of change***

- *Briton into Roman (c 300 BC-AD 200)*: evidence for the development of the site in the late first and second centuries AD, particularly with reference to the social status and ethnicity of the inhabitants and the settlement's economic base;
- *Empire to Kingdom (c AD 200-700)*: the development of the site during the third and fourth centuries AD and beyond, with particular reference to evidence for change or continuity in cultural practices and occupation in the late Roman period, and the character of the potentially sub-Roman/early medieval activity recorded on the site;
- *The late Saxon to medieval period (c AD 700-1300)*: whilst the medieval settlement on the north Lanes does not appear to have had pre-Norman origins, very good evidence for the establishment and development of urban tenements during the late twelfth and thirteenth century was obtained;
- *transition from medieval to post-medieval traditions (c AD 1300-1700)*: the site produced extremely good evidence for the development of tenements from the fourteenth to sixteenth century and beyond, whilst the associated pottery has the potential to enhance understanding of the transition in regional pottery traditions, which is currently poorly understood. The documentary research notes are also likely to contain information of value;
- *the Industrial Revolution (c AD 1700-1850)*: the standing building recording programme, supported by the historical research and the limited archaeological data, has clear potential to inform understanding of the development of the Lanes from a primarily residential area to a zone of mixed residential/light industrial activities during the late eighteenth and nineteenth centuries.

### ***Chronological priorities***

- *military and civilian interaction*: there is some potential within the site data for the study of possible interaction between the Roman army and the local population in the development of the putative military or quasi-official zone on the north Lanes in the late first-early second century;
- *the end of towns in Roman Britain*: good evidence was found for continued occupation to the end of the fourth century and seemingly beyond. Evidence for potentially sub-Roman or early medieval activity, including cut features, cobbled surfaces, and accumulations of 'dark earth', associated with the remains of a late Roman stone house, is particularly noteworthy.

### ***Themes***

- *urbanism*: extensive evidence is available for the development of the site throughout the Roman, medieval and post-medieval periods;
- *industrial archaeology*: the standing building records, supported by the historical research and the archaeological data, have potential to shed light on the types of light industrial structures and industrial housing

that occupied the greater part of the Lanes area during the nineteenth century;

- *patterns of craftsmanship and industry*: archaeological evidence was found for a variety of craft and/or industrial activities that were undertaken on or in the vicinity of the site in the Roman, medieval and earlier post-medieval periods. The historical notes may also shed light on this area of research for the medieval and (particularly) post-medieval periods, whilst the standing building data also have potential to address this issue for the later post-medieval period.

## 5.4 LOCAL AND REGIONAL RESEARCH PRIORITIES

5.4.1 The current state of knowledge pertaining to the archaeology of north-west England has recently been set out in a series of period-based *Resource Assessments* (Brennand 2006) produced for the *North West Region Archaeological Research Framework*. These summaries formed the basis for the compilation of *Research Agendas* and a *Research Strategy* (Brennand 2007), which highlight significant lacunae in current knowledge and formulate initiatives to address these gaps. The *Resource Assessments* and *Research Agendas* for the prehistoric (Hodgson and Brennand 2006; 2007), Roman (Philpott 2006; Philpott and Brennand 2007), early medieval (R M Newman 2006; Newman and Brennand 2007), medieval (C Newman 2006; Newman and Newman 2007), post-medieval (McNeil and Newman 2006a; Newman and McNeil 2007a) and industrial/modern (McNeil and Newman 2006b; Newman and McNeil 2007b) periods are all of relevance to the north Lanes project.

5.4.2 ***Prehistoric potential***: the evidence for ploughing and other prehistoric activity beneath central Carlisle is noted in both the prehistoric *Resource Assessment* (Hodgson and Brennand 2007, 33) and the *Research Agenda* (Hodgson and Brennand 2007b, 32). The *Research Agenda* also stresses the urgent need to publish data relating to prehistoric settlement and land-use from sites, such as the north Lanes, that are not yet in the public domain (*op cit*, 33; Initiative 2.1).

5.4.3 ***Roman potential***: the current state of knowledge pertaining to the Roman civil settlement at Carlisle is summarised in the Romano-British *Resource Assessment* (Philpott 2006, 73), where the Lanes site is singled-out for specific mention. The Romano-British *Research Agenda* addresses the issue of the current backlog of unpublished material from many sites in the North West, including Carlisle (Philpott and Brennand 2007, 55-7; Initiatives 3.2, 3.4). Quite apart from the inherent undesirability of such a large body of material remaining unpublished, the inaccessibility of much of the excavated data from the region has limited the scope of the *Resource Assessment* itself. Many of the problems highlighted by the *Research Agenda* could, the authors feel, be resolved by analysis of existing material that is not currently in the public domain (*ibid*). This was perhaps most clearly demonstrated in the areas of Romano-British industrial production and trade, where the production of clear research agendas or themes may have been hampered by the lack of published data (*op cit*, 69-70). Clearly, the dissemination of data from major excavations

such as those undertaken at the northern Lanes would go a long way to addressing these concerns.

5.4.4 As one of the major Romano-British civil settlements in the region, Carlisle has a major contribution to make to an advance in understanding of the origins and development of towns and other non-military settlements in the North West, and is one of the few civil sites that has produced extensive evidence for intensive occupation throughout the fourth century and very probably beyond, a period the *Research Agenda* singles out as warranting particular attention (*op cit*, 64; Initiative 3.25, 72). The *Agenda* also identifies the urgent need for systematic publication of well-stratified artefactual assemblages, which have the potential to shed important light on the function of particular buildings, features and activity areas, on regional and social identity (and possibly ethnicity), and on the economy of the settlement and the wider region (*op cit*, 66-7; Initiative 3.31). Waterlogged assemblages such as those from the northern Lanes are singled out for their potential to provide important evidence for the organic component of the artefactual assemblage, which rarely survives (*op cit*, 67; Initiative 3.33). As by far the largest excavation undertaken within the Roman town, and one which produced extremely large and well-stratified artefactual assemblages, together with a great deal of high-quality data for continuous occupation to the end of the fourth century at least, the north Lanes clearly has very considerable potential to contribute to these areas of research. Data generated by the excavations also have potential to address a number of more specific initiatives set out in the *Research Agenda*, including the origins of stone used for building and production of quernstones (*op cit*, 69; Initiative 3.40), and the publication of artefact assemblages to provide raw data for research on patterns of production, trade and exchange (*op cit*, 71; Initiative 3.44).

5.4.5 **Early medieval potential:** the only diagnostically early medieval artefacts recovered from the north Lanes were three ninth-century Northumbrian *stycas*, all of which were residual in later contexts. However, stratigraphic evidence for probable early medieval (or sub-Roman) activity (Period 12) was recorded in a number of the excavated trenches. Broadly speaking, the latest Roman occupation levels were overlain by accumulations of dark soil or ‘dark earth’, of a kind well-known from early post-Roman levels in a number of former Romano-British towns, and which have also been recorded within the fort at Carlisle (Zant in press). As in the fort, in some places these soils sealed shallow, and generally quite ephemeral, features that were filled with almost identical material. However, there were also some areas where ‘dark earth’-type soils were cut by a variety of shallow features and overlain by metallated surfaces. These appear to have been mostly associated with the remains of a late Roman stone house (Period 11), and, with the exception of one or two possibly intrusive sherds of medieval pottery, they yielded nothing but late Roman material. It seems likely, therefore, that these remains represent a phase (or, more probably, phases) of very late Roman or early medieval occupation that occurred in and around the ruins of the Roman structure. They were, for the most part, sealed by a further build-up of dark soils containing slightly larger (though still small) quantities of twelfth-thirteenth-century pottery in addition to much Roman material. Several of the walls of the late

Roman house were robbed through these soils, probably during the early thirteenth century on ceramic evidence.

- 5.4.6 On stratigraphic grounds at least, therefore, the north Lanes site has good potential to advance understanding of occupation at Carlisle during late Roman/early medieval transition. This is not entirely unexpected, since excavations elsewhere in the city, together with occasional historical references to Carlisle from the seventh century onwards, indicate its potential as a presumed centre of early medieval activity (R M Newman 2006, 95-6), a site-type singled-out by the regional *Research Agenda* for the early medieval period as warranting particularly urgent investigation (Newman and Brennand 2007, 84; Initiative 4.25). The potential of the north Lanes is further highlighted by the results of a micromorphological study of a 'dark earth' deposit from Keay's Lane Trench C (MacPhail 1980), which found a notable concentration of charcoal, together with levels of phosphates and soluble organic matter indicative of the possible presence of faecal material. This suggests that the deposit in question may have been formed, in part at least, by dumping of refuse from adjacent occupation areas. The Lanes data also have the potential to act as an important comparator for evidence recovered from within the fort during the Millennium project (Zant in press), providing the opportunity to compare sub-Roman/early medieval datasets from the fort and the civil settlement. In this respect, the Lanes evidence has the potential to address directly one of the key initiatives set out in the regional *Research Agenda* for the early medieval period, which seeks to examine the veracity of the idea that the end of the Roman period saw a population shift away from towns into defended places (Newman and Brennand 2007, 79; Initiative 4.12).
- 5.4.7 The regional *Research Agenda* also stresses the need to re-examine old excavation archives to look again for evidence for very late Roman or sub-Roman activity (Newman and Brennand 2007, 79, 84; Initiative 4.23), and in this respect Carlisle is singled out for particular mention (*op cit*, 79; Initiative 4.9). Furthermore, the document makes the point that, on most sites in the North (including Carlisle), artefacts from 'dark earth' deposits have been largely regarded as residual, and therefore of low priority, and little attempt has been made to analyse the material in detail, in order to identify potentially 'British' cultural remains (*op cit*, 74, 79; Initiative 4.15), and, perhaps, the continued use of 'Roman' artefact-types into the fifth century or even later (*op cit*, 90; Initiative 4.43). Detailed study of the artefactual assemblages from the Period 12 deposits at the northern Lanes may have potential to address such concerns, particularly in view of the stratigraphic and micromorphological evidence for probable occupation at the time the dark soils were accumulating. Such work also has the potential, when conducted in conjunction with a programme of radiocarbon dating (*Section 5.4.8*), to link artefact sequences to a chronologically robust framework (*op cit*, 76; Initiative 4.6). The *Research Agenda* also highlights the urgent need to analyse assemblages of animal bones and preserved plant remains from potentially early medieval levels (*op cit*, 83; Initiative 4.20). In the case of the north Lanes, work on the plant remains has already been undertaken, but the animal bones from Period 12 deposits were not subjected to assessment or analysis, so their potential to

advance knowledge of the character of early medieval activity in Carlisle remains unknown.

- 5.4.8 It may also be possible to undertake a programme of radiocarbon dating of charcoal, animal bones or other suitable material from carefully targeted Period 12 features and deposits, including material from features and deposits above and below the ‘dark earth’, as well as from the dark soils themselves, in order to provide a more detailed chronological framework for this activity. If sufficient samples were taken from a range of deposits throughout the stratigraphic sequence, the use of Bayesian statistical techniques could potentially result in the establishment of a relatively tight occupational chronology. This would directly address other initiatives put forward in the early medieval *Research Agenda*, which recommend the routine and systematic radiocarbon dating of sites that display any potential for early medieval occupation, in order to refine the chronology and understanding of the activity (*op cit*, 74-6, 84, 90; Initiatives 4.3, 4.28, 4.45, 4.48). Publication of the *stycas* will also represent a useful addition to the limited corpus of early medieval coins from the city.
- 5.4.9 Overall, therefore, there is clear justification for regarding the north Lanes as an example of what the regional *Research Agenda* for the early medieval period terms ‘significant sites’, which should be prioritised for publication (*op cit*, 84; Initiative 4.29).
- 5.4.10 **Medieval potential:** the northern Lanes site was exceptional, both in Carlisle and more widely in the North West, in having a complete, and extremely well-preserved, sequence of medieval urban stratigraphy extending from at least the twelfth century into the sixteenth century and beyond. The main area of controlled excavation straddled no less than five tenements (Fig 4), exposing the remains of numerous medieval timber buildings, together with associated yards, pits, wells, and a multiplicity of other features and deposits. The investigation also exposed four of the medieval lanes from which the area took its name (Fig 4), and charted their development from the early fourteenth century (when they were first established, having been laid out between pre-existing tenements) into modern times. For the most part, the later medieval levels on the site had not suffered extensive destruction or disturbance in the later post-medieval period (especially through cellaring), as is often the case in other urban centres in the region. It is therefore unsurprising that the medieval sequence excavated at the northern Lanes is singled-out for mention in the medieval *Resource Assessment* (C Newman 2006, 126). The regional importance of the site is further highlighted in the medieval *Research Agenda*, which describes the excavations as ‘*the most significant urban project in the north of England*’ (Newman and Newman 2007, 102), and draws attention to the urgent need for publication of artefactual and ecofactual assemblages recovered from major urban excavations in the region, ‘*such as the Lanes, Carlisle*’ (*op cit*, 104; Initiative 5.20). The issue of the deterioration of waterlogged palaeoenvironmental samples from the city with the passage of time is also raised (*op cit*, 102), whilst a recent review of palaeobotanical evidence from northern England has highlighted the marked imbalance between the study of material from Roman and medieval deposits at Carlisle

(Hall and Huntley 2007, 158, 185), with the latter being very significantly under-represented.

- 5.4.11 The *Research Agenda* points out that very little is known about the everyday lives and living conditions of the ordinary inhabitants of North Western towns during the medieval period (*op cit*, 104), and states that efforts should be focused on the origins and development of the region's earliest medieval towns, including Carlisle (*ibid*; Initiative 5.16). The urgent need for publication of site-based palaeoenvironmental studies (*op cit*, 97; Initiative 5.3), and the lack of published artefactual assemblages, including extremely important waterlogged collections such as those from Carlisle (*op cit*, 95, 97; Initiative 5.1, 102-3), which can significantly enhance understanding of everyday life in the medieval period, are also identified as causes for concern, since together they have hampered the development of precise chronologies for material culture in the region and have limited current understanding of the character of life in medieval urban centres, and of more specific areas of research, such as social status, manufacture, trade and exchange, woodland management, and so on (*op cit*, 95, 112-114; Initiatives 5.42, 5.46). The excavation of many types of structures, features and activity areas, including timber buildings, wells and possible rubbish- and/or cess-pits situated within a number of neighbouring tenements, means that the site has clear potential to address these fields of research, particularly since the assemblages of pottery, artefactual materials and environmental remains were associated with a well-stratified and closely-dated sequence of occupation. The potential of the site is also enhanced by the possibility that the archaeological data could be integrated with the historical research undertaken for the Lanes, which in some areas extends back into the medieval period.
- 5.4.12 Whilst publication of some research on the development of ceramic typologies in Carlisle is noted (*op cit*, 95-7), assisted to some extent by absolute dating provided by dendrochronology, the need for a much greater corpus of published medieval pottery from excavations within the city seems clear (C Newman 2006, 138-40; Newman and Newman 2007, 113-4), in view of the importance of Carlisle for ceramic studies in the North West (it being one of the few sites in the region where a sequence of forms and fabrics spanning the whole of the period from the twelfth to sixteenth centuries can be suggested). As one of the largest collections of material from the North, the north Lanes pottery assemblage can therefore be regarded as a resource of major significance and extremely high potential, publication of which should be regarded as a priority. Publication of the dendrochronological dates obtained from preserved medieval timbers will also improve the dendrochronology sequence for the region, as highlighted in the regional *Research Agenda* (*op cit*, 97; Initiative 5.2).
- 5.4.13 **Post-medieval potential:** the north Lanes excavations suggest that at Carlisle, as in many other towns in north-west England, archaeological deposits of earlier post-medieval date (seventeenth- and eighteenth-century) are relatively poorly preserved due to extensive disturbance caused by nineteenth- and twentieth-century development (McNeil and Newman 2006a, 152). Where deposits do survive, they tend to be truncated and lie close to the modern



surface, where they are vulnerable to damage (Newman and McNeil 2007a, 116). Consequently, little archaeological work has been carried out on early post-medieval levels either in Carlisle or more generally in the North West, which has resulted in a poor understanding of the transition from late medieval to early post-medieval traditions in many of the region's towns (*op cit*, 122). The fairly extensive evidence for post-medieval occupation on the north Lanes site can therefore be regarded as a significant addition to the limited corpus of data currently available for the region, particularly since it can be used to chart the continuing evolution of medieval tenements that had been in use since at least the late twelfth- to early thirteenth century.

- 5.4.14 As the post-medieval *Research Agenda* for the North West points out, two areas of research that have suffered particularly from a paucity of data have been material culture studies, including the crucial field of ceramic studies, which is central to the construction of research frameworks for the whole period (Newman and McNeil 2007a, 115), and the excavation of industrial sites (*op cit*, 127-8). Outside Cheshire, very few useful assemblages of post-medieval pottery have been recovered from towns, or indeed from anywhere else, and of those groups that have been excavated, few are adequately published (*op cit*, 14). In this context, Carlisle is mentioned specifically as one of a number of towns that have produced meaningful, but currently unpublished, ceramic assemblages (*op cit*, 129-30). One of the key initiatives put forward in the *Agenda* is, therefore, for the urgent publication of existing ceramic assemblages from unpublished excavations such as the northern Lanes (*op cit*, 117; Initiative 6.2). In the case of industrial processes, the authors highlight the lack of research in this field and the need to retrieve and analyse structures and residues from features and sites of early post-medieval date (*op cit*, 127-9). More generally, the *Research Agenda* also points to the urgent need in all areas of research to enlarge greatly the existing datasets for the early post-medieval period, both in terms of the detailed recording of stratigraphic sequences and the collection of securely stratified artefactual and environmental assemblages (*op cit*, 117; Initiative 6.1).
- 5.4.15 The northern Lanes archive has clear potential to make useful and important contributions to all these areas of research. Good assemblages of pottery and a limited range of other artefactual materials were recovered, mostly from securely stratified deposits, and the excavations appear to have identified a number of features in at least one tenement that may have been associated with some form of industrial process involving copper alloys (*Section 5.2.52*). A more detailed study of the spatial relationships between features of early post-medieval date and those attributable to the medieval period also has the potential to advance understanding of the nature of the transition from the medieval to post-medieval city, a national research priority (*Section 5.3.1*) that is also highlighted at a regional level in the regional *Research Agenda* (*op cit*, 122, 130). Furthermore, the value of the excavated data may potentially be enhanced by integration of the historical research undertaken on the Lanes area, which appears to be particularly detailed for the period from the late sixteenth century to the seventeenth century.

- 5.4.16 For the later post-medieval period (nineteenth-twentieth century), the north Lanes archaeological data have some potential to address the problems highlighted by the regional *Research Agenda* for the industrial and modern periods (Newman and McNeil 2007b). The document draws attention to the need to recover good data from pits and other features in order to provide information on diet, health, consumption patterns and resource use (*op cit*, 139-40, 141; Initiative 7.9), and to learn more about the types of activities that took place in urban cellars (*op cit*, 144, 146-7; Initiative 7.24). The excavation of a number of pits and cellars of late eighteenth-nineteenth-century date on the north Lanes site, and the recovery of associated artefactual assemblages, will allow these two issues to be addressed.
- 5.4.17 It is, however, the data generated by the standing building recording programme that have the greatest potential to address issues raised by the *Research Agenda*. Studies of the industrial period in the North West have often been criticised for focusing too narrowly on major technological developments, and for paying comparatively little attention to subjects such as the development of workers' housing, light industrial premises, and shops (*op cit*, 133-4). The *Agenda* stresses that there is an urgent need to supplement the documentary record for the urban poor with archaeological and other data, since the views presented on the lives of the poor, and in particular of certain groups such as women, children and servants, in contemporary records are often biased and highly politicised (*op cit*, 144); the concept of the slum, for example, long accepted in the historical record, is now being challenged by recent archaeological work in the region (*op cit*, 145, 147; Initiative 7.25). Much can be learnt from detailed study of the wide variety of architectural detail and motifs employed by the speculative builders who erected many of the region's most characteristic buildings - the terraced house (*op cit*, 138-9; Initiative 7.6) - whilst the study of one of the region's most prolific surviving features of the late nineteenth and twentieth century - the shop (and in particular the shop front) - is also highlighted as a priority (*op cit*, 146-7; Initiative 7.27). Whilst some of these issues are being addressed by recent work in the larger urban centres, such as Manchester and Liverpool, little work has been carried out in those towns that failed to industrialise, or in other centres, such as Carlisle, where modest industrialisation occurred but where no single, overriding industry developed. Research into the post-medieval development of sites like the Lanes in places such as Carlisle has the potential to shed light on the divergence between those towns that became fully industrialised and those that did not (Newman and McNeil 2007a, 122; Initiative 6.16; 2007b, 143), and to examine differences in such things as working-class housing and living conditions. There is also potential to compare Carlisle with other smaller centres such as Lancaster and Kendal, which saw a broadly comparable level of industrial development.
- 5.4.18 Analysis of the Lanes standing building recording data, together with the more limited excavated evidence and, potentially, additional historical research, has the potential to address all these issues. A broad-based landscape approach to the data has the potential to illuminate the broader development of the area during the later post-medieval period, and in particular to chart the infilling of the tenements to the rear of the Scotch Street frontage, which became

increasingly densely built-up during the course of the nineteenth century with workers' housing and light industrial premises. Work on the chronology of this development, together with the form and function of the recorded building, could potentially shed light on issues such as population increase, typological development of building types, and the establishment of small-scale industries during this period. Consideration of the architecture and spatial context of many of the late eighteenth-nineteenth-century structures also has the potential to contribute to an evaluation of social context (Newman and McNeil 2007b, 138), whilst use of building materials may provide evidence for markets and trading patterns (*ibid*). At a more detailed level, analysis of the standing building records could be combined with research into the surviving documentary, cartographic and photographic evidence for the Lanes. Such an approach has considerable potential to enhance understanding of the development of the area in the later post-medieval period and, perhaps, to link the archaeological and standing building evidence to recorded households or to industrial or other non-residential structures of known date and function (*ibid*). The photographic and drawn archives also include records of many of the shop frontages that existed in the Lanes area prior to redevelopment.

## 5.5 PUBLICATION STRATEGY

- 5.5.1 The approach to publication adopted by CAU/CAL would have seen the Lanes project as a whole published as a series of monograph reports (one for the south Lanes and one or two for the north Lanes) accompanied by specialist fascicules (*Section 1.6.3*). The monographs would have provided a synthesis and discussion of the stratigraphic sequences and standing building records, supported by abridged artefactual and environmental reports. Full reports on the artefactual and environmental assemblages were to be published separately in the form of spiral-bound fascicular volumes. For the north Lanes, a possible total of five fascicules was envisaged, covering the environmental remains, including dendrochronology, the Roman and post-Roman artefacts and the Roman and post-Roman pottery. It is not clear where the detailed standing building recording data were to be published.
- 5.5.2 The south Lanes monograph was published in 2000 (McCarthy 2000), and there is anecdotal evidence to suggest that work on the accompanying fascicules was well advanced immediately prior to the demise of CAL in 2001 (*Section 1.6.4*). The current status of these volumes is not known, although what appear to be fairly advanced draft copies of Fascicules 1 and 2, and a less advanced version of Fascicule 3, have been located. This being so, it would make sense for the outstanding south Lanes data (with the exception of the standing building records) to be disseminated at some future date following the CAU/CAL approach to publication. Since the south Lanes lies beyond the scope of the current assessment, however (again with the exception of the standing building records), this element is not considered further.
- 5.5.3 In the case of the north Lanes, where the post-excavation programme is far less advanced, there is clearly greater scope to adopt a different method of publication. This does not, however, mean that free rein can be given to

developing new publication strategies, since any strategy will be constrained to some degree by the need to build on the considerable amount of work that has already been done.

- 5.5.4 For reasons of cost-efficiency, the completed artefactual and environmental reports should be published largely as they stand, although in view of the fact that most were written well over a decade ago, the authors should be given the opportunity to carry out minor revisions in the light of recent research. Incomplete reports should also be brought up to publication standard as quickly and cost-effectively as possible, ideally by the original authors, making full use of existing texts and catalogues. The incomplete monograph text should also form the basis for a stratigraphic narrative.
- 5.5.5 The existence of many complete or partly-complete reports effectively means that a fairly traditional approach to publication represents the most cost-efficient strategy for disseminating the stratigraphical, artefactual and environmental data generated by the north Lanes excavations. The only element of the project which could be considered *carte blanche* in terms of new and innovative methods of publication is the standing building recording programme, which has not been subjected to any form of analysis apart from a limited amount of work undertaken as part of an unpublished MA thesis (Alfrey nd; *Section 1.6.4*). A heavily edited version of the historical research notes present in the project archive could also be included in the final publication.
- 5.5.6 One option would be to publish the north Lanes as a three-volume report similar to that currently being prepared by OA North for the Carlisle Millennium excavations (Zant in press; Howard-Davis forthcoming). Volume 1 would contain the detailed stratigraphic information, the standing buildings data and the key historical evidence, integrated, if at all possible, into a single narrative, with accompanying illustrations and discussion sections, whilst Volume 2 would contain the artefactual and environmental reports, including the Roman and post-Roman pottery, and a discursive chapter providing an overview of the data. Most of the detailed artefactual and environmental catalogues, which make up the bulk of many of the specialist reports, a context list, and other detailed information, could potentially be placed on a DVD, which, as in the case of the Millennium publication, would form Volume 3 of the academic report. The DVD could also contain other elements, such as a searchable context list and an image gallery. A detailed publication synopsis for a three-volume report of this kind is presented in *Section 9.3*. In the synopsis, each volume is broken down into a series of chapter headings and sub-headings, and detailed estimates of word-counts, drawings and plates are provided for each chapter, together with estimates of the amount of work already completed for each.
- 5.5.7 In view of the degree of local interest in the history of the Lanes area (*Section 5.2.2*), and in accordance with English Heritage's corporate objectives, which seek to increase public awareness of the historic environment through the production of popular and accessible publications (Corporate Objective 5A, Communication Programme C1, Sub-Programme 51331.110; English Heritage 2008, 81), consideration should be given to the production of a short 'popular'

publication, in addition to the full academic report. This could comprise a well-illustrated booklet summarising, for a general audience, the most significant results of the project, similar to that prepared for the Carlisle Millennium project (OA North 2004). In order to enhance accessibility, this could be made available for sale at nominal cost, and/or distributed free to local schools and other appropriate community groups.

- 5.5.8 A series of aims and objectives intended to bring each of the principal elements of the project (stratigraphy, standing buildings, historical research, artefactual and environmental assemblages) to publication are set out in *Section 7*. Detailed methodologies designed to achieve the objectives are presented in *Section 8*.

---

## 6. RECOMMENDATIONS

---

### 6.1 INTRODUCTION

- 6.1.1 The Lanes project was the most extensive archaeological investigation ever seen in Carlisle, and one of the largest (if not *the* largest) urban excavations carried out in the whole of northern England. In addition to the excavations, the project also included by far the largest standing building recording programme ever undertaken in the city, which is itself of considerable academic interest, and a potentially important element of historical research. The northern Lanes arguably represents the most archaeologically significant part of the project (*Section 5.2.1*), since not only was it much the largest area in terms of excavation, it also produced by far the largest assemblages of artefactual and ecofactual materials. It is also fair to say that, on the whole, the stratigraphic sequence in this area was of greater archaeological significance than that to the south - unquestionably so in the case of the medieval and post-medieval levels, which were scarcely present on the south Lanes.
- 6.1.2 English Heritage has acknowledged the significance of the Lanes project as a whole, and its very considerable potential to contribute to the advancement of archaeological knowledge, by providing funding both for the fieldwork (under the auspices of the then Department of the Environment) and for post-excavation assessment and analysis. The current assessment has established the extent to which post-excavation work on the north Lanes excavations and standing building recording programme was completed prior to the demise of CAU/CAL in 2001 (*Section 3; Section 4*), and the potential of the data generated by the project to address national and regional research priorities (*Section 5*). The standing building recording data from the south Lanes have also been quantified and assessed with a view to providing recommendations for the adequate dissemination of the most significant elements of this important dataset.
- 6.1.3 **Execution Stages:** in the following, recommendations for completing the analysis of the north Lanes archaeological data and the Lanes standing building records are put forward. Proposals for bringing these elements of the project to publication are also presented. *MoRPHE* (English Heritage 2006, 14) envisages that this phase of the project, known as Execution, will comprise one or more Stages. The present assessment has demonstrated that the north Lanes post-excavation programme is currently at various levels of completeness (*Sections 3 and 4*); some aspects appear wholly or largely complete, whilst in other areas entire artefactual or ecofactual assemblages have not even been subjected to formal assessment. For this reason, it is proposed that the Execution phase of the project should be sub-divided into two Execution Stages. Execution Stage 1 would entail the completion of assessment, including the production of assessment reports, for all classes of material where this process was not carried out by CAU/CAL (Table 16). On completion of Execution Stage 1, the project would be subject to review (*MoRPHE* Review Point R3 (English Heritage 2006, 14)). If appropriate, this would result in the production and acceptance of an updated project design

(*ibid*) for those classes of material which the Stage 1 assessment demonstrated to be academically important. Subsequently, the commitment of additional resources for Execution Stage 2 for these elements would result in the completion of all outstanding analytical work, revisions to existing report texts and drawings, editorial and other related tasks, and publication. Analysis should include, if appropriate, work resulting from the assessments undertaken during Stage 1, together with other outstanding analytical tasks, identified in the current project design, required on material selected for analysis and reporting by CAU/CAL but not completed.

- 6.1.4 In the case of those elements of the project requiring assessment (Execution Stage 1), recommendations, aims and objectives and resource requirements for analysis and publication (Execution Stage 2), if any, cannot be produced until after Execution Stage 1 is completed. For all other elements of the project, however, where analysis and reporting is either complete (subject to minor revision) or partially complete, costed proposals, updated aims and objectives and a method statement for analysis and publication can be formulated, and are therefore presented in this report.
- 6.1.5 In accordance with *MoRPHE* (*op cit*, 12, 26-7), each specific item identified in Sections 6.2-6.4 below can be regarded as a *product*, the completion of which contributes towards the fulfilment of the project's aims and objectives (*Section 7*). *Tasks* are defined as the individual pieces of work required to develop and complete each product. Tasks, and the methodologies required to complete them, are set out in *Section 8*, and in the Task List (*Appendix 3*). Products are not numbered separately in the report, but are numbered in the Task List.

## 6.2 EXECUTION STAGE 1: ASSESSMENT

- 6.2.1 Those categories of artefactual and environmental materials that have not been subjected to any form of assessment or analysis (Table 16) should be formally assessed for their archaeological potential and assessment reports produced. Depending upon the results of the assessment, material requiring further work should be analysed during Execution Stage 2 (*Section 6.4*) and reports suitable for publication prepared. Whilst some of these lacunae comprise fairly small assemblages of comparatively limited significance (such as the clay tobacco pipes, marine molluscs and metalworking debris), others, such as the post-Roman plant remains and post-Roman insects, are fundamental to understanding the stratigraphic sequence. It is strongly recommended, therefore, that these materials should be assessed and, if appropriate, analysed and published. To this end, appropriately qualified specialists should be commissioned to undertake the work.

Material category	Comments	Approx quantity	Approx % of total Lanes assemblage (north and south)
Clay tobacco pipes	No report found, probably never written. To be completed by D Higgins	392 fragments	89%
Metalworking debris	No report found; probably never written. To be completed by T Young	13 boxes	n/a
Post-Roman animal bones	Report never written; material not assessed or analysed. To be completed by A Bates	c 80-100 boxes	n/a
Structural wood	No report found; probably never written. To be completed by C Howard-Davis	65 fragments and nine boxes	n/a
Post-Roman plant remains	Report never written; material not assessed or analysed. To be completed by E Huckerby	unknown	n/a
Post-Roman insects	Report never written; material not assessed or analysed. To be completed by D Smith	unknown	n/a
Marine molluscs	No report found; probably never written. To be completed by C Howard-Davis	unknown	n/a
Radiocarbon dating	None undertaken	-	-

Table 16: Categories of artefactual and environmental materials requiring assessment

- 6.2.3 **Transport of materials requiring assessment:** arrangements should be made to transport all relevant artefactual and environmental assemblages requiring assessment to the appropriate external specialists, or to OA North's premises in Lancaster, where the work is to be undertaken by in-house OA North personnel, in order to facilitate assessment and reporting of the material. This should be done at an early stage in the project.
- 6.2.4 **Compatibility of data supplied to the ADS:** to ensure that all databases and other digital data generated during the north Lanes Project meet ADS guidelines, it is recommended that all specialists should be informed of this requirement at the commencement of the project. It is also recommended that be asked to complete a short form describing the data format and the fields used in their data tables.
- 6.2.5 **Assessment of clay tobacco pipe:** since no work on the north Lanes clay tobacco pipes was seemingly carried out by CAU (*Section 3.9.15*), the assemblage (392 sherds) should be assessed by a suitably qualified and experienced specialist and a report detailing the results should be prepared, including costed proposals for further analysis, and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential should be analysed and a report suitable for publication produced. Further work on the assemblage should go some way to addressing the need, identified in the post-medieval *Research Agenda* for the North West, to expand greatly the existing dataset of securely stratified artefactual assemblages of this period (Newman and McNeil 2007a, 117).
- 6.2.6 **Assessment of metalworking debris:** the assemblage of metalworking debris recovered from the northern Lanes (13 boxes) was seemingly neither assessed nor analysed by CAU (*Section 3.9.9*). The material should therefore be assessed for its archaeological potential by a suitably qualified and experienced specialist. An assessment report should be produced, including costed proposals for further analysis, and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential



should be analysed and a report suitable for publication produced. Further work on the assemblage may have the potential to address a number of issues highlighted by the period-based *Research Agendas* that form part of the *North West Region Archaeological Research Framework* (Brennand 2007). These include the need for systematic publication of well-stratified artefactual assemblages of all periods, in order to shed light on the function of particular structures, features and activity areas (Philpott and Brennand 2007, 66-7; Newman and Newman 2007, 95, 112-4; Newman and McNeil 2007a, 117). For the early post-medieval period in particular, the *Research Agenda* highlights the lack of research on the character and development of industrial processes in the region, and the consequent need to analyse industrial residues from features and structures of this date (Newman and McNeil 2007a, 127-9).

6.2.7 **Assessment of post-Roman animal bone:** since the substantial assemblage (estimated at c 80-100 boxes; *Section 3.11.3*) of post-Roman animal bone from the north Lanes was excluded from CAU's post-excavation programme, it is recommended that the material should be subjected to a formal archaeological assessment of its potential. The assessment should be undertaken by a suitably qualified and experienced specialist and should consider only those elements of the assemblage that derive from well-stratified deposits. In order to make best use of resources, further sub-sampling should be undertaken within the stratified assemblage, taking into consideration the site phasing, the condition of the bone and the presence of any particularly significant stratigraphic features. In order to provide a rough indication of the amount of bone that may require assessment, it should be noted that approximately 35% of the total assemblage of Roman bone from the northern Lanes was assessed (Stallibrass 1997, 4), whilst assessment was undertaken on c 30% of the total assemblage of animal bones recovered from the Carlisle Millennium excavations (Bates 2002). Proportionally, therefore, a sample of up to 35 boxes (but possibly slightly less, depending upon the precise quantity of material present in the archive) would represent an adequate level of assessment for the post-Roman assemblage. An assessment report should be produced, including costed proposals for further analysis, and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential should be analysed and a report suitable for publication produced.

6.2.8 **Assessment of structural wood:** since the condition of the surviving north Lanes structural wood (65 fragments) is unknown (*Section 3.11.4*), this should be rapidly assessed in the first instance by a suitably qualified and experienced specialist. Whilst more detailed assessment will depend upon the condition of the timber, the costings presented in this report have allowed for a certain level of additional assessment. Any pieces sufficiently well-preserved to warrant further assessment, and which came from well-stratified deposits, should be examined and a brief record should be made. A discard policy should be formulated for those pieces that have degraded to the extent that they no longer contain any useful archaeological data. A report detailing the results of the assessment should be prepared, including costed proposals for further analysis and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential should be analysed and a report suitable for publication produced.

- 6.2.9 **Assessment of post-Roman plant remains:** it is recommended that the remaining soil samples from post-Roman deposits (estimated at up to 181 samples from potentially significant deposits; *Section 5.2.47*), which were largely excluded from CAU's post-excavation programme (*Section 3.11.6*), should be subjected to an archaeological assessment of their potential for the survival of charred and waterlogged plant remains, following which an appropriate level of analysis and reporting should be undertaken. The work should be carried out by a suitably qualified and experienced specialist. In the first instance, a rapid scan should be undertaken of the samples in the Shaddon Mill store, in order to identify and exclude any that are clearly no longer suitable, for example where sample bags have become torn, exposing the contents, or where contextual information is missing. A report detailing the results of the assessment should be prepared, including costed proposals for further analysis and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential should be analysed and a report suitable for publication produced. Any such programme of analysis would potentially go a considerable way to addressing the imbalance in the study of palaeobotanical remains from Roman and medieval deposits in Carlisle (the latter being significantly under-represented) that has been highlighted by a recent English Heritage review (Hall and Huntley 2007, 158, 185).
- 6.2.10 **Assessment of post-Roman insect remains:** it is recommended that the soil samples from medieval deposits (estimated at up to 181 samples from potentially significant deposits; *Section 5.2.47*), which were largely excluded from CAU's post-excavation programme (*Section 3.11.9*), should be subjected to an archaeological assessment of their potential for the survival of insect remains, following which an appropriate level of analysis and reporting should be undertaken. Only three samples appear to have been taken from post-medieval levels, all from deposits with very low archaeological potential (*Section 5.2.61*). In view of the very considerable expense that would be incurred in conducting a detailed assessment of so many medieval samples (D Smith *pers comm*), a methodology has been suggested, following discussions with a suitably qualified and experienced specialist (Dr David Smith, University of Birmingham), whereby levels of insect preservation in the remaining samples are recorded by OA North's Environmental Manager at the same time as the plant remains are being assessed. In the first instance, a rapid scan should be undertaken of the samples in the Shaddon Mill store, in order to identify and exclude any that are clearly no longer suitable (*Section 6.2.9*).
- 6.2.11 Following this, it is recommended that a representative sample of the flots, perhaps 20% of the total (up to 36, taking 181 as the maximum number of samples with archaeological potential), are dispatched to Dr Smith for checking, in order to confirm that the levels of insect preservation recorded are accurate. At the same time, these samples will be assessed for their archaeological potential by Dr Smith, and an assessment report will be prepared. This will present the results of the assessment and provide costed proposals for further analysis, if appropriate.

- 6.2.12 **Assessment of marine molluscs:** it is known that a small assemblage of marine mollusc shells was collected from the northern Lanes excavations (*Section 3.11.11*), although the size of the collection is not known. Therefore, a search should be made of the north Lanes archive in Shaddon Mill, Carlisle, in order to locate the material, following which shell from well-stratified deposits should be assessed for its potential and a report produced, including costed proposals for further analysis and publication, if appropriate. Subject to the results of the assessment, the material with good archaeological potential should be analysed and a report suitable for publication produced.
- 6.2.13 Assessment and, if appropriate, analysis and publication of the post-Roman animal bones, plant and insect remains, and marine molluscs should go a considerable way to addressing the initiative put forward in the medieval *Research Agenda* for the North West, which calls for the urgent publication of artefactual and ecofactual assemblages recovered from major urban excavations ‘such as the Lanes, Carlisle’ (Newman and Newman 2007, 104; Initiative 5.20), in order to enhance significantly understanding of everyday life in the region’s medieval urban centres. The early medieval *Research Agenda* also stresses the urgent need to analyse assemblages of animal bones and other environmental remains from potentially early medieval levels (Newman and Brennan 2007, 83; Initiative 4.20). For the post-medieval period too, the *Research Agenda* highlights the urgent need to expand all datasets, including the collection of securely stratified environmental assemblages (Newman and McNeil 2007a, 117).
- 6.2.14 **Assessment of radiocarbon dating potential:** no provision for radiocarbon dating was made by CAU during the course of the Lanes post-excavation programme. For the Roman, medieval and post-medieval stratigraphic sequences, this was probably justifiable, since radiocarbon determinations are unlikely to refine further the dating already provided by the ceramic assemblages and, in the case of the Roman levels, the coins. Some potential might exist for dating of material from the pre-Roman features on the site (Period 1), or from the buried soil (Period 2) directly underlying the earliest Roman levels. However, the results of the palaeobotanical analysis of these phases (Huntley in prep) suggests that they contained little, if any, material suitable for radiocarbon determination. Furthermore, radiocarbon assay of a ‘pre-Roman’ buried soil at the Millennium site (Zant in press), which occupied a stratigraphically identical position to that of the Period 2 soil at the north Lanes (but was located within the Roman fort), produced dates in the early Roman period. This suggested that the material selected for dating had been trampled into the soil at the beginning of the Roman period, and it seems likely that a similar situation would pertain at the north Lanes.
- 6.2.15 Where radiocarbon dating may be of considerable value, however, is in refining the chronology of the late Roman/early post-Roman activity on the site (Period 12), which stratigraphic evidence suggests may comprise a number of occupational sub-phases (*Section 5.4.5*). This may prove especially significant if it is possible to obtain a suite of dates from a number of deposits ranged throughout the stratigraphic sequence, since this will potentially permit the use of Bayesian statistical techniques to establish a more tightly-defined

chronology. This would directly address Initiative 4.3 of the early medieval Research Agenda for the North West (Newman and Brennan 2007, 74-6), which recommends the routine radiocarbon dating of sites that exhibit potential for early medieval activity. At the Millennium site (Zant in press), radiocarbon determinations were obtained from a number of animal bone fragments selected from the 'dark earth' and from underlying 'late Roman' levels. These, when considered in conjunction with dating evidence provided by pottery and coins, demonstrated conclusively that Roman occupation had continued into the fifth century AD, and quite probably well into the fifth century. One of the determinations was further suggestive of possible activity in the late ninth-eleventh century.

6.2.16 To this end, the assemblage of animal bones from the Period 12 levels, together with any charcoal or other suitable material that is noted during assessment of the post-Roman samples for plant and insect remains (*Section 6.2.9-11*), should be assessed for their potential for radiocarbon dating, and an assessment report should be produced. Based on the results of the assessment, together with careful consideration of the Period 12 stratigraphy, a number of samples may be prioritised for radiocarbon assay. This cannot, however, be determined until the assessment is completed. It is recommended that English Heritage's Regional Science Advisor, Dr Sue Stallibrass, and Alex Bayliss, Team Leader for the English Heritage Scientific Dating Team, should be consulted as part of the assessment process.

### **6.3 REVIEW (MORPHE REVIEW POINT R3)**

6.3.1 Upon completion of Execution Stage 1, the results of the assessments should be reviewed against the project's aims and objectives. If appropriate, a brief updated project design should be prepared, providing recommendations for analysis and publication, revised aims and objectives, a method statement and resource requirements for analysis and reporting during Execution Stage 2.

6.3.2 For those elements of the project that are already complete, subject to minor revision (Table 19), or partially-complete (Table 18), the proposals, aims and objectives, methodologies and resource requirements for Execution Stage 2, which are set out in the present report, should also be reviewed.

### **6.4 EXECUTION STAGE 2: ANALYSIS AND PUBLICATION**

6.4.1 For those elements of the north Lanes project requiring assessment, recommendations for analysis and publication must await the completion of Execution Stage 1 (*Section 6.2*). However, for those elements where analytical work is either complete (subject to revision) or partially complete, or where assessment was undertaken by CAU/CAL, recommendations for analysis and publication can be formulated, although implementation, if appropriate, would perhaps be deferred until after the completion of Execution Stage 1 and the subsequent review (*Section 6.3*).

- 6.4.2 ***Transport of materials to specialists***: arrangements should be made to transport all relevant artefactual and environmental assemblages requiring additional analysis and reporting to the appropriate external specialists, or to OA North's premises in Lancaster, where the work is to be undertaken by in-house OA North personnel, in order to facilitate analysis and reporting of the material. This should be done at an early stage in the project.
- 6.4.3 ***Stratigraphic, standing building and historical analysis***: a stratigraphic synthesis suitable for publication should be completed, based on the incomplete report present in the archive. To facilitate this, and other aspects of the analysis, a basic context database should be compiled. In view of the importance of the post-medieval standing building data, and the fact that little or no work was done on the standing buildings in the south Lanes area, it is recommended that a programme of analysis and reporting should be undertaken that encompasses both the northern and southern Lanes. This should include map regression analysis, assessment of historical photographs (including aerial photographs) and other historical images, and detailed analysis of the standing building records in the project archive. Relevant social history data should also be gathered, from sources such as census records and trade directories. The historical notes present in the archive should be used as the basis for a report on the documentary evidence for the Lanes area in the medieval and post-medieval periods. If possible, the standing building and social history data, together with the documentary evidence, should be integrated with the stratigraphic narrative. A series of drawings and photographs should be prepared to accompany the stratigraphic, standing building and historical data.
- 6.4.4 ***Context database***: the lack of a context database providing details of context type and site phasing represents no great obstacle to the preparation of the post-Roman phase narrative or completion of the Roman phasing text, since these will essentially comprise a condensed version of the detailed site phasing texts. However, the absence of a database has potentially significant implications for aspects of the artefactual and environmental analysis, particularly for the post-Roman period where extremely important assemblages such as the pottery and most of the environmental materials have not been assessed or analysed and where no draft reports exist (*Sections 3.7.4; 3.11*). The lack of a context database has the potential to hinder seriously the process of this assessment and analysis, since deposit and phasing details for each assessed/analysed context would have to be extracted from the phasing documents, where contexts are not of course listed in number order, or the context sheets themselves. In order to collate and disseminate these vital data in the most cost-effective way possible, it is recommended that, at an early stage in the project, a basic database for the *c* 8600 contexts should be compiled for the site. This should provide the minimum level of information needed by specialists, including trench designation (for example KLA A), trench phase number, site period number and a brief description of context type ('pit fill', 'soil layer' and so on).
- 6.4.5 ***Stratigraphic narrative***: it is recommended that a stratigraphic synthesis suitable for publication should be prepared, based on the incomplete

monograph report in the north Lanes archive (*Section 3.3*). At present, the report deals only with the pre-Roman and Roman deposits, and contains inadequate contextual information. Certain sections, including that dealing with the very latest Roman or 'sub-Roman' levels, are also light on descriptive detail, and should be expanded accordingly. Additional data should therefore be added, and a stratigraphic synthesis for the post-Roman sequence should be prepared. On completion of all specialist reports, summary artefactual and environmental data should be integrated into the text as appropriate, in order to provide an indication of the range of materials recovered from specific buildings, structures and activity areas.

- 6.4.6 Completion of the stratigraphic narrative for the north Lanes should address directly a number of concerns and initiatives set out in the *North West Region Archaeological Research Framework* (Brennand 2006; 2007). The urgent need to publish data relating to prehistoric settlement and land-use from sites that are not yet in the public domain is stressed in the prehistoric *Research Agenda* (Hodgson and Brennand 2007b, 33; Initiative 2.1), whilst in the Romano-British *Research Agenda*, Carlisle is singled-out for the potential importance of its backlog of unpublished data (Philpott and Brennand 2007, 55-7). For the early medieval period, the *Research Agenda* stresses the need to re-examine old excavation archives to look for evidence of the latest Roman or sub-Roman activity, and Carlisle is again singled-out for mention (Newman and Brennand 2007, 79; Initiative 4.9). The medieval stratigraphic sequence excavated at the Lanes is itself highlighted in the medieval *Resource Assessment* (C Newman 2006, 126), whilst the *Research Agenda* describes the Lanes as 'the most significant urban project in the north of England' (Newman and Newman 2007, 102). For the post-medieval period, the *Research Agenda* points to the generally poor understanding of the transition from medieval to post-medieval traditions in many of the region's towns (Newman and McNeil 2007a, 116), this being due in large part to the destruction of earlier post-medieval levels by later activity (*op cit*, 122). The *Research Agenda* also stresses the urgent need to enlarge the existing dataset for the post-medieval period through the detailed recording and publication of surviving stratigraphic sequences (*op cit*, 117), such as that excavated at the north Lanes.
- 6.4.7 *Standing building and social history analysis*: in the first instance, a programme of map regression analysis should be undertaken to chart the physical development of the Lanes area from the mid-sixteenth century (the date of the earliest surviving map of Carlisle; Lysons 1815) to the twentieth century. Analysis of the most detailed nineteenth-century maps, including Wood's plan of 1821 (Wood 1821), the appropriate sheets of Asquith's map (Asquith 1853) and the relevant 25-inch (1:500 scale) sheets of the Ordnance Survey first- and second-edition maps of 1865 and 1899 (Ordnance Survey 1865; 1899), will be particularly significant, since these should depict many of the buildings recorded during the Lanes standing building recording programme. A particular focus of interest should be the pattern of infilling, largely with workers' housing and light industrial buildings, that occurred alongside the lanes and vennels, to the rear of the main street frontages, during the late post-medieval period.

- 6.4.8 The photographic, drawn and (where available) written records for each of the Lanes standing buildings should be matched and a stratigraphic summary compiled for each of the lanes, courts and vennels that lay within the study area. A record should be compiled for each category of building plan-type (but not for each and every individual building, since this would be unduly repetitious), arranged chronologically where possible, in order to create a research archive from which a text suitable for publication can be synthesised. Any blank areas in the standing building recording coverage should also be highlighted.
- 6.4.9 It is recommended that social history evidence should be rapidly gathered and collated, in order to 'people' the nineteenth- and early twentieth-century landscape of the Lanes area. Such data are potentially obtainable from sources such as census records, trade directories, and Judith Alfrey's thesis on the social history of the Lanes (*Section 1.6.4*).
- 6.4.10 The standing building text should be integrated into the excavated archaeological evidence for the late post-medieval period at the north Lanes, since in some areas at least the excavated features formed the remains of buildings that had only very recently been demolished, and which had undergone recording whilst still standing. Integration of the 'above-ground' information with 'below-ground' evidence will also result in the production of a continuous stratigraphic narrative charting the development of the north Lanes tenements from their origins in the twelfth or early thirteenth century (in some cases with boundaries influenced by upstanding Roman remains) to the late twentieth century. If possible, relevant social history data should also be integrated into the standing building text during compilation of the narrative.
- 6.4.11 Analysis and publication of the large corpus of standing building data from the north Lanes should go some considerable way to addressing a number of concerns raised by the regional *Research Agenda* for the industrial period (Newman and McNeil 2007b). This points out that studies of the period in the region have often paid little attention to subjects such as the development of workers' housing, light industrial premises and shops (*op cit*, 133-4), precisely those types of premises that were so abundant on the north Lanes site, and which were recorded in detail during the Lanes project.
- 6.4.12 *Historical research*: it is recommended that Bruce Jones, compiler of the historical notes on the Lanes area, should be contacted and invited to discuss the process of selecting and editing his notes for publication. Bruce should also be given the opportunity to discuss any other issues relating to the documentary evidence.
- 6.4.13 Since the historical notes exist only in typescript, the existing text should be digitised using text-recognition software. Following this, it is recommended that the notes should be re-ordered, collated and edited in order to produce a summary of those data that can be linked to specific lanes or tenements within the north Lanes area. It would clearly be desirable to integrate the documentary evidence into the stratigraphic text produced for the excavated data and the standing buildings, if at all possible, but it is currently unclear to what extent

such an approach would be feasible; this will be assessed during the course of the work.

- 6.4.14 The collated and edited data should be used as the basis for a report for inclusion in the north Lanes publication, either integrated into the stratigraphic text or, if this does not prove feasible, as a 'stand alone' section. Much of the existing information is generalised (*Section 3.6.1*), and cannot be related to a specific part of the site, which limits its value in the context of the north Lanes publication programme. However, it is clear that some of these data will be of value in providing a general overview of the character and development of occupation in the Lanes area in the medieval and post-medieval periods, and it is therefore recommended that a summary of the most significant information is compiled and published, in addition to the more site-specific evidence.
- 6.4.15 *Overview/discussion*: provision should be made for an adequate level of library research prior to the preparation of the report's introductory and discursive chapters, in order to place the site in its regional and national context, and to discuss fully any comparative data. Appropriate preliminary sections and a full bibliography should also be prepared.
- 6.4.16 *Drawings*: for the stratigraphic narrative, it is recommended that the partially finished pre-Roman and Roman phase drawings (34 in total; *Section 3.4.1-2*) be scanned and completed to publication standard in a digital format. Since most of the existing draft phase plans are large (mostly *c* A1-sized), it is recommended that they be split into a greater number of area-specific plans in order to obviate the need for fold-outs. This should be achieved, wherever possible, with reference to archaeologically significant spatial divisions, rather than the stratigraphically arbitrary boundaries of individual excavation trenches. The wider spatial location of each plan should be illustrated by means of a 'thumbnail' plan inset in the corner of each drawing. Similarly, an appropriate number of phase drawings should be prepared for the post-Roman sequence, based on the large, pencil-drawn mock-ups in the project archive (*Section 3.4.1*), which will be scanned and brought up to publication standard digitally.
- 6.4.17 A list of additional publication drawings should be compiled, and the drawings produced. These might include sections, elevations, detailed phase/feature plans, and appropriate drawings to accompany the introductory and discursive chapters of the stratigraphic narrative.
- 6.4.18 A series of drawings should also be prepared to illustrate and support the standing building text. These should be based on primary drawings selected from the Lanes standing building recording archive, and should include ground plans, floor plans, elevations, cross-sections and detailed drawings of specific architectural features, as required.
- 6.4.19 *Photographs*: a series of plates, sufficient to illustrate adequately and support the stratigraphic text and the published drawings, should be selected from the project archive, and copies should be printed. The plates should include site locations and photographs illustrating some of the more significant aspects of



the stratigraphic sequence. Similarly, a series of photographs should be selected to illustrate and support the standing building data.

- 6.4.20 The availability of aerial photographs of the Lanes area prior to redevelopment should also be assessed, since these could potentially be linked both to the cartographic evidence and to the standing building recording data. Similarly, an assessment should be made of historical (nineteenth- and early/mid-twentieth-century) photographs of the Lanes, and of any other relevant images (drawings, paintings and so on), in particular those depicting individual buildings, groups of buildings, or particular lanes. Any such images that can be located represent a potentially important source of additional information in support of the standing building recording data, and a number of the most significant images could be used to illustrate the publication.
- 6.4.21 **Pottery, artefactual and environmental analysis:** materials for which no analytical report exists (Table 17), but which have either been assessed (the bulk of the samian assemblage and the mortaria), or for which a considerable amount of analytical work has already been undertaken (the post-Roman pottery), should be analysed and reported to publication standard. For those categories of material where partially complete analytical reports are available (Table 18), the original authors should be given the opportunity to complete their work, and if necessary to revise the existing texts in the light of recent research. In cases where original authors are unable to undertake the work, it should be completed by other, appropriately qualified and experienced specialists. Similarly, where complete or near-complete reports are available in the archive (Table 19), the authors should be given the opportunity to carry out minor revisions in the light of recent research. In cases where they are unable to do so, this work should be undertaken by other suitably qualified and experienced specialists. Existing illustrations of pottery and other artefacts should be finished to publication standard; in cases where objects requiring illustration are not currently illustrated, additional drawings should be produced, as required.
- 6.4.22 **Outstanding report texts and catalogues:** one of the most challenging, but potentially also one of the most important, elements of the post-excavation programme will be the analysis of the important assemblages of samian, mortaria and post-Roman pottery, for which no reports, complete or otherwise, exist (Table 17). These assemblages are fundamental to understanding and dating the stratigraphic sequence. It is strongly recommended, therefore, that these reports be completed as part of the publication process. To this end, appropriately qualified specialists should be commissioned to undertake the work.
- 6.4.23 In the case of the samian and mortaria, a limited amount of work has already been completed and some documents have been produced (*Section 3.7.1-2*), although the assemblages remain essentially unreported. A considerable amount of analysis was clearly also carried out by CAU on the post-Roman pottery, although it would appear that a report was never produced (*Section 3.7.4*).

Material category	Comments	Approx quantity	Approx % of total Lanes assemblage (north and south)
Samian (main report)	Not commissioned; only stamp report completed. To be completed by Stephen Wadeson	7860 sherds (252.20kg)	66% by count; 84% by weight
Mortaria	Not commissioned; only preliminary report completed. To be completed by K Hartley	1666 sherds (74 stamps)	78% by count; 77% by weight
Post-Roman pottery	No report found; status unclear, but almost certainly never written. To be completed by J Bradley	Medieval : 28-29,000 sherds (460.71kg)  Post-medieval: 1677 sherds (66.98kg)	91% by count; 90% by weight  61% by count; 67% by weight

Table 17: North Lanes specialist reports not commissioned

6.4.24 *Samian*: an assessment and research design for the north Lanes samian was prepared by CAU in consultation with Brenda Dickinson (Hird and McCarthy 1996). A report on the samian stamps has also been largely completed (*Section 3.7.1*), but a report on the whole samian assemblage was never commissioned (B Dickinson *pers comm*; *Section 3.7.1*). For the material recovered from stratified Roman contexts, two printouts of a database listing of each samian sherd, arranged by context and site period, were located, although the digital database itself has not been found. The document provides details of vessel type, approximate date, presence of stamps, potter (where known) and other comments. No such listing exists for samian from post-Roman deposits, except for the material from the early post-Roman ‘dark earth’ (Period 12).

6.4.25 In order to publish the samian assemblage adequately (7860 sherds), it is recommended that a full analytical report should be produced, including a descriptive catalogue of the illustrated decorated sherds, a discussion of the stratified assemblage, and appropriate tables and charts (B Dickinson *pers comm*). The archive listing of samian should also be typed into an up-to-date database.

6.4.26 *Mortaria*: a research design (Hird *et al* 1996) and preliminary report on the mortaria (Hartley nd) were prepared for CAU. Details derived from the preliminary report were subsequently incorporated into various sections of the draft Roman coarse pottery report, but a full analytical report on the mortaria assemblage (1666 sherds) was never commissioned (K Hartley *pers comm*; *Section 3.7.2*). A printout of the north Lanes mortaria database is held by Ms Hartley, but the digital database itself could not be located. It is recommended that a full analytical report on the mortaria, including a descriptive catalogue of the illustrated sherds (including the stamps) and a discussion of the stratified assemblage, should be prepared, based on the preliminary report produced for CAU. The hard copy of the database should be keyed into an up-to-date database.

6.4.27 Assessment and, if appropriate, analysis and publication of the samian and mortaria assemblages should go some way to addressing concerns expressed in the Romano-British *Research Agenda* for the North West, where it was felt that many of the outstanding problems could be resolved by analysis of

existing material that is not currently in the public domain (Philpott and Brennand 2007, 55-7).

- 6.4.28 *Post-Roman pottery*: in the absence of any evidence that a report on the post-Roman pottery was ever completed (*Section 3.7.4*), it is recommended that a full analytical report on the assemblage (c 28-29,000 medieval sherds, 348 of post-medieval date and 1337 ‘modern’ sherds), including a descriptive catalogue of the illustrated sherds, should be produced. Furthermore, since there are considerable discrepancies in the different versions of the draft pottery catalogues present in the project archive (*Section 3.7.4*), and it is not known which of the versions is the most complete, accurate and up-to-date, it is recommended that the catalogues are first checked against the pottery assemblage in order to determine this. If none of the existing catalogues proves to be accurate and complete, the most up-to-date version should be completed through further study of the assemblage. It is also recommended that an up-to-date database be compiled, incorporating all relevant data from the existing catalogues (and, if necessary, data obtained from further study of the material), in order to facilitate analysis and reporting. The data should be analysed and discussed by group and fabric type, spatial and chronological patterning should be studied, and regional and national comparanda sought.
- 6.4.29 Full publication of the post-Roman pottery assemblage, which represents one of the largest collections of stratified material from the north of England (*Section 5.2.38*), is fundamental to the establishment of a closely-dated stratigraphic sequence. Consequently, the ceramic data underpin every other aspect of analysis undertaken on medieval and post-medieval material from the north Lanes, which the medieval *Research Agenda* for the North West describes as ‘the most significant urban project in the north of England’ (Newman and Newman 2007, 102). Whilst the site has very clear potential to provide a very significant contribution to many of the Initiatives set out in the regional *Research Agendas* for the medieval and post-medieval periods (*Section 5.4.10-17*), this potential cannot be realised if the pottery is not adequately analysed and published. For the post-medieval period, the urgent need for the publication of stratified ceramic assemblages from unpublished sites is singled-out as being of particular concern (Newman and McNeil 2007a, 117; Initiative 6.2).
- 6.4.30 *Partially completed report texts and catalogues*: it is recommended that incomplete artefactual and environmental reports (including appropriate catalogues) (Table 18) should be completed to an adequate standard for publication. The original authors have been invited to complete their reports, subject to timetabling and budgetary constraints. In cases where this is not possible (Table 18), other suitably qualified and experienced specialists should be sought to undertake the work. Existing texts and catalogues should be subjected to minor revision, including updating and the provision of more recent bibliographic references, as required. Texts in outdated digital formats should be converted, whilst those available only as paper copies should be digitised using text-recognition software or, in the case of heavily annotated reports, through manual keying directly into a computer. This should be done before the reports are sent to authors for completion.

6.4.31 Completion of all the reports detailed in Table 18 should provide a significant contribution to a number of Initiatives put forward in the Romano-British and medieval *Research Agendas* for the North West. These include Initiatives 3.2 and 3.4 in the Roman-period *Agenda* (Philpott and Brennand 2007, 55-7) and Initiative 5.20 in the *Agenda* for the medieval period (Newman and Newman 2007, 104), which seek to address the current backlog of unpublished material from sites in the North West, an issue which, it was felt, limited the scope of the *Resource Assessment* itself. The urgent need for systematic publication of well-stratified artefactual and environmental assemblages, especially those containing waterlogged material, is also stressed (Philpott and Brennand 2007, 66-7; Initiatives 3.31 and 3.33; Newman and Newman 2007, 95, 97; Initiative 5.1).

Report	Current format	Author(s)	Current status
<i>Pottery</i>			
Samian stamps (c 200 items)	Hard copy	B Dickinson	Requires checking; author unable to undertake work. Stephen Wadeson to complete
Roman coarse pottery (37,225 sherds, excluding mortaria)	Hard copy: 37 pages (catalogue entries integrated into text; no bibliography)	ML Hird	Substantial revision required; author unable to undertake revision. C Howard-Davis to complete
<i>Artefacts</i>			
Stone (Roman and post-Roman) (130 items)	Hard copies (two reports)	S Winterbottom, T Padley	Descriptive catalogue only for Roman objects; no post-Roman architectural stone report; authors unable to complete. C Howard-Davis to complete
Jet/Shale/Amber (Roman) (seven items)	Hard copy	T Padley	Descriptive catalogue only; author unable to complete. C Howard-Davis to complete
Glass (Roman) (2225 sherds)	Hard copy	J Price, S Cottam	Catalogue withheld; discussion not completed; author able to complete, subject to resolution of funding issues
Ceramic objects (Roman) (33 items)	Hard copy	T Padley	Descriptive catalogue only; author unable to complete. C Howard-Davis to complete
Post-Roman leather (shoes) (90 items)	Hard copy	T Padley	No report for post-Roman shoes; author unable to complete. C Howard-Davis to complete
<i>Environmental</i>			
Roman animal bone (residuality study) (2192 fragments)	Hard copy	S Stallibrass	Pilot study conducted on Roman material only; author able to complete

Table 18: Partially completed north Lanes specialist reports requiring further work prior to publication

6.4.32 *Samian stamps*: the draft report on the c 200 samian stamps is incomplete, as only 154 of the stamps have been catalogued. It is recommended that the catalogue should therefore be completed and the report should undergo final checking (B Dickinson *pers comm*). Site period details need to be added to the catalogue of stamps, and the finalised dates of the stamps as given in the report

should be checked against those in the samian archive listing. Any discrepancies in the archive listing should be corrected, and the listing should be typed into an up-to-date database. The main report on the samian was never commissioned, and a full analytical report should therefore be produced (*Section 6.4.24-25*).

- 6.4.33 **Roman coarse pottery**: it is recommended that the draft report on the Roman coarse pottery should be extensively revised in the light of recent research into Roman pottery in Carlisle, and to rectify the omission of the extensive corpus of second-century material from the site (*Section 5.2.15*). To this end, it is recommended that the detailed pottery recording sheets present in the project archive should be reviewed in order to extract relevant data. Any outstanding stratigraphic problems should be addressed and the existing text for the Roman pottery report should be revised. The text should also be expanded in order to report adequately on the second-century material, which is presently largely omitted from the draft report.
- 6.4.34 **Stone**: only a descriptive catalogue of the Roman stone artefacts (83 objects, including four gemstones) has been prepared; the post-Roman architectural material (47 fragments) has nothing more than a basic listing (*Section 3.9.10*), although a full report on a group of roofing slates from KLA C has been produced. It is recommended that a brief discussion of both assemblages should therefore be produced, together with a more detailed catalogue of the post-Roman architectural fragments.
- 6.4.35 **Jet, shale and amber**: since only a descriptive catalogue of the assemblage (seven objects) has been completed (*Section 3.9.12*), a short discussion of its significance should be prepared.
- 6.4.36 **Glass**: subject to a satisfactory resolution of outstanding payment issues (*Section 3.9.13*), a rapid re-examination of the glass (2225 sherds) should be undertaken, in order to iron-out minor discrepancies in drawing lists and other records, and to check and revise the existing descriptive catalogue (J Price *pers comm*). Following this, a discussion of the stratified glass assemblage should be prepared. It is recommended that discussions should take place between the glass specialist and appropriate OA North personnel regarding these matters, and concerning the chronological and spatial distribution of the glass, in order to inform the discussion.
- 6.4.37 **Ceramic objects**: only a descriptive catalogue of the assemblage (33 objects) has been completed (*Section 3.9.14*). A brief discussion of the significance of the material should therefore be prepared.
- 6.4.38 **Post-Roman leather shoes**: only a very basic listing of the 90 post-Roman shoe fragments has been compiled (*Section 3.9.19*). A descriptive catalogue and discussion should therefore be prepared.
- 6.4.39 **Roman animal bone (residuality study)**: for the Roman animal bone assemblage, only minor revision of the principal report is required (S Davis *pers comm*; Table 16), and it is recommended that this should be completed. The post-Roman animal bone requires assessment followed by an appropriate level of

analysis (Section 6.2.7). However, further work on the residuality aspect of the Roman collection, which was the subject of a pilot study in 1996-7 (Section 3.11.2), should be undertaken, in order to inform understanding and interpretation of the Roman stratigraphic sequence, and the main animal bone report. Following consultations with the original author, Dr Sue Stallibrass, it is recommended that, in the first instance, the original databases and spreadsheets, currently in obsolete Paradox and QuattroPro formats, should be converted to modern (Access and Excel) formats by OA North IT personnel. Whilst no additional recording of primary data is needed, further statistical analysis of the data should be undertaken in order to build upon the pilot study. This should include the creation of indices of residuality for each of the studied contexts, and analysis of the degree of completeness of cattle-sized bone fragments (Stallibrass 1997, 11-12). The results of the analysis, and their significance for understanding and interpreting both the north Lanes stratigraphy and the Roman animal bone assemblage from the site, should then be presented in a report suitable for inclusion in the north Lanes publication.

- 6.4.40 The residuality study devised and trialled a new methodology for identifying and investigating animal bone residuality in complex urban stratigraphy, which can potentially be used as a model for other multi-phase sites. It is recommended that, other than a brief summary, the detailed methodological data should not be included in the north Lanes report itself, but should be published in a separate article in a peer-reviewed journal such as *Environmental Archaeology* or the *International Journal of Osteology*. However, if such an approach were not to be adopted, full methodological data should be included as an adjunct to the north Lanes report.
- 6.4.41 *Completed report texts and catalogues*: it is recommended that, for reasons of cost-efficiency, all completed pottery, artefactual and environmental reports (Table 19) should be published largely as they stand. In the absence of digital copies of most of the reports, an accurate word-count is not currently available, although it is estimated that the total may be in the region of 250,000 words (*c* 140,000 words of text, *c* 50,000 words in the catalogues and *c* 60,000 in the appendices). All reports in an outdated digital format should be converted. Those that exist only as hard copies should be digitised using text-recognition software to create electronic documents. In cases where the only existing hard copy has been annotated, making the use of text-recognition software unfeasible, the report should be keyed directly into a computer by hand. The original authors should be given the opportunity to undertake minor revisions in the light of recent research. In cases where this is not possible (Table 18), revision should be carried out by other appropriate personnel. An examination of the existing reports suggests that most require only minor revision, restricted largely to updating and the inclusion of more recent bibliographic references (C Howard-Davis *pers comm*). However, the Roman coarse pottery report is particularly outdated, largely as a result of recent advances in research, and will require more substantial revision. Other minor revisions should be undertaken as required to bring texts into line with current publication procedures.

6.4.42 As with the partially-completed reports (*Section 6.4.30-40*), completion of all the reports detailed in Table 19 should provide a significant contribution to a number of Initiatives put forward in the various *Research Agendas* for the North West. These include Initiative 2.1 in the prehistoric *Research Agenda* (Hodgson and Brennand 2007, 33), Initiatives 3.2 and 3.4 in the Roman-period *Agenda* (Philpott and Brennand 2007, 55-7) and Initiative 5.20 in the *Agenda* for the medieval period (Newman and Newman 2007, 104), which seek to address the current backlog of unpublished material from sites of their respective periods in the North West, an issue which, it was felt, limited the scope of the *Resource Assessment* itself. The urgent need to expand current datasets through the systematic publication of well-stratified artefactual and environmental assemblages, especially those containing waterlogged material, is also stressed in the Roman, medieval and post-medieval *Agendas* (Philpott and Brennand 2007, 66-7; Initiatives 3.31 and 3.33; Newman and Newman 2007, 95, 97, 112-4; Initiatives 5.1, 5.42 and 5.46; Newman and McNeil 2007a, 117; Initiative 6.1). The *Agenda* for the early medieval period points to the need to re-examine old excavation archives in order to identify potentially sub-Roman and early medieval cultural remains (Newman and Brennand 2007, 74, 79, 90; Initiatives 4.15 and 4.43).

Report	Current format	Author(s)	Comments
<i>Pottery</i>			
Roman graffiti (24 sherds)	Hard copy: 11 pages (integrated catalogue and text)	RSO Tomlin	Author unable to undertake revision. C Howard-Davis to complete
<i>Artefacts</i>			
Roman coins (270 items)	Hard copy: 16 pages (nine text and figures; seven catalogue)	D Shotter	Author able to undertake revision
Post-Roman coins (35 items)	Hard copy: three pages (integrated text and catalogues)	ERE Pirie <i>et al</i>	Authors unable to undertake revision. C Howard-Davis and J Zant to complete
Gold/silver (seven objects)	Hard copies (two reports): two pages (one Roman; one post-Roman; integrated texts and catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Copper alloy (350 objects)	Hard copies (two reports): 63 pages (36 Roman; 27 post-Roman, of which eight are text and 55 catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Iron (44 objects)	Hard copies (two reports): nine pages (five Roman; four post-Roman, of which two are text and seven catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Lead (26 objects)	Hard copies (two reports): six pages (three Roman, three post-Roman, of which one is text and five catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Tin/pewter (two objects)	Hard copy: one page (post-Roman, text and catalogue)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Roman gemstones (four items)	Word document: two pages (integrated text and catalogue)	M Henig	Author unable to undertake revision. C Howard-Davis to complete
Flints (162 objects)	Hard copy: 12 pages (four text, eight catalogue)	C Tolan-Smith	Author able to undertake revision
Ceramic building materials (2771 fragments)	Hard copy: six pages (Roman, integrated text and catalogue)	ML Hird	Author unable to undertake revision. C Howard-Davis to complete

Report	Current format	Author(s)	Comments
Bone/antler/ivory (52 objects)	Hard copies (two reports) 12 pages (eight Roman; four post-Roman, of which three are text and nine catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Wooden objects (63 objects)	Hard copies (two reports): 23 pages (15 Roman, eight post-Roman, of which five are text and 17 catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Inscribed wood (12 items)	Hard copy: two pages (Roman; integrated text and catalogue)	RSO Tomlin	Author unable to undertake revision. C Howard-Davis to complete
Leather (Roman shoes) (166 items)	Hard copy; 15 pages, of which 12 are text and three catalogues)	T Padley	Author unable to undertake revision. C Howard-Davis to complete
Leather (sheet) (116 items)	Hard copies (two reports): 23 pages (18 Roman; five post-Roman, of which seven are text and 16 catalogues)	S Winterbottom	Author able to undertake revision
Basketry (two items)	Wordstar document: one page (Roman, integrated text and catalogue)	ERT Allnutt	Author unable to undertake revision. C Howard-Davis to complete
Textiles (26 fragments)	Hard copy: seven pages (post-Roman): three text, two catalogue, two figures	P Walton-Rogers	Author able to undertake revision
<i>Environmental</i>			
Human bone (14 fragments)	Word document: 13 pages (Roman; ten text, three catalogue)	C Harding	Author able to undertake revision
Roman animal bone (main report) (1573 fragments selected for analysis)	Word document: 73 pages (19 text; 24 figures and tables; 30 appendices)	S Davis; B Connell	Author able to revise Roman report
Dendrochronology (203 samples analysed)	Word documents (two reports): 55 pages (29 text; 14 figures and tables; 12 appendices)	C Tyers (nee Groves)	Author able to undertake revision
Roman plant remains (148 samples analysed)	Wordstar document: 91 pages (54 text; 13 figures and tables; 24 appendices)	J Huntley	Revision to include writing-up of non-structural wood; author able to revise
Roman insect remains (104 samples analysed)	Word document: 125 pages (46 text; one figure; 78 appendices)	H Kenward <i>et al</i>	Author able to revise Roman report
Soil micromorphology (KLA C only)	Hard copy (AML report): two pages (one text; one table) (post-Roman)	R MacPhail	Author able to undertake revision

Table 19: completed north Lanes specialist reports requiring minor revision prior to publication

6.4.43 *Pottery illustrations*: the status of the pottery illustrations remains somewhat unclear. A near-complete series of publication drawings for the decorated samian assemblage is available, but none of the 200 samian stamps have been drawn (Table 7). Of the 74 mortaria stamps identified in the research design for mortaria (Hird *et al* 1996, 2), archive drawings for 49 have been located, together with 22 archive drawings of unstamped rims and one of a graffito (Table 7). Eight sheets containing 29 inked drawings of graffiti on Roman potsherds appears to represent the full complement of these illustrations (Table 7). No drawings of the post-Roman pottery, either in a completed or draft state, were located in the archive at Shaddon Mill.



- 6.4.44 *Samian*: it is recommended that the inked drawings of decorated samian sherds present in the north Lanes archive (Table 7) should be scanned, plated-up and labelled for publication. The few decorated sherds requiring illustration for which no drawings can be found should be extracted from the north Lanes archive in Shaddon Mill and drawn. Of the 200 potters' stamps, none of which is currently drawn, approximately 65 should be illustrated (B Dickinson *pers comm*).
- 6.4.45 *Mortaria*: the existing archive drawings of mortaria (Table 7) should be scanned, plated-up and labelled to publication standard. The drawings should first be checked by the specialist (Kay Hartley) to ensure that they are accurate representations of the stamps, since it is not clear if the extant drawings include revisions and corrections made by Kay or are earlier versions (K Hartley *pers comm*). The remaining, currently unillustrated, stamps (25 in number) should also be drawn.
- 6.4.46 *Roman graffiti*: the existing inked drawings, which appear to represent a complete set (Table 7), should be scanned, plated-up and labelled ready for publication.
- 6.4.47 *Post-Roman pottery*: some 49 boxes of post-Roman pottery selected by CAU/CAL personnel for illustration are present in the project archive. It is estimated that these contain the remains of approximately 233 individual vessels (219 medieval and 14 post-medieval; Table 7). CAU staff meeting minutes suggest that *c* 50% of this material was drawn in pencil (Table 7), but none of these drawings could be located in the archive. It is therefore recommended that the assemblage of material selected for illustration should be checked by a suitably qualified and experienced specialist, to ensure that all the material is appropriate for illustration, and that, subject to the check, the selected sherds are drawn to publication standard.
- 6.4.48 *Artefact illustrations*: for the most part, publication drawings have been completed for the Roman IRFs selected for illustration (*Appendix 1*). These drawings should be scanned and plated-up for publication, and any missing or incomplete labelling should be added. In the case of a few artefacts where drawings could not be located, it is recommended that the items in question should be extracted from the north Lanes archive and drawn afresh. Since no finished glass illustrations have been found, the largely pencil-drawn archive illustrations present in the project archive (Table 8) should be scanned and finished to publication standard. Four additional glass fragments listed in the draft catalogue do not appear to have been illustrated. These items should also be extracted from the archive and drawn.
- 6.4.49 The completed post-Roman IRF drawings (*Appendix 2*) should be scanned and plated-up for publication, and missing or incomplete labelling should be added. Where completed drawings are not available for objects selected for illustration, the good-quality archive illustrations present in the project archive (Table 8) should also be scanned and brought up to publication standard, as should the pencil archive drawings of post-Roman shoes present in the archive. In the 11 cases where selected artefacts do not appear to have been

illustrated (seven Roman items and four of post-Roman date; see *Appendices 1 and 2*), these items should be extracted from the archive and drawn.

- 6.4.50 It is recommended that selection should be made of a limited number of particularly significant and photogenic artefacts recovered from the excavations. The selected items should be extracted from the archive and photographed to publication standard, in order to illustrate and support the publication.
- 6.4.51 *Overview/discussion*: following completion of all outstanding elements of the artefactual and environmental reports, an overview and discussion of the assemblages should be produced, placing the material in its regional and national context. In order to discuss the significance of the site fully and to find comparators for the excavated data, library research should be undertaken to reference and obtain relevant specialist literature. Introductory and preliminary sections should also be produced, together with a full bibliography.
- 6.4.52 **Publication text**: following completion of the outstanding elements of the post-excavation programme, the individual reports should be edited and submitted to the relevant specialists for comment, following which they should be compiled into a final report for publication. This should be in the format described in *Section 9.3*. The contents of the accompanying DVD should also be compiled and edited, and the entire report should be submitted to English Heritage for review.
- 6.4.53 **Popular publication**: it is recommended that consideration should be given to the production of a popular publication on the results of the north Lanes project, in addition to the academic report. In the past, the lack of archaeological publications aimed at the interested general public has resulted in the archaeology of Carlisle having a fairly low profile locally, outside the professional archaeological community. Furthermore, the failure to publish the academic results of much of the fieldwork undertaken in the city during the past 30 years has also led to archaeology receiving a ‘bad press’ in some quarters. A popular account of the archaeological and historical significance of the Lanes would go a considerable way to addressing these issues, and could also be potentially tied into the proposed refurbishment of the archaeological displays and galleries at Tullie House Museum and Art Gallery.
- 6.4.54 It is therefore recommended that the popular publication should take the form of a colour booklet providing, for the general reader, a summary of the most significant and interesting findings, supported by a large number of illustrations, including photographs and reconstruction drawings. The booklet could be modelled broadly on that produced for the Carlisle Millennium project (OA North 2004). In order to enhance accessibility, it is recommended that the booklet be sold at nominal cost, and/or provided free of charge to local schools and other appropriate local community organisations.
- 6.4.55 **Project archive**: the north Lanes project archive requires thorough re-ordering and repackaging in order to bring it up to modern, nationally-recognised standards (Museum and Galleries Commission 1992; Owen 1995; Walker

1990), and to a standard suitable for deposition and long-term storage with the relevant receiving museum, in this case Tullie House Museum and Art Gallery, Carlisle (Tullie House Museum nd). Ordinarily, this work would be undertaken as part of the programme of works which forms the subject of this project design. However, it is envisaged that the Lanes archive as a whole will be dealt with during the proposed Stage 3 of the Carlisle Archives Project (OA North forthcoming), which will see the upgrading of the entire archive generated by CAU/CAL to a standard suitable for deposition and long-term storage with the appropriate receiving museums.

- 6.4.56 Upon completion of the north Lanes post-excavation and publication programme, it is recommended that consideration be given to supplying the Archaeological Data Service (ADS) in York with an appropriate level of digital information pertaining to the north Lanes project. The quantity of such data should be estimated, and discussions initiated with the ADS, in order to determine the cost of depositing the information.
- 6.4.57 **Management, monitoring and review:** adequate provision of time and resources for management and monitoring tasks must be built into the project. These tasks should include project monitoring, problem solving, advice and co-ordination, and conducting project meetings.
- 6.4.58 *Issues Log:* in accordance with *MoRPHE* (English Heritage 2006, 48), an Issues Log should be created at the commencement of the project. This should record all unforeseen events and discoveries, results of reviews, requests for changes, and any other issues that might otherwise be dispersed amongst a large number of documents. The Log should be regularly updated by the Project Manager when an issue is raised, and also when an issue is resolved.
- 6.4.59 *Project team review meetings:* in addition to the formal review at the end of Execution Stage 1, represented by *MoRPHE* Review Point R3 (*Section 6.3*), it is recommended also that two other review meetings are held with appropriate members of the project team, including in-house OA North staff and external specialists, in order to review progress, present and receive information and exchange ideas. The first meeting should be held as work on Execution Stage 1 commences, and should include all those specialists (internal and external) involved in the assessment work, together with the Project Executive and Project Manager from OA North. The second, involving all members of the project team and representatives of the project sponsor and stakeholders (see below), should take place towards the end of Execution Stage 2, following completion of the analysis and all the draft reports, in order to discuss the results and any lessons learned. Less formal meetings and/or e-mail discussions concerning specific aspects of the project and involving a smaller number of relevant team members, should also take place as and when required.
- 6.4.60 *Highlight Reports:* in accordance with *MoRPHE* (English Heritage 2006, 48), Highlight Reports providing brief but informative statements of progress should be issued at regular intervals throughout the lifetime of the project. These should follow the standard format already used by OA North for Highlight Reports relating to other English Heritage projects.

6.4.61 *Project Board*: it is further recommended that, in order to provide external quality assurance and monitoring, a Project Board should convene regular project review meetings, held at approximately three month intervals. The Project Board should comprise key members of the OA North project team (including the Project Executive and Project Manager), representatives of the sponsors, English Heritage, and of the project's stakeholders, Carlisle City Council, Cumbria County Council's Historic Environment Service and Tullie House Museum and Art Gallery. The make-up of the Board is likely to be very similar to that which is currently providing quality assurance and monitoring for a number of OA North projects in the City and District of Carlisle, including the Carlisle Millennium Project and the Carlisle Archives Project. The members of the existing Board have indicated a desire to maintain, by means of regular review meetings, an overview of all archaeological projects undertaken within Carlisle and its District.

---

## 7. UPDATED AIMS AND OBJECTIVES

---

### 7.1 INTRODUCTION

The present section follows the guidance of English Heritage regarding the formulation of updated project aims (English Heritage 1991a, 18-19; 2006, 12; nd, 2-3) This recommends that it is helpful to treat aims as major themes or areas of research to which objectives, which can be regarded as specific research questions, contribute. The specific items, or products (*Section 6.1.5*; English Heritage 2006, 12, 26-7), completion of which contributes towards the updated aims and objectives, and the tasks required to develop each product, are set out in *Section 8* and *Appendix 3*.

### 7.2 AIM 1

7.2.1 *To advance understanding of the sequence of human occupation in Carlisle from the prehistoric period to modern times.*

7.2.2 *Objective 1.1:* to complete outstanding analysis of all archaeologically significant stratigraphic, standing building, historical, artefactual, and ecofactual data recovered from the north Lanes, in order to identify and date the principal periods of human activity on the site, and to characterise in detail the different phases of occupation.

### 7.3 AIM 2

7.3.1 *To address national research priorities, as outlined in research documents produced by English Heritage and others.*

7.3.2 *Objective 2.1:* to determine the extent to which the north Lanes evidence can address research objectives related to processes of change, with particular reference to the transition from the late pre-Roman to early Roman periods, late Roman/early medieval developments, and the transition from medieval to post-medieval traditions.

7.3.3 *Objective 2.2:* to address nationally recognised chronological priorities, including the postulated change from military/official usage to civilian occupation in the Roman period, and the end of towns in Roman Britain.

7.3.4 *Objective 2.3:* to advance understanding of nationally significant archaeological themes, including the character and development of urbanism, and of patterns of craft and industry, in all historical periods, and the archaeology of the industrial period in Britain.

7.3.5 *Objective 2.4:* to contribute to research on the origins and development of Roman urban centres in the frontier zone, and to examine the degree to which such centres differed from those elsewhere in Roman Britain.

## 7.4 AIM 3

### 7.4.1 **To address regional research priorities, as identified in the period-based Resource Assessments and Research Agendas produced for the North West Region Archaeological Research Framework.**

7.4.2 **Objective 3.1:** to increase the published dataset for prehistoric activity in Carlisle, which is noted in the regional *Resource Assessment and Research Agenda* for the prehistoric period.

7.4.3 **Objective 3.2:** to provide a significant contribution to disseminating the backlog of unpublished material from Roman and medieval sites in the North West (the importance of the north Lanes is stressed in both the Roman and medieval *Resource Assessments*).

7.4.4 **Objective 3.3:** to increase understanding of the origins and development of Roman civil settlement in the region, including the character of occupation during the fourth century AD and beyond.

7.4.5 **Objective 3.4:** to address the urgent need for publication of well-stratified artefactual assemblages from Roman and medieval urban sites, including collections of waterlogged organic materials (in this respect, the Lanes is singled-out for mention in the medieval-period *Research Agenda*).

7.4.6 **Objective 3.5:** to advance research into possible continuity of occupation at Roman sites into the early medieval period, and to examine the hypothesis of population-shift away from towns at the end of the Roman period.

7.4.7 **Objective 3.6:** to seek to identify potentially ‘British’ cultural remains in late Roman/early post-Roman levels, including animal bones and other ecofactual evidence, and to assess the possibility of continued use of ‘Roman’ artefacts into the post-Roman period.

7.4.8 **Objective 3.7:** to address the paucity of dating evidence for potential sub-Roman/early medieval activity in the region through a programme of radiocarbon dating.

7.4.9 **Objective 3.8:** to advance understanding of the origins and development of medieval urban centres in the North West, through publication of what the medieval-period *Research Agenda* describes as ‘the most significant urban project in the north of England’ (Newman and Newman 2007, 102).

7.4.10 **Objective 3.9:** to address, through assessment and analysis of unprocessed and unreported palaeoenvironmental samples and structural wood, concerns raised by the medieval-period *Research Agenda* over the likely deterioration through time of waterlogged materials recovered from Carlisle.

7.4.11 **Objective 3.10:** to advance understanding of medieval ceramic typologies in Carlisle, one of the few sites in the region where a sequence of forms and fabrics can be suggested.

- 7.4.12 **Objective 3.11:** to increase the limited datasets currently available for the transition from medieval to early post-medieval traditions in towns and cities of the North West.
- 7.4.13 **Objective 3.12:** to advance knowledge of regional typologies for post-medieval ceramics, which are currently poorly-understood, through publication of ‘backlog’ assemblages (Carlisle is mentioned specifically in this respect in the post-medieval *Research Agenda*).
- 7.4.14 **Objective 3.13:** to seek to address the paucity of data for industrial processes in the early post-medieval period, particularly in urban centres.
- 7.4.15 **Objective 3.14:** to investigate chronological and spatial patterning in the seemingly rapid transformation of the Lanes to an area of densely-packed housing and light industrial premises during the late post-medieval period, and to shed light on the reasons behind this development.
- 7.4.16 **Objective 3.15:** to enhance knowledge of health, diet, consumption patterns and resource exploitation in late post-medieval urban centres, through investigation of materials from pits and other features, and to seek to link site data to documentary records of families and individuals with known trades and/or social status.
- 7.4.17 **Objective 3.16:** to address the imbalance, highlighted by the industrial-period *Research Agenda*, in the study of late post-medieval housing, shops and light industrial premises, compared to the wealth of research undertaken on major technological developments in the region.
- 7.4.18 **Objective 3.17:** to address the current paucity of archaeological evidence for the everyday lives of the region’s urban poor in the industrial period, particularly those in centres which either failed to industrialise or where, as in Carlisle, industrialisation was relatively modest.

## 7.5 AIM 4

- 7.5.1 **To ensure specialists undertaking assessment of previously unassessed artefactual and environmental assemblages (Execution Stage 1) have access to appropriate material, to facilitate assessment and reporting.**
- 7.5.2 **Objective 4.1:** to arrange transport of artefactual and environmental assemblages requiring assessment to appropriate external specialists.
- 7.5.3 **Objective 4.2:** to arrange transport of artefactual and environmental assemblages requiring assessment to appropriate specialists within OA/OA North.

## 7.6 AIM 5

- 7.6.1 *To undertake formal archaeological assessment (Execution Stage 1) of those categories of artefactual and environmental materials that have not previously been assessed.*
- 7.6.2 *Objective 5.1:* to assess the assemblage of clay tobacco pipes from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.3 *Objective 5.2:* to assess the assemblage of Roman and post-Roman metalworking debris from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.4 *Objective 5.3:* to assess the assemblage of post-Roman animal bones from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.5 *Objective 5.4:* to assess the assemblage of Roman and post-Roman structural wood from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.6 *Objective 5.5:* to assess the assemblage of post-Roman charred and waterlogged plant remains from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.7 *Objective 5.6:* to assess the assemblage of post-Roman insect remains from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.8 *Objective 5.7:* to assess the assemblage of Roman and post-Roman marine mollusc shells from the site, and to produce an assessment report containing proposals for analysis and publication, if appropriate.
- 7.6.9 *Objective 5.8:* to assess the assemblages of animal bones, charcoal and other suitable materials from sub-Roman/early post-Roman (Period 12) deposits for their suitability for radiocarbon dating, and to prioritise samples for radiocarbon assay.

## 7.7 AIM 6

- 7.7.1 *To undertake a review of the results of Execution Stage 1.*
- 7.7.2 *Objective 6.1:* to carry out, in accordance with *MoRPHE* (English Heritage 2006), a review of the results of the assessment of unassessed assemblages (Execution Stage 1) against the project's aims and objectives.
- 7.7.3 *Objective 6.2:* to prepare an updated project design for Execution Stage 2 (analysis and reporting), incorporating, if appropriate, proposals for further work on the assemblages assessed during Execution Stage 1.



## 7.8 AIM 7

- 7.8.1 *To ensure specialists undertaking analysis and reporting of artefactual and environmental assemblages (Execution Stage 2) have access to appropriate material and (where relevant) existing report texts, drawings and catalogues, to facilitate analysis and reporting.*
- 7.8.2 *Objective 7.1:* to arrange transport of artefactual and environmental assemblages requiring analysis and reporting to appropriate external specialists.
- 7.8.3 *Objective 7.2:* to arrange transport of artefactual and environmental assemblages requiring analysis and reporting to appropriate specialists within OA/OA North.

## 7.9 AIM 8

- 7.9.1 *To compile a context database for the north Lanes.*
- 7.9.2 *Objective 8.1:* to compile a basic database of all north Lanes contexts (c 8600 in total), in order to provide a minimum level of information required by specialists, in order to facilitate assessment, analysis and reporting.

## 7.10 AIM 9

- 7.10.1 *To prepare a stratigraphic narrative for the north Lanes suitable for publication, based on the data generated by the archaeological excavations.*
- 7.10.2 *Objective 9.1:* to complete the stratigraphic narrative for the pre-Roman and Roman phases on the site, based on the incomplete text present in the archive, supplemented, where necessary, by additional contextual and other information derived from the detailed phasing texts.
- 7.10.3 *Objective 9.2:* to produce a stratigraphic narrative for the post-Roman phases on the site, based on detailed phasing texts present in the archive.
- 7.10.4 *Objective 9.3:* to integrate summaries of the most significant artefactual and environmental data into the stratigraphic narratives, as required, in order to provide an indication of the range of materials recovered from specific buildings, structures and activity areas.

## 7.11 AIM 10

- 7.11.1 *To prepare a narrative, suitable for publication, from the standing building recording evidence recovered from the northern and southern Lanes, supplemented by appropriate social history data.*
- 7.11.2 *Objective 10.1:* to undertake a programme of map regression analysis, in order to chart the development of the Lanes area.

- 7.11.3 **Objective 10.2:** to match the photographic, drawn and written records for each of the Lanes standing buildings.
- 7.11.4 **Objective 10.3:** to compile a stratigraphic narrative for each of the lanes within the excavated areas, describing each building plan-type, in order to create a research archive.
- 7.11.5 **Objective 10.4:** to produce a report suitable for publication, synthesised from the research archive.
- 7.11.6 **Objective 10.5:** to gather and collate social history evidence for the Lanes area during the nineteenth and twentieth centuries.
- 7.11.7 **Objective 10.6:** to integrate the standing building text and social history information with the archaeological evidence, if possible.

## 7.12 AIM 11

- 7.12.1 ***To prepare a summary, suitable for publication, of the historical research undertaken on the Lanes area, based on notes present in archive.***
- 7.12.2 **Objective 11.1:** to liaise with Bruce Jones, the compiler of the historical research notes, to provide an opportunity to contribute to the report, and to discuss issues relating to the documentary sources.
- 7.12.3 **Objective 11.2:** to digitise the historical notes present in the archive using text-recognition software.
- 7.12.4 **Objective 11.3:** to select appropriate material from the historical notes, and to re-order, collate, and edit the material to produce a summary report suitable for publication.
- 7.12.5 **Objective 11.4:** to assess the feasibility of integrating the documentary evidence into the stratigraphic text produced for the excavated data and standing building recording information.

## 7.13 AIM 12

- 7.13.1 ***To prepare an overview and discussion of the archaeological, standing building, social history and historical evidence for the Lanes.***
- 7.13.2 **Objective 12.1:** to undertake library research in order to discuss fully any comparative data.
- 7.13.3 **Objective 12.2:** to prepare introductory and discursive chapters, in order to place the site in its regional and national context.
- 7.13.4 **Objective 12.3:** to prepare a full bibliography of referenced primary and secondary sources.

## 7.14 AIM 13

- 7.14.1 *To prepare a series of illustrations for inclusion in the archaeological and standing building report, to illustrate and support the narrative.*
- 7.14.2 *Objective 13.1:* to complete, digitally and to publication standard, the partially finished phase plans for the pre-Roman and Roman phases present in archive, including splitting oversized plans where necessary.
- 7.14.3 *Objective 13.2:* to complete, digitally and to publication standard, an appropriate number of post-Roman phase plans, based on pencil drawings present in the archive.
- 7.14.4 *Objective 13.3:* to prepare an appropriate number of additional drawings, potentially including sections, elevations and detailed plans, as required, based on primary site drawings.
- 7.14.5 *Objective 13.4:* to produce a series of drawings illustrating and supporting the standing building narrative, based on drawings selected from the project archive.
- 7.14.6 *Objective 13.5:* to check all completed drawings against the report text, to ensure accuracy and consistency.

## 7.15 AIM 14

- 7.15.1 *To produce a series of photographs to illustrate and support the stratigraphic and standing building narrative and the published drawings.*
- 7.15.2 *Objective 14.1:* to draw up a list of plates for inclusion in the stratigraphic narrative, selected from the project archive, and to generate digital copies of plates selected for publication.
- 7.15.3 *Objective 14.2:* to draw up a list of plates for inclusion in the standing building narrative, selected from the project archive, and to generate digital copies of plates selected for publication.
- 7.15.4 *Objective 14.3:* to assess the availability of aerial photographs, early photographs, and other historical images of the north Lanes area, in order to support and illustrate the archaeological, standing building and social history evidence.

## 7.16 AIM 15

- 7.16.1 *To produce publication-standard reports for those assemblages that have not been reported, except those requiring assessment (see Aim 5).*
- 7.16.2 *Objective 15.1:* to produce a full analytical report on the samian assemblage from the site, including a descriptive catalogue of the illustrated decorated sherds and a discussion of the stratified assemblage.

- 7.16.3 **Objective 15.2:** to produce a full analytical report on the mortaria assemblage from the site, including a descriptive catalogue of the illustrated sherds (including stamps) and a discussion of the stratified assemblage.
- 7.16.4 **Objective 15.3:** to produce a full analytical report on the medieval pottery from the site, including a descriptive catalogue of the illustrated sherds and a discussion of the stratified assemblage.
- 7.16.5 **Objective 15.4:** to produce a full analytical report on the post-medieval pottery from the site, including a descriptive catalogue of the illustrated sherds and a discussion of the stratified assemblage.

## 7.17 AIM 16

- 7.17.1 ***To complete partially complete artefactual and environmental reports and catalogues, to a standard suitable for publication.***
- 7.17.2 **Objective 16.1:** to convert all partially completed reports and catalogues available in outdated digital formats to documents in a currently accepted format.
- 7.17.3 **Objective 16.2:** to digitise all partially completed reports and catalogues available only in hard copy using text-recognition software or, where this is not possible, by manually keying texts directly into a computer, to create electronic documents.
- 7.17.4 **Objective 16.3:** to provide the opportunity for original authors of partially completed reports and catalogues to complete and revise their work, or to arrange for incomplete reports and catalogues to be revised by appropriate OA North personnel or external specialists, in cases where the original authors are unwilling or unable to undertake revision.

## 7.18 AIM 17

- 7.18.1 ***To update and revise, as required, all complete or substantially complete artefactual and environmental reports and catalogues, to a standard suitable for publication.***
- 7.18.2 **Objective 17.1:** to convert all completed reports and catalogues available in outdated digital formats to documents in a currently accepted format.
- 7.18.3 **Objective 17.2:** to digitise all completed reports and catalogues available only in hard copy using text-recognition software or, where this is not possible, by manually keying texts directly into a computer, to create electronic documents.
- 7.18.4 **Objective 17.3:** to provide the original authors of completed reports and catalogues the opportunity to undertake minor revisions in the light of recent research, or to arrange for completed reports and catalogues to be revised by appropriate OA North personnel or external specialists, in cases where the original authors are unwilling or unable to undertake revision.

## 7.19 AIM 18

7.19.1 *To prepare a series of publication-standard illustrations to illustrate and support the Roman and post-Roman pottery reports.*

7.19.2 *Objective 18.1:* to finish the 81 inked drawings of decorated samian sherds present in the archive, including digitisation, and to locate and draw any missing sherds.

7.19.3 *Objective 18.2:* to produce *c* 65 illustrations of samian stamps.

7.19.4 *Objective 18.3:* to finish the 72 archive drawings of mortaria sherds present in the archive, including digitisation, in consultation with Kay Hartley.

7.19.5 *Objective 18.4:* to produce illustrations of the 25 mortaria stamps that are currently unillustrated, in consultation with Kay Hartley.

7.19.6 *Objective 18.5:* to finish the 29 existing inked drawings of graffiti on Roman pottery sherds, including digitisation.

7.19.7 *Objective 18.6:* to check the assemblage of *c* 233 post-Roman pottery vessels selected for illustration by CAU/CAL, and to prepare publication-standard illustrations of the selected material.

## 7.20 AIM 19

7.20.1 *To prepare a series of publication-standard illustrations to illustrate and support the Roman and post-Roman artefactual reports.*

7.20.2 *Objective 19.1:* to finish the 447 completed drawings of Roman IRFs present in the archive, including digitisation.

7.20.3 *Objective 19.2:* to produce drawings of seven Roman IRFs selected for illustration, where drawings cannot be located.

7.20.4 *Objective 19.3:* to finish the 118 pencil-drawn illustrations of Roman glass present in the archive, including digitisation.

7.20.5 *Objective 19.4:* to produce drawings of four Roman glass sherds selected for illustration, where drawings cannot be located.

7.20.6 *Objective 19.5:* to finish the 81 completed drawings of post-Roman IRFs present in the archive, including digitisation.

7.20.7 *Objective 19.6:* to finish the 70 archive drawings of post-Roman IRFs present in the archive, including digitisation.

7.20.8 *Objective 19.7:* to finish the 34 pencil-drawn illustrations of post-Roman shoes present in the archive, including digitisation.

7.20.9 **Objective 19.8:** to produce drawings of the four post-Roman IRFs selected for illustration, where drawings cannot be located.

7.20.10 **Objective 19.9:** to make a selection of some of the most significant artefacts recovered from the north Lanes excavations, and to produce a series of publication-standard photographs of these, to support and illustrate the publication.

## 7.21 AIM 20

7.21.1 ***To prepare an overview of the significance of the finds and environmental assemblages from the north Lanes excavations, and to place them in their regional and national context.***

7.21.2 **Objective 20.1:** to conduct library research in order to facilitate the production of an adequate discussion of the artefactual and environmental assemblages.

7.21.3 **Objective 20.2:** to produce an overview (discussion) of the significance of the artefactual and environmental assemblages from the site, together with introductory and preliminary sections and a full bibliography.

## 7.22 AIM 21

7.22.1 ***To disseminate the detailed academic results of the north Lanes project by means of appropriate publication media.***

7.22.2 **Objective 21.1:** to edit the completed stratigraphic, standing buildings, documentary, artefactual and environmental reports.

7.22.3 **Objective 21.2:** to submit the edited specialist reports to the appropriate authors for comments and, following internal revision, to compile them into a report (including a DVD) suitable for publication.

7.22.4 **Objective 21.3:** to submit the final edited report to English Heritage, and to appropriate external referees, for formal review.

## 7.23 AIM 22

7.23.1 ***To disseminate the results of the Lanes project to a general audience, and in particular to the inhabitants of Carlisle, through the production of an accessible and well-illustrated ‘popular’ publication.***

7.23.2 **Objective 22.1:** to produce a text summarising the most significant results of the Lanes excavation and standing building recording programme, suitable for a general audience.

7.23.3 **Objective 22.2:** to produce an appropriate number of illustrations, including photographs and reconstruction drawings, in order to illustrate and support the text.

## **7.24 AIM 23**

7.24.1 *To supply the Archaeological Data Service (ADS) with an appropriate level of digital information pertaining to the north Lanes project.*

7.24.2 *Objective 23.1:* to produce an estimate of the likely quantity and scope of the digital data to be supplied to the ADS.

7.24.3 *Objective 23.2:* to initiate discussions with the ADS, in order to determine the cost of depositing the digital information.

## **7.25 AIM 24**

7.25.1 *To undertake effective management and monitoring of the north Lanes publication programme.*

7.25.2 *Objective 24.1:* to compile and maintain an Issues Log, in accordance with MoRPHE.

7.25.3 *Objective 24.2:* to hold review meetings at the commencement of Execution Stage 1, and towards the end of Execution Stage 2, in order to review progress, present and receive information, and exchange ideas.

7.25.4 *Objective 24.3:* to produce Highlight Reports, providing progress statements, at regular intervals throughout the lifetime of the project.

7.25.5 *Objective 24.4:* to establish and maintain a Project Board, comprising key members of the project team and representatives of the project sponsors and stakeholders, and to convene regular meetings of the Board, to provide external quality assurance and monitoring.

---

## 8. METHOD STATEMENT

---

### 8.1 INTRODUCTION

8.1.1 In accordance with English Heritage guidance (English Heritage 2006), fulfilment of the revised research aims and objectives outlined in *Section 7* requires the completion of a series of products and tasks. The following section details the methods that are needed during the execution Stage of the north Lanes project (*op cit*, 14) in order to complete the products and tasks required. The link between methods, products, tasks and objectives is given in the following section, and both methods and objectives are linked to the products and tasks in the Task List (*Appendix 3*). All the work will be undertaken in accordance with the models for assessment, analysis, reporting and publication of archaeological projects set out in the second edition of English Heritage's *Management of Archaeological Projects* (English Heritage 1991a), and in *MoRPHE* (English Heritage 2006).

### 8.2 EXECUTION STAGE 1: ASSESSMENT

8.2.1 *Tasks 1-30*: contribute to Objectives 1.1; 2.1-2.4; 3.2-3.9; 3.11; 3.13; 3.15; 3.17; 4.1-4.2; 5.1-5.8

8.2.2 ***Transport of materials requiring assessment (Tasks 1-2; Objectives 4.1-4.2)***: arrangements will be made to transport all relevant artefactual and environmental assemblages requiring assessment to the appropriate external specialists, or to OA North's premises in Lancaster, where the work is to be undertaken by in-house OA North personnel, in order to facilitate assessment and reporting of the material. This will be done at an early stage in the project.

8.2.3 ***Compatibility of data supplied to the ADS (Task 3; Objectives 23.1-23.2)***: to ensure that all databases and other digital data generated during the north Lanes Project meet ADS guidelines, specialists will be informed of this requirement at the commencement of the project. To this end, they will also be asked to complete a short form describing the data format and the fields used in their data tables.

8.2.4 ***Assessment of clay tobacco pipe (Tasks 4-6; Objectives 1.1; 2.2-2.3; 3.2; 3.11; 3.15; 3.17; 5.1)***: since no work on the north Lanes clay tobacco pipes (392 fragments) appears to have been carried out by CAU, the assemblage will require assessment prior to the commencement of any analytical work. The assemblage will be located in the Shaddon Mill store, extracted, and transported to OA North's premises in Lancaster for assessment by a suitably qualified and experienced specialist. The material will be quantified and weighed by context and site period and the fragments examined for marks and other diagnostic features; provisional date ranges will also be provided (D Higgins *pers comm*). The amount of intrusive and residual material will also be quantified, and comments on the condition of the assemblage will be incorporated into the record. A brief report detailing the results of the assessment will be prepared, which will include costed proposals for further



analysis, if appropriate. Methodologies for analysis of the clay tobacco pipe assemblage cannot be developed prior to completion of the assessment. However, it is likely that detailed analysis of any selected material and reporting will have potential to aid dating of the post-medieval stratigraphic sequence, supplementing the data provided by the relatively small assemblage of post-medieval pottery (*Section 8.4.28*), and may be of value in elucidating certain aspects of site activity. Further analysis of makers' stamps may also shed light on clay pipe manufacture and distribution, both in Carlisle and more widely in the region. A report suitable for publication will be prepared, if appropriate. As a very rough guide, it is estimated that any report produced for publication will not exceed *c* 1000 words, whilst the accompanying catalogue may run to *c* 3000 words.

- 8.2.5 ***Assessment of metalworking debris (Tasks 7-9; Objectives 1.1; 2.3-2.4; 3.3-3.4; 3.8; 3.11; 3.13; 3.15; 5.2)***: the assemblage of metalworking debris recovered from the northern Lanes, comprising 13 boxes of material of unknown weight and date, was seemingly neither assessed nor analysed by CAU. The material will therefore be assessed for its archaeological potential by a suitably qualified and experienced specialist at an early stage in the project. To facilitate this, the material will be located within the Shaddon Mill store, extracted, and transported to the specialist. Only securely stratified collections that can be confidently assigned to a site period will be examined. The assemblage will be categorised on the basis of morphology and each category of material in each context will be weighed. Smithing hearth bottoms will be measured and weighed individually. An assessment report will be produced, which will include costed proposals for further analysis, if appropriate. Detailed methodologies for analysis of the metalworking debris cannot be developed prior to completion of the assessment. However, it is probable that any material selected for analysis will be recorded on a context-by-context basis, in sufficient detail to identify the industrial processes that generated the material. In certain cases, chemical, metallurgical and other appropriate analyses may be required in order to elucidate the nature and significance of certain residues. Any analysis will result in the production of a report suitable for publication, in which the evidence will be considered alongside other artefactual data from the same contexts and phases, in order to enhance understanding of the development of metalworking and other industrial activities on the site. As a very rough guide, it is estimated that any report produced for publication will not exceed *c* 3000 words (*Section 9.3*).
- 8.2.6 ***Assessment of post-Roman animal bone (Tasks 10-12; Objectives 1.1; 2.1; 2.3; 3.2; 3.4; 3.8; 3.11; 3.15; 3.17; 5.3)***: for the important assemblage of post-Roman animal bone (estimated at *c* 80-100 boxes), a formal archaeological assessment of the potential of the material, followed by an appropriate level of analysis, is required, since the collection was excluded from CAU's post-excavation programme. To facilitate this, the material will be located within the Shaddon Mill store, extracted, and transported to a suitably qualified and experienced specialist. The assessment will consider only those elements of the assemblage that derive from well-stratified deposits that can be confidently attributed to a specific site period. In order to make best use of resources, further sub-sampling will be undertaken within the stratified assemblage,

taking into consideration the site phasing, the condition of the bone and the presence of any particularly significant stratigraphic features. As a rough guide to the quantities of bone that may be subjected to assessment, it should be noted that approximately 35% of the total assemblage of Roman bone from the northern Lanes was assessed (Stallibrass 1997, 4), whilst assessment was undertaken on *c* 30% of the total assemblage of animal bones recovered from the Carlisle Millennium excavations (Bates 2002). Proportionally, therefore, it is possible that up to *c* 35 boxes of post-Roman material may require assessment.

- 8.2.7 For each site period, an attempt will be made to include a representative cross-section of context types, although deposits of limited size and/or with a high potential for residuality, such as posthole fills, will be largely excluded from the assessment. All assessed bone will be weighed and quantified by context. In most cases, all the bone from a selected context will be assessed, although for very large collections a random sub-sample will be made. In addition to a total fragment count, the number of fragments suitable for anatomical measurements, epiphyseal fusion data and ageing data will be estimated. Notes will be made on any unusual aspects of the assemblage, such as the presence of bones from scarcely-represented species, unusually treated bones or particularly biased sets of elements. An approximate indication of the relative proportions of the principal species present in the collection will be provided. A report detailing the results of the assessment will be prepared, which will include costed proposals for further analysis, if appropriate.
- 8.2.8 Detailed methodologies for analysis of the post-Roman animal bone cannot be developed prior to completion of the assessment. However, comparative data from the Millennium excavations (Evans and Bates forthcoming) suggest that a substantial proportion of the stratified assemblage may require detailed analysis. If this proves to be the case, the material that was not subjected to assessment (which is likely to comprise approximately 65% of the total assemblage; *Section 8.2.6*) will, in the first instance, be recorded. The overall objectives of any analytical work will be to enhance understanding of consumption patterns in medieval and post-medieval Carlisle, to determine which species were exploited, and to illuminate the economic relationship between the city and its hinterland. Spatial analysis of the assemblage will potentially enhance understanding of site usage, and may highlight significant differences in the assemblages recovered from neighbouring tenements, with all that might imply in terms of status and/or function. Analysis of fragment counts, with reference to taphonomic processes and possible biases in the assemblages, may improve understanding of changes in the relative proportions of species through time, whilst tooth wear, biometric data and fusion data will be used to determine the age of the animals when slaughtered, and the relative proportions of male and female animals. Recording of pathological indicators could also shed light on treatment and health. Appropriate data will be compiled in a report suitable for publication. As a very rough guide, it is estimated that any report produced for publication will not exceed 10,000 words, whilst the accompanying catalogue may also run to *c* 10,000 words.

- 8.2.9 **Assessment of structural wood (Tasks 13-16; Objectives 1.1; 3.2-3.4; 3.8-3.9; 5.4)**: some 65 individual pieces of north Lanes structural wood, together with nine boxes containing an unknown number of other fragments, are known to be present in the former CAU/CAL archive at Shaddon Mill, Carlisle. The condition of the wood is, however, unknown, and no assessment or analytical reports appear to have been prepared by CAU. The material will, therefore, be assessed by an experienced member of the OA North team, assisted by another team member familiar with the Shaddon Mill store. In view of the nature of the material, the initial scan will be undertaken within the Shaddon Mill store. To facilitate this, the material will be located within the store and extracted. Further assessment will be dependent upon the condition of the timber. Any pieces sufficiently well-preserved to warrant assessment, and which came from well-stratified deposits, will be examined for evidence of carpentry joints, method of conversion, reuse and so on, and a brief record of each will be made. This work will also be undertaken within the Shaddon Mill store. A discard policy will be formulated for those pieces that have degraded to the extent that they no longer contain any useful archaeological data. A report detailing the results of the assessment will be prepared, which will include costed proposals for further analysis, if appropriate. Methodologies for analysis of the structural wood cannot be developed prior to completion of the assessment. However, it is likely that, if analysis is considered worthwhile, those timbers which are sufficiently well-preserved will be recorded in detail for evidence of conversion (including tool marks), carpentry joints, and possibly woodland management. Samples will also be taken for species identification. Appropriate data will be incorporated in a report suitable for publication. As a very rough guide, it is estimated that any report produced for publication will not exceed 3000 words, whilst the accompanying catalogues may run to c 5000 words.
- 8.2.10 **Assessment of post-Roman plant remains (Tasks 17-22; Objectives 1.1; 2.3; 3.2; 3.8-3.9; 5.5)**: it is estimated that c 264 soil samples were taken from post-Roman deposits on the north Lanes site (c 261 from medieval levels and three from post-Roman contexts; *Section 3.11.7*), virtually all of which were excluded from CAU's post-excavation programme. Of these, 80 medieval samples can be disregarded, since they came from deposits that are likely to have had high levels of residuality (*Section 5.2.47*), and which therefore have little archaeological potential. Likewise, all three post-medieval samples came from deposits with very low potential (*Section 5.2.61*). The remaining medieval samples (up to 181, but probably less; *Section 5.2.47*) require formal environmental assessment of their potential for the survival of charred and waterlogged plant remains, followed by an appropriate level of analysis. Unlike the durable animal bone, however, the plant remains recovered from the site in soil samples are much more prone to deterioration over time, especially in the case of waterlogged materials. In the first instance, therefore, it will be necessary to extract all surviving post-Roman samples from the north Lanes archive at Shaddon Mill and assess their current condition. This assessment will be undertaken by a suitably qualified and experienced member of the OA North team assisted by another team member with knowledge of the whereabouts of the material within the Shaddon Mill store. In view of the bulky nature of the material, the initial scan of the samples will be undertaken

within the Shaddon Mill store. The scan will be undertaken in order to identify and exclude any samples that are clearly no longer suitable, for example where bags have become torn, exposing the contents, or where contextual information is missing.

- 8.2.11 Further assessment of the plant remains will be dependent upon the results of the initial scan of the remaining soil samples. In a worst case scenario, all the samples will be deemed unsuitable for assessment and will be recommended for discard. In cases where assessment is considered worthwhile, only those samples recovered from well-stratified contexts that can be confidently assigned to a site period will be selected for further work. A discard policy will be formulated for those samples that have degraded to the point where they no longer contain useful archaeological data, or for samples from poorly-stratified deposits.
- 8.2.12 The samples selected for further assessment will be transported to OA North's premises in Lancaster and will be assessed following English Heritage's guidelines for environmental archaeology (English Heritage 2002). Where sufficient material is available, a ten-litre sub-sample will be taken from each of the samples selected for assessment and will be hand-floated. For samples less than ten litres in size, 100% of the material will be processed. The flots will be retained on a 250µm mesh and air-dried, although some may be stored wet. The residues will be retained on 1mm mesh and checked for small artefacts, additional charcoal and plant remains. A representative sample of each flot will be scanned with a Leica MZ60 stereo microscope and the plant material, including fruits, seeds, charcoal, and wood fragments, will be recorded and provisionally identified. The plant remains will be quantified using a five-point scale, where 1 represents less than five individual items and 5 is abundant (more than 100 items). The matrix components will also be noted. A report will be prepared presenting the results of the assessment and providing costed proposals for further analysis, if appropriate.
- 8.2.13 In order to formulate well-defined recommendations for further analysis, OA North's Environmental Manager will consult with Jacqui Huntley, author of the report on the Roman plant remains from the north Lanes (Huntley in prep) and an English Heritage Regional Science Advisor. Methodologies for analysis of the post-Roman plant remains cannot be developed prior to completion of the assessment and the consultation process. However, the process of analysis, if considered worthwhile, is likely to be broadly similar to that undertaken for the Roman plant remains from the north Lanes (*op cit*, 7-8). The resulting data, which will be compiled in a report suitable for publication, may have the potential to shed light on many aspects of the environment and economy of the site during the medieval and post-medieval periods, including patterns of consumption and the nature and function of individual buildings, structures and activity areas.
- 8.2.14 Processing of samples selected for analysis will follow the same procedures as those undertaken for the assessment (*Section 8.2.12*). At this stage, however, the entire flot generated by each sample will be scanned and the plant materials will be identified and recorded in detail, except in the case of extremely large flots, where a known fraction of the material will be scanned.

Where possible, the plant remains will be identified with reference to modern reference material held by OA North. Waterlogged remains will be quantified following the methodology used during the assessment (*Section 8.2.12*), and which was also employed in the analysis of the Roman material from the site (*op cit*, 8). However, charred remains will be counted individually, since these usually relate predominantly to cereals, and the proportion of grain to chaff can potentially provide important information about crop processing (*ibid*). Matrix components will also be recorded, since these have the potential to aid interpretation of the character and formation of the deposits (*ibid*). Non-structural wood ('roundwood') will also be processed and analysed in the same way as the Roman material (*ibid*). The material will be frozen (and washed beforehand, if necessary) and the ends planed smooth, and sections will be cut to facilitate species identification. For complete roundwood, diameters will be measured and ring-counts taken, and evidence for woodland management, conversion, and carpentry will be recorded. As a very rough guide, it is estimated that any report produced for publication will not exceed 7000 words, whilst the accompanying catalogue might run to *c* 10,000 words.

- 8.2.15 **Assessment of post-Roman insect remains (Tasks 17-20; 23-25; Objectives 1.1; 2.3; 3.2; 3.8-3.9; 5.6)**: as with the plant remains (*Section 8.2.10*), the estimated 264 post-Roman samples from the north Lanes (of which a maximum of 181 derive from potentially significant deposits) were not assessed for insect remains, and will therefore require assessment of their potential, followed by analysis and reporting, if appropriate. Like the plant material, however, the invertebrate remains are prone to deterioration over time, so an initial scan will be undertaken in order to identify samples that are clearly no longer suitable (*Section 8.2.10*). Further assessment will be dependent upon the results of the initial scan of the soil samples. In cases where assessment is considered worthwhile, only those samples recovered from well-stratified contexts that can be confidently assigned to a site period will be selected for further work.
- 8.2.16 In view of the considerable expense involved in assessing what is likely to be a large number of samples (D Smith *pers comm*), even allowing for 'wastage' due to deterioration, a methodology has been devised, in consultation with an appropriately qualified and experienced specialist (Dr David Smith, University of Birmingham), to record levels of preserved insect remains at the same time as the samples are being assessed for their palaeobotanical potential. It is proposed that the specialist undertaking the assessment of the plant remains (Elizabeth Huckerby, OA North's Environmental Manager) will also record the level of preservation of invertebrate remains in all the assessed samples. Then, a representative sample of the processed flots (perhaps 20% of total, or up to 36 samples from a maximum assemblage of 181), will be sent to Dr Smith for checking, to confirm that the records accurately reflect the level of invertebrate preservation. Following this, the samples will be assessed for their potential by Dr Smith, and a report will be prepared, presenting the results of the assessment and providing costed proposals for further analysis, if appropriate.

- 8.2.17 Methodologies for analysis of the post-Roman insect remains cannot be developed prior to completion of the assessment. However, the process of analysis is likely to be broadly similar to that undertaken for insect remains from the Millennium excavations (Smith and Tetlow forthcoming). The resulting data, which will be compiled in a report suitable for publication, may have the potential to shed light on many aspects of the environment and economy of the site during the medieval and post-medieval periods, possibly including patterns of consumption and the nature and function of individual buildings, structures and activity areas.
- 8.2.18 Processing of any samples selected for analysis will follow similar procedures to those undertaken for the Millennium project (*ibid*). Both unprocessed soil samples and flots processed for assessment will be paraffin-floated using the standard method as outlined in Kenward *et al* (1980). The insect remains will be sorted and stored in ethanol. The Coleoptera (beetles) will be identified by direct comparison to the Gorham and Girling Collections of British Coleoptera, whilst the taxonomy will follow that of Lucht (1987). Where applicable, each species of Coleoptera will be assigned to one or more ecological groupings, derived from preliminary classifications outlined by Kenward (1978), such as ‘house fauna’ (species apparently particularly associated with human settlements; Kenward and Hall 1995) and those with other known synanthropic preferences. Dipterous (fly) puparia will be identified following Smith (1973; 1989) and, where possible, by direct comparison to reference specimens; taxonomy will follow that of Smith (1989). As a very rough guide, it is estimated that any report produced for publication will not exceed 4000 words, whilst the accompanying catalogue might run to *c* 10,000 words.
- 8.2.19 **Assessment of marine molluscs (Tasks 26-28; Objectives 1.1; 5.7):** it is known that a small assemblage of marine molluscs was collected from the north Lanes excavations. In the first instance, therefore, a search will be made of the north Lanes archive in Shaddon Mill, Carlisle, in order to locate the material. Any mollusc shell that is found, and which was recovered from well-stratified deposits, will be assessed for its potential by a suitably qualified and experienced member of the OA North team, which will require the transportation of the material to OA North’s premises in Lancaster. The assemblage will be subjected to a rapid scan, and species and quantities of shell fragments will be recorded on a context-by-context basis. A report detailing the results of the assessment will be prepared, which will include costed proposals for further analysis, if appropriate. Detailed methodologies for analysis of the mollusc shell cannot be developed prior to completion of the assessment. However, it is likely that any selected material will be analysed in sufficient depth to record details of species and quantification on a context-by-context basis, following which a report suitable for publication will be produced. The assemblage may have some potential to contribute to understanding of patterns of food consumption on the site, and of the exploitation of natural resources. As a very rough guide, it is estimated that any report produced for publication will not exceed 2000 words, whilst the accompanying catalogues might run to *c* 4000 words.

- 8.2.20 **Assessment of radiocarbon dating potential (Tasks 29-30; Objectives 1.1; 2.1-2.2; 3.2; 3.5-3.7; 5.8)**: no provision for radiocarbon dating was made by CAU during the course of the Lanes post-excavation programme. However, it seems clear that radiocarbon dating may potentially be of value in refining the chronology of the late Roman/early post-Roman activity on the site (*Section 5.4.5-8*). This may prove especially significant if it is possible to obtain a suite of dates from a number of deposits ranged throughout the stratigraphic sequence, since this will potentially permit the use of Bayesian statistical techniques to establish a more tightly-defined chronology. During the Millennium Project (Zant in press), radiocarbon determinations were obtained from a number of animal bone fragments selected from the 'dark earths' and from underlying 'late Roman' levels. These, when considered in conjunction with dating evidence provided by pottery and coins, demonstrated conclusively that occupation had continued into the fifth century AD, and quite probably well into the fifth century. One of the determinations was further suggestive of possible activity in the late ninth-eleventh century.
- 8.2.21 To this end, the assemblage of animal bones from the Period 12 levels, together with any charcoal or other suitable material that is noted during assessment of the post-Roman samples for plant and insect remains (*Section 8.2.10-18*), will be assessed for their potential for radiocarbon dating. English Heritage's Regional Science Advisor, Dr Sue Stallibrass, and Dr Alex Bayliss, Team Leader for the English Heritage Scientific Dating Team, will be consulted during the course of the assessment. Based on the results, which will be presented in a short assessment report, together with careful consideration of the Period 12 stratigraphy, it is likely that a number of samples will be prioritised for radiocarbon assay. The precise number of samples will be dependent upon the results of the assessment, but is unlikely to exceed 15. As a very rough guide, it is estimated that any report produced for publication will not exceed 1000 words, whilst the accompanying catalogue might run to a further 1000 words.

### **8.3 REVIEW (MORPHE REVIEW POINT R3)**

- 8.3.1 *Tasks 31-33*: contribute to Objectives 6.1-6.2.
- 8.3.2 Upon completion of Execution Stage 1, the results of the assessments will be reviewed against the project's aims and objectives. If appropriate, an updated project design shall be prepared, providing recommendations for analysis and publication, revised aims and objectives, a method statement and resource requirements for analysis and reporting during Execution Stage 2, beyond those contained in this report.
- 8.3.3 For those elements of the project that are already complete (subject to minor revision) or partially-complete, the proposals, aims and objectives, methodologies and resource requirements for Execution Stage 2, which are set out in the present report, will also be reviewed. If appropriate, revisions will be incorporated into an updated project design and resources will be sought to undertake Execution Stage 2.

## 8.4 EXECUTION STAGE 2: ANALYSIS AND PUBLICATION

- 8.4.1 *Tasks 34-197*: contribute to Objectives 1.1; 2.1-2.4; 3.1-3.17; 7.1-7.2; 8.1; 9.1-9.3; 10.1-10.6; 11.1-11.4; 12.1-12.3; 13.1-13.5; 14.1-14.3; 15.1-15.4; 16.1-16.3; 17.1-17.3; 18.1-18.6; 19.1-19.9; 20.1-20.4; 21.1-21.3; 22.1-22.2; 23.1-23.2; 24.1-24.2; 25.1-25.4.
- 8.4.2 ***Transport of materials to specialists (Tasks 34-35; Objectives 7.1-7.2)***: arrangements will be made to transport all relevant artefactual and environmental materials requiring additional analysis and reporting to the appropriate external specialists, or to OA North's premises in Lancaster, where the work is to be undertaken by OA North personnel, in order to facilitate analysis and reporting of the material. This will be done at the beginning of Execution Stage 2.
- 8.4.3 ***Stratigraphic, standing building and historical analysis (Tasks 36-69; Objectives 1.1; 2.1-2.4; 3.1-3.17; 8.1; 9.1-9.3; 10.1-10.6; 11.1-11.4; 12.1-12.3; 13.1-13.5; 14.1-14.3)***: a stratigraphic synthesis suitable for publication will be completed, based on the incomplete report present in the archive. To facilitate this, and other aspects of the analysis, a basic context database will be compiled. A programme of analysis and reporting will be undertaken that encompasses both the northern and southern Lanes. This will include map regression analysis, assessment of historical photographs (including aerial photographs) and other historical images, and detailed analysis of the standing building records in the project archive. Relevant social history data will also be gathered. The historical notes present in the archive will be used as the basis for a report on the documentary evidence for the Lanes area in the medieval and post-medieval periods. If possible, the standing building and social history data, together with the documentary evidence, will be integrated with the stratigraphic narrative, and a series of drawings and photographs will be prepared to accompany the stratigraphic, standing building and historical data.
- 8.4.4 *Context database (Task 36; Objectives 1.1; 8.1)*: since the lack of a context database will seriously hinder the process of assessment and analysis of some of the artefactual and environmental assemblages, a basic database for the c 8600 north Lanes contexts will be compiled. This will provide the minimum level of information needed by specialists, including trench designation, site period number, a brief description of context type ('pit fill', 'posthole cut', 'soil layer' and so on), and basic stratigraphic data (such as 'fill of', 'filled by', 'same as'). A copy of the context list will be included on a DVD.
- 8.4.5 *Stratigraphic text (Tasks 37-39; Objectives 1.1; 2.1-2.4; 3.1-3.17; 9.1-9.3)*: a stratigraphic text suitable for publication will be prepared, using as its basis the incomplete monograph report in the north Lanes archive. The report currently stands at 40,000 words, and provides a stratigraphic commentary for the pre-Roman and Roman sequence. At present the text contains inadequate contextual information (many of the described features and deposits are not referred to by context number) and the majority of the phase descriptions are not sufficiently detailed. The existing trench phase narratives (*Section 3.2.2*)



will therefore be consulted and additional information will be added to the report, as necessary.

- 8.4.6 Upon completion of the Roman text, a stratigraphic account of the post-Roman sequence will be prepared, incorporating artefactual and environmental information as appropriate, and an appropriate level of contextual information. The narrative text will be distilled from the existing trench phasing reports, and is likely to be of broadly similar length to the Roman report (approximately 60,000 words; *Section 9.3*). Since the phasing texts are highly detailed, it will not be necessary to consult the primary stratigraphic records unless obvious discrepancies are found within the phasing.
- 8.4.7 Once all specialist reports have been completed, the significance of the principal artefactual and environmental data will be integrated into the Roman and post-Roman narratives, in order to provide an indication of the range of materials recovered from specific buildings, structures and activity areas. These additions may increase the size of the existing Roman report from *c* 40,000 words (*Section 3.3.2*) to approximately 58,000 words (*Section 9.3*).
- 8.4.8 *Map regression analysis (Task 40; Objectives 1.1; 3.2; 3.11; 3.14; 3.16-3.17; 10.1)*: a programme of map regression analysis will be undertaken, in order to chart the development of the Lanes area from the mid-sixteenth century to the first half of the twentieth century. A particular focus of interest will be the pattern of infilling that occurred alongside the lanes and vennels, to the rear of the main street frontages, from the late eighteenth century. It is estimated that approximately 15-20 historical maps will be consulted.
- 8.4.9 *Standing building analysis and reporting (Tasks 41-43; Objectives 1.1; 3.2; 3.14; 3.16-3.17; 10.2-10.4)*: in view of the importance of the data accrued from recording the standing buildings, and the fact that little or no work was done on these structures in the south Lanes area, the analysis and reporting of the structures will encompass both the northern and southern Lanes. In the first instance, the photographic, drawn and written records for each of the standing buildings recorded in the Lanes will be matched and a stratigraphic summary compiled for each of the lanes, courts and vennels within the study area. A record will be compiled for each building-type but not for every individual structure, since this would be unduly repetitious. The records will be arranged chronologically where possible, creating a research archive. From this archive, a text suitable for publication will be synthesised. It is estimated that the standing building narrative may run to approximately 20,000 words (*Section 9.3*).
- 8.4.10 *Social history analysis (Tasks 44-45; Objectives 1.1; 2.3; 3.2; 3.14-3.17; 10.5)*: in order to 'people' the nineteenth- and twentieth-century landscape of the Lanes area, social history data will be gathered and collated from such sources as on-line census records and trade directories. Judith Alfrey's thesis on the social history of the Lanes (Alfrey nd) will also be consulted for any relevant data, in full consultation with Ms Alfrey. Together with a commentary on the late post-medieval cartographic evidence (*Section 8.4.8*), it is estimated that the social history data may add approximately 7000 words to the completed text.

- 8.4.11 *Integration of report texts (Task 46; Objectives 1.1; 3.2; 10.6)*: in order to create a seamless stratigraphic narrative charting the development of the tenements constituting the north Lanes from the medieval period to the late twentieth century, the standing building text will be integrated into the excavated evidence for the late post-medieval sequence on the north Lanes. If possible, an appropriate level of social history information will also be integrated into the archaeological and standing building recording narrative.
- 8.4.12 *Historical research (Tasks 47-50; Objectives 1.1; 2.1; 2.3; 3.2; 3.11; 3.14-3.15; 3.17; 11.1-11.4)*: Bruce Jones, compiler of the historical notes on the Lanes area that are present in the project archive, will be contacted and invited to discuss the process of selecting and editing the notes for publication, and to discuss any other issues relating to the documentary evidence.
- 8.4.13 Since the historical notes exist only in typescript, the text will be digitised using text-recognition software. Selected sections of the digitised notes will form the basis for a published summary of the documentary evidence. The selected material will be re-ordered, collated and edited in order to produce a summary of those data that can be linked to specific lanes or tenements within the Lanes site. A summary of the most significant general documentary information on the Lanes area will also be compiled, in addition to the site-specific evidence, in order to provide an overview of the occupational history of this part of the city in the medieval and earlier post-medieval periods. It is estimated that these data, together, in the case of the early post-medieval period, with a commentary on the surviving cartographic evidence, may add up to 9000 words of text to the publication report (*Section 9.3*), or just under one-third of the estimated word-count of the historical notes present in the archive (*Section 3.6.1*).
- 8.4.14 An assessment of the feasibility of integrating the historical research into the stratigraphic narrative produced for the excavated data and the standing building recording information will be undertaken, and the data will be integrated if possible. If this does not prove feasible, the historical research will be presented as a 'stand alone' element of the monograph.
- 8.4.15 *Overview/discussion (Tasks 51-52; Objectives 1.1; 2.1-2.4; 3.1-3.17; 12.1-12.3)*: in order to place the Lanes stratigraphic, standing building and historical data in a regional and national context, and to discuss comparanda, library research will be required prior to the preparation of introductory and discursive chapters. Appropriate preliminary sections and a full bibliography will also be compiled. Using the Millennium stratigraphic report as a guide (Zant in press), it is estimated (*Section 9.3*) that the introductory chapter may run to approximately 20,000 words, whilst the word-count for the discursive chapters may total c 107,000 words.
- 8.4.16 *Stratigraphic drawings (Tasks 53-62; Objectives 1.1; 3.2; 13.1-13.3)*: the 34 partially finished, publication-standard stratigraphic phase drawings that were originally intended for inclusion in the Roman section of the monograph will be scanned and completed to publication standard in a digital format. In almost all cases, full contextual information will have to be obtained from the primary phase drawings and this will be added to these illustrations. A similar

sequence of drawings will be prepared for the post-Roman sequence, including approximately 12 principal phase illustrations. The latter will be based on a series of pencil-drawn mock-ups that are present in the project archive, which will be scanned and brought up to publication standard digitally. As with the Roman drawings, contextual information will be obtained from the primary phase drawings and added to the publication illustrations. Scanning of all oversized (c A1-sized) drawings (comprising 21 of the 34 partially completed Roman phase plans and all 12 of the pencil-drawn post-Roman phase plans) will take place at Oxford Archaeology's premises in Oxford.

- 8.4.17 Since most of the existing draft plans are extremely large (mostly c A1-sized), they will be split-up to create a larger number of area-specific plans, in order to obviate the need for cumbersome fold-outs. This will be achieved, wherever possible, with reference to archaeologically significant spatial divisions, rather than the stratigraphically arbitrary boundaries of individual excavation trenches. The wider spatial location of each drawing within the site will be illustrated by means of an inset 'thumbnail' plan.
- 8.4.18 During preparation of the stratigraphic text, a list of additional publication drawings, which might include sections, elevations and more detailed phase/feature plans, will be compiled, and these illustrations will be prepared digitally, probably from the primary site drawings. In order to illustrate the text adequately, it is estimated that approximately 20 new drawings may be required for the Roman section of the report and approximately 30 for the post-Roman narrative. In both cases, the additional drawings will comprise detailed plans of particularly complex or significant features/activity areas, and a number of sections; elevation drawings of some or all of the walls of a stone-built Roman house (Period 11) may also be needed. The sections will include drawings of significant individual features and others illustrating particular elements of the stratigraphic sequence, as necessary. The Roman illustrations are likely to comprise approximately five plans and ten sections/elevations; those produced for the post-Roman report may comprise approximately ten detailed plans and ten section drawings. A further 25 illustrations are also likely to be required for the introductory and discursive chapters. These will include, but will not necessarily be restricted to, location maps, a sequence of plans placing the site in its local and regional context during the Roman, early medieval and medieval periods, one or more schematic phase plans illustrating the broad sequence of site development, and diagrams illustrating construction techniques, carpentry joints, and so on.
- 8.4.19 In total, it is estimated that approximately 120 drawings will be prepared for inclusion within the stratigraphic narrative. However, since it is envisaged that some of the very large phase plans currently in the archive will be split-up (*Section 8.4.17*), creating at least another 50 plans, and quite possibly more, the total number of individual drawings is likely to be in the region of 170-200.
- 8.4.20 *Standing building recording drawings (Task 63; Objectives 1.1; 3.2; 13.4):* a series of drawings will be prepared, illustrating and supporting the standing building narrative. These will be based on primary drawings selected from the archive, and will include ground plans, floor plans, elevations, cross-sections

and detailed drawings of specific architectural features, as required. On the basis of the number and type of drawings present in the standing building archive, it is estimated that approximately 40 publication drawings will be needed.

- 8.4.21 *Checking of drawings against report text (Task 64; Objectives 1.1; 3.2; 13.5)*: all completed drawings will be carefully checked against the report text to ensure accuracy and consistency, both in terms of what is depicted and for context numbering and other labelling.
- 8.4.22 *Photographs (Tasks 65-69; Objectives 1.1; 3.2; 14.1-14.3)*: in addition to the drawings, the report text will be supported by a series of plates illustrating some of the more significant aspects of the stratigraphy and the standing building evidence, together with site location photographs and other appropriate images. A provisional list of plates will be compiled during completion of the text, following which the appropriate negatives will be extracted from the project archive and scanned, and copies of the plates will be printed. In view of the estimated size of the stratigraphic narrative (*Section 9.3*), it is considered likely that approximately 100 plates will be required. Following a rapid scan of the photographs present in the standing building recording archive, it is estimated that approximately 50 plates will also be required for this section of the report, making a total of approximately 150 plates.
- 8.4.23 The availability of aerial photographs of the Lanes area prior to redevelopment will be assessed, as will early photographs of the Lanes, and any other relevant historical images, since these could potentially be linked to the cartographic evidence and the standing building data. A selection of up to 20 suitable images will be made, in order to support and illustrate the publication text.
- 8.4.24 *Pottery, artefactual and environmental analysis (Tasks 70-180; Objectives 1.1; 2.1-2.4; 3.1-3.17; 15.1-15.4; 16.1-16.3; 17.1-17.3; 18.1-18.6; 19.1-19.9; 20.1-20.2)*: materials for which no analytical report exists, but which have either been assessed, or for which a considerable amount of analytical work has already been undertaken, will be analysed and reported to publication standard. For those categories of material where partially complete analytical reports are available, the original authors will be given the opportunity to complete their work, and if necessary to revise the existing texts in the light of recent research. In cases where original authors are unable to undertake the work, it will be completed by other, appropriately qualified and experienced specialists. Similarly, where complete or near-complete reports are available in the archive, the authors will be given the opportunity to carry out minor revisions in the light of recent research. In cases where they are unable to do so, this work will be undertaken by other suitably qualified and experienced specialists. Existing illustrations of pottery and other artefacts will be finished to publication standard; in cases where objects requiring illustration are not currently illustrated, additional drawings will be produced. It is envisaged that most, if not all, of the detailed catalogues and tables relating to the pottery, artefacts and environmental assemblages will be placed on a DVD, in order to make the reports more accessible and to reduce the size of the monographs.

- 8.4.25 *Outstanding report texts and catalogues (Tasks 70-79; Objectives 1.1; 2.2-2.4; 3.2-3.4; 3.8; 3.10-3.12; 3.14-3.15; 3.17; 15.1-15.4)*: although draft publication reports do not exist for the assemblages of samian ware, mortaria and post-Roman pottery recovered from the north Lanes, sufficient work has already been undertaken by CAU/CAL to render additional assessment of the material unnecessary; in these cases, work will proceed directly to analysis and reporting.
- 8.4.26 *Samian (Tasks 70-72; Objectives 1.1; 2.2-2.4; 3.2-3.4; 15.1)*: on the samian assemblage of 7860 sherds (B Dickinson *pers comm*), a full analytical report will be prepared, including a descriptive catalogue of the illustrated decorated sherds and a discussion of the stratified samian assemblage, and appropriate tables and charts for inclusion in the report will be produced. The archive listing of samian will also be typed into an up-to-date database. Using the samian report produced for the Carlisle Millennium excavations (Ward forthcoming) as a guide, it is estimated that the report on the north Lanes assemblage may run to approximately 12,000 words (*Section 9.3*), excluding the partially complete report on the samian stamps (*Section 8.4.30*).
- 8.4.27 *Mortaria (Tasks 73-74; Objectives 1.1; 2.2-2.4; 3.2-3.4; 15.2)*: on the mortaria assemblage of 1666 sherds (K Hartley *pers comm*), a full analytical report, including a descriptive catalogue of the illustrated sherds (including the stamps), and a discussion of the stratified assemblage, will be prepared, based on the preliminary report prepared for CAU (Hird *et al* 1996). The hard copy of the mortarium database will be keyed into an up-to-date programme in order to create a digital database of the assemblage for the project archive. It is estimated that the mortarium report and catalogue may run to approximately 4000 words (*Section 9.3*).
- 8.4.28 *Post-Roman pottery (Tasks 75-79; Objectives 1.1; 2.3; 3.2; 3.4; 3.8; 3.10-3.12; 3.14-3.15; 3.17; 15.3-15.4)*: since there are considerable discrepancies in the different versions of the draft post-Roman pottery catalogues present in the project archive (*Section 3.7.4*), and it is not known which of the versions is the most complete, accurate and up-to-date, the catalogues will be checked against the pottery assemblage (comprising *c* 28-29,000 medieval sherds, 348 of post-medieval date and 1337 'modern' sherds) in order to determine this. If none of the existing catalogues proves to be accurate and complete, the most up-to-date version will be completed through further study of the assemblage. An up-to-date database will then be compiled, incorporating all relevant data, in order to facilitate analysis and reporting. A full analytical report on the assemblages of medieval and post-medieval pottery, including descriptive catalogues of the illustrated sherds, will be produced. The data will be analysed and discussed by group and fabric type, spatial and chronological patterning will be studied, and regional and national comparanda sought. It is estimated that the medieval pottery report and catalogue may run to approximately 30,000 words, whilst the report and catalogue on the post-medieval pottery may be *c* 3000 words in length (*Section 9.3*).
- 8.4.29 *Partially completed reports and catalogues (Tasks 80-108; Objectives 1.1; 2.1-2.4; 3.2-3.4; 16.1-16.3)*: the artefactual and environmental reports (including appropriate catalogues) that are currently in an incomplete state will

require additional work to bring them to an adequate standard for publication. In such cases, an opportunity will be provided for the original authors to complete their reports, subject to timetabling and budgetary constraints. When the original author is unwilling or unable to complete a report (as some have indicated when contacted during preparation of the present project design), it has been necessary to seek another suitably qualified specialist to undertake the work. In some cases, the work will be completed by appropriately qualified and experienced in-house OA North personnel (Table 18), whilst in others appropriate specialist help will be sought. As with the completed reports (*Section 8.4.41*), texts in outdated digital formats will be converted, whilst those available only as paper copies will be digitised using text-recognition software or, in the case of heavily annotated reports, manual keying directly into a computer. This will be done before the reports are sent to authors for completion. The following partially complete reports are present in the project archive (a full listing, with details of levels of completeness, is provided in Table 17):

- Samian stamps;
- Roman coarse pottery, excluding mortaria;
- Stone (Roman and post-Roman);
- Jet/shale/amber (Roman);
- Glass (Roman);
- Ceramic objects (Roman);
- Leather (shoes) (Roman and post-Roman);
- Roman animal bone (residuality).

The methodologies required for the completion of these incomplete elements are set out below.

8.4.30 *Samian stamps (Tasks 84-87; Objectives 1.1; 2.1-2.4; 3.2-3.4; 16.1-16.3)*: in order to complete the report on the samian stamps, the catalogue will be finished (only 154 of the *c* 200 stamps are currently catalogued), and will undergo final checking. The archive listing will be typed into an up-to-date database. Site period details will be added to the catalogue and the finalised dates given in the report will be checked against the provisional dates in the archive. Any discrepancies will be corrected. It is estimated that the report and catalogue on the samian stamps may run to *c* 3000 words, of which *c* 2000 words have already been completed (*Section 9.3*).

8.4.31 *Roman coarse pottery (Tasks 88-91; Objectives 1.1; 2.1-2.4; 3.2-3.4; 16.1-16.3)*: the final report and catalogue on the assemblage of 37,225 sherds (excluding mortaria) is estimated at *c* 30,000 words (*Section 9.3*), of which *c* 20,000 words have been completed. This includes the short report on the graffiti (*Section 8.4.42*).

8.4.32 The Roman coarse pottery report is likely to require quite substantial revision. This is due, in part, to the considerable advances that have been made in Roman pottery research in Carlisle since the report was drafted over a decade ago (particularly with respect to the pottery from the Carlisle Millennium excavations (Swan *et al* forthcoming)), but also to the fact that much of the second-century material from the Lanes was omitted from the draft report. This was because it was envisaged that, by the time the north Lanes report appeared in print, the extensive assemblage of second-century pottery from the

Annetwell Street excavations would already have been published, which would, it was felt, have made publication of the Lanes material unduly repetitious. However, this argument is extremely contentious, since the Lanes material came from within the civil settlement, and cannot simply be viewed as a mere duplication of the Annetwell Street data (or, indeed of the data recovered from the Millennium excavations), which relate specifically to the fort. In any case, to this day, Annetwell Street remains unpublished.

- 8.4.33 In order to revise the report to a standard suitable for publication, the existing detailed pottery recording sheets present in the project archive will be reviewed in order to extract relevant data. Any outstanding stratigraphic problems will be addressed and the existing text for the Roman pottery report will be revised. The text will also be expanded in order to report adequately on the second-century material, which is presently largely omitted from the draft report.
- 8.4.34 *Stone (Tasks 92-95; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: for the Roman stone artefacts (83 objects, including four gemstones), only a descriptive catalogue has been prepared; for the post-Roman architectural stone (47 fragments), nothing more than a basic listing currently exists, except for a group of stone roofing slates from KLA C, which are fully reported. A brief discussion of both assemblages will be prepared by a suitably qualified and experienced specialist, together with a more detailed catalogue of the post-Roman architectural fragments. In order to facilitate this, the collection of photocopied archive drawings of the assemblage will be located within the Shaddon Mill store and taken to OA North's premises in Lancaster. The drawings will be used to write the catalogue and discussion, obviating the need to locate, extract, and analyse the stones themselves, which would be a comparatively time-consuming process. It is estimated that the completed catalogues may run to *c* 10,000 words in total. The report itself may run to approximately 5000 words, including *c* 1000 words already drafted for the stone roofing slates from KLA C.
- 8.4.35 *Jet, shale and amber (Task 96; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: only a descriptive catalogue of the assemblage (seven objects) has been completed. A brief discussion of the significance of the material will therefore be prepared. This is unlikely to exceed 1500 words, whilst the accompanying catalogue might comprise a further 500 words or so.
- 8.4.36 *Glass (Tasks 97-100; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: a number of additional pieces of work are required (subject to a satisfactory resolution of outstanding payment issues) in order to bring the glass report to publication standard (J Price *pers comm*). In view of the amount of time that has elapsed since the material was last studied, and the fact that certain discrepancies are evident in the number of fragments selected for illustration, a rapid re-examination of the 2225 sherds of glass (all of which is Roman in date) is needed, following which a discussion of the stratified glass assemblage will be prepared and the existing descriptive catalogue will be revised. The existing glass drawings will be checked by the glass specialist, as this was not done previously, and any corrections will be completed, together with any new drawings that may be required. Discussions will be required between the glass specialist and OA North personnel regarding these issues, and concerning the chronological and

spatial distribution of the glass. It is estimated that the glass report may run to *c* 5000 words, whilst the accompanying catalogue may comprise a further 20,000 words or so.

- 8.4.37 *Ceramic objects (Task 101; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: only a descriptive catalogue of the 33 Roman ceramic objects has been completed. A brief discussion of the significance of the material will therefore be prepared. The catalogue is currently estimated at *c* 3000 words, whilst the report may run to *c* 2000 words.
- 8.4.38 *Post-Roman leather shoes (Tasks 102-104; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: only a very basic listing of the 90 post-Roman shoes and shoe fragments has been compiled. A descriptive catalogue and discussion will therefore be prepared. In order to facilitate this, the assemblage will be located within the Shaddon Mill store, extracted, and transported to an appropriately qualified and experienced specialist for analysis and reporting. It is estimated that the resulting report may run to *c* 1500 words, with the accompanying catalogue comprising a further 4500 words or so.
- 8.4.39 *Roman animal bone (residuality study) (Tasks 105-108; Objectives 1.1; 3.2; 3.4; 16.1-16.3)*: a total of 2192 fragments of Roman animal bone was selected for a residuality pilot study in 1996-7. Further analytical work and reporting is required to bring the results of this study to publication, in order to inform understanding and interpretation both of the Roman stratigraphic sequence and of the main animal bone report. In the first instance, the original databases and spreadsheets, currently in obsolete formats, will be converted to modern formats by OA North IT personnel. No additional recording of primary data is needed, but further statistical analysis of the data will be undertaken in order to build upon the pilot study. The results of the analysis, and their significance for understanding and interpreting both the north Lanes stratigraphy and the Roman animal bone assemblage from the site, will be integrated into the main report on the Roman animal bones (*Section 8.4.42*).
- 8.4.40 The residuality study devised and trialled a new methodology for identifying and investigating animal bone residuality in complex urban stratigraphy, which can potentially be used as a model for other multi-phase sites. The detailed methodological data will either be included in the north Lanes report, perhaps on a DVD, or will be published in a separate article in a peer-reviewed journal.
- 8.4.41 *Completed report texts and catalogues (Tasks 109-135; Objectives 1.1; 2.1-2.4; 3.1-3.17; 17.1-17.3)*: all completed pottery, artefactual and environmental reports will be published largely as they stand, though certain elements may be placed on a DVD (together with all or most of the accompanying catalogues) rather than being published as hard copy. To this end, minor revisions will be undertaken to bring them into line with current publication procedures. Reports that are available in other, outdated, digital formats will be converted. Those that exist only as hard copies will be digitised using text-recognition software (Task 109). In cases where the only existing hard copy has been annotated, making the use of text-recognition software unfeasible, the report will be keyed directly into a computer by hand (Task 110). The original



authors will be given the opportunity to undertake minor revisions to their report texts in the light of recent research (Task 111). In order to facilitate this, copies of reports will be dispatched to the original authors, either by e-mail or by post, in those cases where the authors do not already have a copy available (Task 112). Where the authors are either unwilling or unable to undertake the work (as some have indicated when contacted during the compilation of this report), revision will be carried out as required by appropriately qualified and experienced OA North personnel or other appropriate external specialists. Major revisions to existing reports will not be countenanced under anything other than exceptional circumstances.

8.4.42 The following reports are essentially complete, but require varying degrees of updating of the texts and catalogues, together with other minor revisions, to bring them to publication standard (a full listing is given in Table 16):

- Roman graffiti (Task 113): the short report and catalogue on the assemblage of 24 sherds will be subsumed within the main report on the Roman coarse pottery (*Section 8.4.31*);
- Roman coins (Task 114): the final report on the 270 Roman coins, estimated at *c* 3000 words (*Section 9.3*), is complete, as is the catalogue;
- Post-Roman coins (Task 115): the integrated text and catalogue, estimated at *c* 500 words (*Section 9.3*), is complete for the assemblage of 35 coins;
- Gold/silver (Roman and post-Roman) (Task 116): the integrated texts and catalogues, estimated at *c* 1000 words (*Section 9.3*), are complete for the assemblage of seven artefacts;
- Copper alloy (Roman and post-Roman) (Task 117): the reports on the 350 Roman and post-Roman copper alloy-objects, estimated at *c* 8000 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 25,000 words and are also complete;
- Iron (Roman and post-Roman ) (Task 118): the reports on the 44 Roman and post-Roman iron objects, estimated at *c* 3000 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 3500 words and are also complete;
- Lead (Roman and post-Roman) (Task 119): the reports on the 26 Roman and post-Roman lead objects, estimated at *c* 2000 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 2000 words and are also complete;
- Tin/pewter (post-Roman) (Task 120): the report and catalogue on the two tin/pewter objects, estimated at *c* 500 words (*Section 9.3*), is complete;
- Prehistoric flints (Task 121): the report on the 162 prehistoric flints, estimated at *c* 3500 words (*Section 9.3*), is complete. The accompanying catalogue runs to *c* 3000 words and is also complete;
- Ceramic building materials (Roman) (Task 122): the report on the 2771 fragments of Roman ceramic building materials, estimated at *c* 3500 words (*Section 9.3*), is complete;
- Bone/antler/ivory (Roman and post-Roman) (Task 123): the reports on the 52 Roman and post-Roman objects of bone, antler or ivory, estimated at *c* 3000 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 4000 words and are also complete;

- Wooden objects (Roman and post-Roman) (Task 124): the reports on the 63 Roman and post-Roman wooden objects, estimated at *c* 6500 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 8000 words and are also complete. These estimates include the report and catalogue on the 12 items of Roman inscribed wood (see below);
- Inscribed wood (Roman) (Task 125): the report on the 12 items of Roman inscribed wood will be subsumed within the report on the overall collection of Roman and post-Roman wooden objects (see above);
- Leather (Roman shoes) (Task 126): the report on the 166 Roman shoes and shoe-fragments, estimated at *c* 4000 words (*Section 9.3*), is complete. An accompanying summary catalogue runs to *c* 3500 words and is also complete;
- Leather (sheet) (Roman and post-Roman) (Task 127): the reports on the 116 fragments of Roman and post-Roman sheet leather, estimated at *c* 4500 words in total (*Section 9.3*), are complete. The accompanying catalogues run to *c* 12,000 words and are also complete;
- Basketry (Roman) (Task 128): the report on the two items of basketry, estimated at *c* 500 words (*Section 9.3*), is complete;
- Textiles (post-Roman) (Task 129): the report on the 26 fragments of textiles, estimated at *c* 2500 words (*Section 9.3*), is complete. The accompanying catalogue runs to *c* 1500 words and is also complete;
- Human bone (Roman) (Task 130): the integrated report and catalogue on the 14 fragments of human bone, estimated to run to *c* 3000 words (*Section 9.3*), is complete;
- Roman animal bone (main report) (Task 131): the final report on the 1573 fragments of Roman animal bone selected for analysis will be integrated with the results of the residuality study undertaken on 2192 fragments. The report, estimated at *c* 10,000 words (*Section 9.3*), is largely complete, except for the residuality study (*Section 8.4.39-40*), which is only partly complete. The accompanying catalogue runs to *c* 20,000 words and is also largely complete;
- Dendrochronology (Roman and post-Roman) (Task 132): the integrated reports and catalogues on the 203 Roman and post-Roman dendrochronology samples, estimated at *c* 7000 words in total (*Section 9.3*), are complete;
- Roman plant remains (Task 133): the report on the 148 Roman samples analysed for plant remains, estimated at *c* 15,000 words (*Section 9.3*), is largely complete, though the small assemblage of non-structural wood still requires writing-up. The accompanying catalogue runs to *c* 15,000 words and is also largely complete;
- Roman insect remains (Task 134): the report on the 104 Roman samples analysed for insect remains, estimated at *c* 15,000 words (*Section 9.3*), is complete. The accompanying catalogue runs to *c* 20,000 words and is largely complete;
- Soil micromorphology (early medieval 'dark earth' in KLA C) (Task 135): a short report on a sample of late Roman/early post-Roman 'dark earth' from KLA C, estimated at *c* 500 words (*Section 9.3*) is available, but may need to be expanded to *c* 1000 words for publication, perhaps on a DVD.

- 8.4.43 *Pottery illustrations (Tasks 136-159; Objectives 1.1; 2.1-2.4; 3.2-3.4; 3.8; 3.10-3.12; 3.14-3.15; 3.17; 18.1-18.6)*: the status of the pottery illustrations, though somewhat unclear, is summarised in Table 3. The methods required to complete the illustrations to publication standard are given below (*Section 8.4.44-47*).
- 8.4.44 *Samian (Tasks 136-145; Objectives 1.1; 2.1-2.4; 3.2-3.4; 18.1-18.2)*: the 81 inked drawings of decorated samian sherds present in the north Lanes archive will be extracted from the archive, scanned, plated-up and labelled for publication. The ten decorated sherds requiring illustration for which no drawings can be found will be extracted from the north Lanes archive in Shaddon Mill and drawn by in-house OA North illustrators. Of the 200 potters' stamps, none of which are currently drawn, approximately 65, selected by the samian specialist, will be illustrated by in-house OA North personnel. Once the drawings are completed, they will be sent to the samian specialist for checking; any corrections resulting from the check will be undertaken subsequently by an OA North illustrator.
- 8.4.45 *Mortaria (Tasks 146-153; Objectives 1.1; 2.1-2.4; 3.2-3.4; 18.3-18.4)*: the 72 existing archive drawings of mortaria (49 stamps, 22 rims and one graffito) will be scanned, plated-up and labelled to publication standard by OA North illustrators. However, the drawings will first be checked by Kay Hartley to ensure that they are accurate representations of the stamps, since it is not clear if the extant drawings include revisions and corrections made by Kay or are earlier versions. The remaining 25 stamps, currently unillustrated, will be drawn by OA North illustrators and subsequently sent to Kay for checking. Any corrections resulting from the checks, both on the stamp drawings and the other mortaria illustrations, will be undertaken subsequently by an OA North illustrator.
- 8.4.46 *Roman graffiti (Tasks 154-155; Objectives 1.1; 2.1-2.4; 3.2-3.4; 18.5)*: the 24 existing inked drawings, which appear to represent a complete set, will be scanned, plated-up and labelled ready for publication by OA North illustrators.
- 8.4.47 *Post-Roman pottery (Tasks 156-159; Objectives 1.1; 2.1; 3.2; 3.8; 3.10-3.12; 3.14-3.15; 3.17; 18.6)*: 49 boxes of post-Roman pottery selected for illustration by CAU/CAL are present in the project archive; these contain the remains of approximately 219 individual medieval vessels and 14 individual vessels of post-medieval date. The assemblage will be checked by a suitably qualified and experienced specialist, to ensure that all the material is appropriate for illustration. Subject to this check, the selected sherds will be drawn to publication standard. The drawings will then be checked by the specialist, and any necessary corrections will be undertaken subsequently by an OA North illustrator.
- 8.4.48 *Artefact illustrations (Tasks 160-178; Objectives 1.1; 2.1-2.4; 3.1-3.17; 19.1-19.9)*: the 447 completed drawings of Roman IRFs will be scanned and plated-up for publication, and any missing or incomplete labelling will be added (Task 160; Objective 19.1). A total of seven drawings could not be located; the items in question will be extracted from the north Lanes archive in Shaddon Mill and drawn afresh by OA North personnel (Tasks 161-162; Objective

- 19.2). Since no finished glass illustrations have been found, the 118 largely pencil-drawn archive illustrations present in the project archive will be scanned and finished to publication standard by OA North illustrators (Tasks 163-165; Objective 19.3). Four additional glass fragments listed in the draft catalogue do not appear to have been illustrated. These items will also be extracted from the archive and drawn (Tasks 166-167; Objective 19.4). All glass drawings will be checked by the specialist and corrected subsequently by an OA North illustrator.
- 8.4.49 The 81 completed drawings of post-Roman IRFs will be scanned and plated-up for publication, and missing or incomplete labelling will be added (Task 168; Objective 19.5). Archive drawings for the remaining 70 items requiring illustration will also be scanned and brought up to publication standard by OA North personnel (Tasks 169-70; Objective 19.6), as will 34 pencil archive drawings of post-Roman shoes present in the north Lanes archive (Tasks 171-172; Objective 19.7). In the four cases where selected artefacts do not appear to have been illustrated, these items will be extracted from the archive and drawn (Tasks 173-174; Objective 19.8).
- 8.4.50 Selection will be made of a number of particularly significant and photogenic artefacts recovered from the north Lanes site. These will be extracted from the project archive and photographed to publication standard, in order to illustrate and support the publication (Tasks 175-178; Objective 19.9).
- 8.4.51 *Overview/discussion (Tasks 179-180; Objectives 1.1; 3.2; 20.1-20.2)*: following completion of all outstanding elements of the artefactual and environmental reports, an overview and discussion of the assemblages will be produced, placing the material in its regional and national context. In order to discuss the significance of the site fully and to find comparators for the excavated data, a degree of library research will be required in order to reference and obtain relevant specialist literature. Introductory and preliminary sections will also be produced for the report, and a full bibliography will be prepared.
- 8.4.52 **Publication text (Tasks 181-186; Objectives 1.1; 2.1-2.4; 3.1-3.17; 21.1-21.3)**: following completion of the outstanding elements of the post-excavation programme, the completed stratigraphic, standing buildings, artefactual and environmental texts will be edited and compiled into a draft monograph suitable for publication (Task 181). This will be in the format described in *Section 9.3*, and will incorporate as necessary any information from comparable excavations. As specialist reports are received, artefactual, environmental and other information of relevance to the interpretation of the stratigraphic sequence will be integrated into the text. In addition, catalogues will be prepared for inclusion on a DVD to be incorporated in the back of the monograph.
- 8.4.53 The specialist reports will be subject to internal revision, and will be submitted to the authors after editing for their comments (Task 182). The edited texts will then be compiled into a report suitable for publication (including a DVD), in the format described in *Section 9.3* (Tasks 183-184). Following final editing

of the report (Task 185), it will be submitted to English Heritage for formal review (Task 186).

- 8.4.54 **Popular publication (Tasks 187-193; Objectives 22.1-22.2):** a short summary of the most significant results of the north Lanes project, suitable for the general reader, will be prepared. This will form the basis for a popular booklet on the archaeology and history of the Lanes, similar in philosophy to that produced for the Carlisle Millennium project (OA North 2004). Based on the Millennium booklet, it is estimated that the text may comprise approximately 10,000 words.
- 8.4.55 In order to support the booklet text, an appropriate number of drawings including both line- and reconstruction drawings, will be prepared. Based on the Millennium project booklet, it is estimated that approximately 15 drawings may be required.
- 8.4.56 An appropriate number of colour photographs will also be selected for inclusion in the booklet. These will include excavation images and photographs of particularly significant artefacts. Based on the Millennium project booklet, it is estimated that approximately 40 photographs may be required. The relevant slides or negatives will be extracted from the project archive, scanned and printed.
- 8.4.57 The popular publication will be subject to internal editing and revision. Following this process, the document will be submitted to English Heritage for review.
- 8.4.58 **The project archive (Tasks 194-197; Objectives 23.1-23.2):** it is envisaged that the north Lanes archive will be re-ordered, re-packaged and generally brought up to a standard suitable for long-term deposition with the receiving museum, in this case Tullie House Museum and Art Gallery, Carlisle, as part of the proposed Stage 3 of the Carlisle Archives Project (*Section 6.4.55*). However, should Stage 3 of the Archives Project not be commissioned, additional resources will be required above and beyond those presented in this report, in order to bring the project archive to a suitable standard for deposition. Upon completion of the north Lanes post-excavation and publication programme, an appropriate level of digital information pertaining to the project will be supplied to the Archaeological Data Service (ADS) in York. The quantity and scope of such data will be estimated, and discussions initiated with the ADS, in order to determine the cost of depositing the information.
- 8.4.59 **Management, monitoring and review (Objectives 25.1-25.4):** adequate provision of time and resources for management and monitoring tasks will be built into the project. These tasks, which will include project monitoring, problem solving, advice and co-ordination, and conducting project meetings, will be spread throughout the lifetime of the project.
- 8.4.60 **Issues Log:** in accordance with *MoRPHE* (English Heritage 2006, 48), an Issues Log will be created at the commencement of the project. This will record all unforeseen events and discoveries, results of reviews, requests for

changes, and any other issues that might otherwise be dispersed amongst a large number of documents. The Log will be updated by the Project Manager when an issue is raised, and also when an issue is resolved.

- 8.4.61 *Project team review meetings*: in addition to the formal review at the end of Execution Stage 1 (Section 8.3), two other review meetings will be held with appropriate members of the project team, including in-house OA North staff and external specialists, in order to review progress, present and receive information and exchange ideas. The first meeting will be held as work on Execution Stage 1 commences, and will include all specialists involved in the assessment work, together with the Project Executive and Project Manager from OA North. The second, involving all members of the project team and representatives of the project sponsor and stakeholders, will take place towards the end of Execution Stage 2, following completion of the analysis and all the draft reports, in order to discuss the results and any lessons learned. Less formal meetings and/or e-mail discussions concerning specific aspects of the project and involving a smaller number of relevant team members, will also take place as and when required.
- 8.4.62 *Highlight Reports*: in accordance with *MoRPHE* (English Heritage 2006, 48), Highlight Reports providing brief but informative statements of progress will be issued at regular intervals throughout the lifetime of the project. These will follow the standard format already used by OA North for Highlight Reports relating to other projects.
- 8.4.63 *Project Board*: in order to provide external quality assurance and monitoring, a Project Board will convene regular project review meetings, held at approximately three monthly intervals. The Project Board will comprise key members of the OA North project team, representatives of the sponsors, English Heritage, and of the project's stakeholders, Carlisle City Council, Cumbria County Council's Historic Environment Service and Tullie House Museum and Art Gallery. The make-up of the Board is therefore likely to be very similar to that which is currently providing quality assurance and monitoring for a number of OA North projects in the City and District of Carlisle, including the Carlisle Millennium Project and the Carlisle Archives Project. The members of the existing Board have indicated a desire to continue to maintain an overview of all archaeological projects undertaken within Carlisle and its District.

---

## 9. PUBLICATION SYNOPSIS

---

### 9.1 INTRODUCTION

9.1.1 This section provides a provisional breakdown of the contents of the proposed academic publication report, and of the popular booklet. It should be noted, however, that the following synopsis can only be regarded as a draft, based on current understanding of the results of the north Lanes excavations and the character and extent of publication work that has already been completed, and may be subject to revision as a result of the final phase of the post-excavation programme.

### 9.2 ACADEMIC REPORT STRUCTURE

9.2.1 It is anticipated that the detailed results of the north Lanes excavations will be published as a three-volume A4 monograph report in OA North's *Lancaster Imprints* series. Volume 1 of the report, which will contain the stratigraphic and standing building texts and a summary of the historical research, supported by introductory and discursive chapters, is scheduled to comprise about 270,000 words of text, excluding preliminaries. The text will be supported by a full bibliography, approximately 225 line drawings, including interpretative phase drawings, and *c* 150 plates. Volume 2 will contain the artefactual and environmental reports and will include an overview and discussion of the regional and national significance of the material. The text, comprising *c* 271,000 words, will be supported by approximately 1580 line drawings (appropriately plated to create a much smaller number of published figures), principally pottery and artefact illustrations, and *c* 35 plates of particularly significant objects. Unlike Volumes 1 and 2, which will be published in conventional 'book' form, Volume 3 will take the form of a DVD accompanying the other volumes. It will contain detailed context lists and artefactual and environmental catalogues and tables, together with other features, such as a gallery of photographic images.

9.2.2 The report will present a closely argued stratigraphic narrative detailing the development of the site from the pre-Roman to later post-medieval periods. It will also provide an overview and discussion of the finds from the site, both artefactual and environmental, supported by specialist reports on all material categories. The site will be placed in its local, regional and national context and a discussion of the importance of the data in terms of advancing understanding of the history and development of Carlisle and of the wider region will be prepared.

9.2.3 Throughout the project, a high level of communication will be maintained between all members of the project team. It is anticipated that the specialists, especially those with inter-related study areas, will work closely together in order to facilitate integration between material categories. This will be achieved through meetings held during the course of the project to discuss progress and research aims. The finished text will therefore aim to present a

high degree of integration between the artefactual, ecofactual, structural and stratigraphic evidence from the site.

- 9.2.4 In addition to the academic report, a well-illustrated popular booklet will be produced, which will present the results of the north Lanes project to the general reader. This will use as its model the booklet produced as part of the Carlisle Millennium project (OA North 2004). An outline synopsis is presented in *Section 9.4*.

### 9.3 OUTLINE SYNOPSIS OF THE ACADEMIC REPORT

#### VOLUME 1

#### THE NORTHERN LANES, CARLISLE, 1978-82

#### ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE ROMAN TOWN AND THE MEDIEVAL AND POST-MEDIEVAL CITY: THE STRATIGRAPHIC SEQUENCE AND STANDING BUILDINGS

**(c 270,000 words (c 40,000 completed); c 225 line drawings (c 110 currently incomplete, c 115 non-existent); c 150 plates (none selected))**

#### Preface

List of Figures

List of Tables

List of Plates

Acknowledgements

Summary, including foreign language summaries

#### Chapter 1: Introduction (c 20,000 words; c 10 line drawings; c 8 plates. No publication work completed)

- 1.1 Carlisle and its setting (c 1000 words)
- Introduction
  - Physical setting
  - Geological background
- 1.2 Historical and archaeological background (c 8000 words)
- Prehistoric activity
  - The Roman fort and civil settlement at Carlisle
  - Early medieval Carlisle
  - Medieval and post-medieval Carlisle
- 1.3 Archaeological work in the vicinity of the Lanes (c 3000 words)
- Early observations and excavations
  - Investigations subsequent to completion of the Lanes excavations
- 1.4 The Lanes project (c 7000 words)
- Introduction
  - Fieldwork methodology
  - Preservation, intrusion and contamination
  - Post-excavation methodology
  - Chronological and spatial divisions
  - Arrangement of the report



- The project archive
- 1.5 Phasing summary (*c* 1000 words)
- Chapter 2: The Pre-Roman Period (*c* 3000 words (*c* 2000 completed); *c* 2 line drawings; *c* 2 plates)**
- 2.1 Description of the pre-Roman remains (Periods 1 and 2) (*c* 3000 words)
- Chapter 3: The Early Roman ‘Military/Official Enclave’ (*c* 15,000 words (*c* 10,000 completed); *c* 15 line drawings; *c* 10 plates)**
- 3.1 Description of the stratigraphic sequence (*c* 15,000 words)  
Possible marching camp defences (Period 3)  
High-status timber building (possible *mansio*) (Period 4)  
Extensive complex of timber buildings (Period 5)  
Contraction of the occupied area (Period 6)
- Chapter 4: Origins and Development of Roman Civilian Settlement (*c* 20,000 words (*c* 13,500 completed); *c* 20 line drawings; *c* 5 plates)**
- 4.1 Description of the stratigraphic sequence (*c* 20,000 words)  
Establishment and development of properties running back from Roman Scotch Street (Periods 7, 8 and 9)  
Possible timber *mansio* (Periods 7-9)  
Consolidation of civilian occupation (Period 10)
- Chapter 5: Settlement in the Late Roman Period (*c* 20,000 words (*c* 14,500 completed); *c* 25 line drawings; *c* 10 plates)**
- 5.1 Description of the stratigraphic sequence (*c* 20,000 words)  
Origins and development of the stone house and related features on the southern part of the site (Period 11)  
Occupational history of the area north of the stone house (Period 11)
- Chapter 6: The Early Medieval Period (*c* 7000 words; *c* 5 line drawings; *c* 3 plates. No publication work completed)**
- 6.1 Description of the stratigraphic sequence (*c* 7000 words)  
Occupation in and adjacent to the remains of the Roman stone house (Period 12)  
Accumulation of ‘dark earth’ deposits (Period 12)
- Chapter 7: Origins of Medieval Urban Settlement (*c* 15,000 words; *c* 15 line drawings; *c* 5 plates. No publication work completed)**
- 7.1 Description of the stratigraphic sequence (*c* 13,000 words)  
Origins and development of tenements on the east side of Scotch Street (Periods 13 and 14)
- 7.2 Summary of historical evidence (*c* 2000 words)
- Chapter 8: Development of Medieval Urban Settlement (*c* 23,000 words; *c* 25 line drawings; *c* 10 plates. No publication work completed)**
- 8.1 Description of the stratigraphic sequence (*c* 20,000 words)  
Establishment of the lanes (Period 15)  
Development of tenements during the late medieval period (Periods 15, 16 and 17)

8.2 Summary of historical and cartographic evidence (*c* 3000 words)

**Chapter 9: The Early Post-Medieval Period (*c* 8000 words; *c* 10 line drawings; *c* 5 plates. No publication work completed)**

9.1 Description of the stratigraphic sequence (Period 18) (*c* 3000 words)

9.2 Summary of historical and cartographic evidence (*c* 4000 words)

**Chapter 10: The Late Post-Medieval Period (*c* 32,000 words; *c* 45 line drawings; *c* 40 plates. No publication work completed)**

10.1 Description of the stratigraphic sequence (Period 19) (*c* 5000 words)

10.2 Description of standing building evidence (*c* 20,000 words)

10.3 Summary of historical and cartographic evidence (*c* 7000 words)

**Chapter 11: Roman Occupation: Interpretation of Results (*c* 25,000 words; *c* 10 line drawings; *c* 5 plates. No publication work completed)**

11.1 The early Roman ‘military/official enclave’ (*c* 5000 words)

11.2 The origins of civilian settlement (*c* 5000 words)

11.3 Settlement development in the late Roman period (*c* 6000 words)

11.4 Roman buildings: form and function (*c* 4000 words)

11.5 Metrology (*c* 1000 words)

11.6 Industry, consumption and supply in the Roman settlement (*c* 2000 words)

11.7 The nature of the Roman community (*c* 2000 words)

**Chapter 12: The Roman Settlement in its Wider Setting (*c* 20,000 words; *c* 10 line drawings; *c* 5 plates. No publication work completed)**

12.1 The site at the beginning of the First Millennium AD (*c* 1000 words)

12.2 The early Roman ‘military/official enclave’ in its historical and regional context (*c* 9000 words)

12.3 The Roman civil settlement in its historical and regional context, and the *civitas Carvetiorum* (*c* 10,000 words)

**Chapter 13: The Site in the Early Medieval Period (*c* 5000 words; *c* 3 line drawings; *c* 2 plates. No publication work completed)**

13.1 Interpretation of results (*c* 2000 words)

13.2 The significance of the site in Carlisle and the region (*c* 3000 words)

**Chapter 14: Medieval Occupation: Interpretation of Results (*c* 20,000 words; *c* 10 line drawings; *c* 5 plates. No publication work completed)**

14.1 The origins and development of medieval tenements east of Scotch Street (*c* 5000 words)

14.2 Establishment of the lanes, and tenement development in the late medieval period (*c* 7000 words)

14.3 Medieval buildings: form and function (*c* 4000 words)

14.4 Industry, consumption and supply in the medieval city (*c* 2000 words)

14.5 The nature of the medieval community (*c* 2000 words)

**Chapter 15: The Medieval City in its Wider Setting (c 10,000 words; c 5 line drawings; c 5 plates. No publication work completed)**

- 15.1 Medieval Carlisle and the Lanes in their historical and regional context (c 10,000 words)

**Chapter 16: The Post-Medieval Period: Interpretation of Results (c 27,000 words; c 15 line drawings; c 30 plates. No publication work completed)**

- 16.1 Development of tenements (c 5000 words)  
16.2 Post-medieval buildings: form and function (c 5000 words)  
16.3 Industry, consumption and supply in the medieval city (c 5000 words)  
16.4 The nature of the post-medieval community (c 5000 words)  
16.5 Post-medieval Carlisle and the Lanes in their historical and regional context (c 7000 words)

**Bibliography**

**VOLUME 2**

**THE NORTHERN LANES, CARLISLE, 1978-82**

**ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE ROMAN TOWN AND THE MEDIEVAL AND POST-MEDIEVAL CITY: THE ARTEFACTUAL AND ENVIRONMENTAL EVIDENCE**

**(c 259,000 words (c 114,000 completed); c 1582 line drawings (c 1018 completed or partly complete); c 35 plates (none selected))**

**Preface**

- Contents (including Vol 1)  
Contents of DVD (Vol 3)  
List of Figures  
List of Tables  
List of Plates  
Acknowledgements  
Summary, including foreign language summaries

**Chapter 18: Synthesis and Discussion (c 35,000 words; c 5 line drawings; c 10 plates. No publication work completed)**

- 18.1 Introduction (c 500 words)  
18.2 The pre-Roman period (c 500 words)  
18.3 The early Roman 'military/official' enclave (c 1500 words)  
18.4 The Roman town: buildings and infrastructure (c 2000 words)  
18.5 The Roman town; everyday life and economy (c 7,500 words)  
18.6 The character of the Roman community (c 3000 words)  
18.7 The early medieval period (c 500 words)  
18.8 The medieval and post-medieval city: buildings and infrastructure (c 5000 words)  
18.9 The medieval and post-medieval city: everyday life and economy (c 9,000 words)

- 18.10 The character of the medieval and post-medieval communities (*c* 5000 words)
- 18.11 Conclusions (*c* 500 words)

**Chapter 19: The Roman Pottery (*c* 49,000 words (*c* 22,000 completed; *c* 475 line drawings (*c* 216 completed or partly complete))**

- 19.1 The samian and samian stamps (*c* 15,000 words (*c* 2000 completed); *c* 150 line drawings;)
- 19.2 The mortaria (*c* 4000 words, *c* 95 line drawings; no publication work completed)
- 19.2 The Roman coarse pottery, including amphora and graffiti (*c* 30,000 words (*c* 20,000 completed); *c* 230 line drawings)

**Chapter 20: The Post-Roman Pottery (*c* 33,000 words; *c* 240 line drawings. No publication work completed)**

- 20.1 The medieval pottery (*c* 30,000 words, *c* 220 line drawings; no publication work completed)
- 20.2 The post-medieval pottery (*c* 3000 words, *c* 20 line drawings; no publication work completed)

**Chapter 21: The Pre-Roman and Roman Finds (*c* 45,000 words (*c* 32,000 completed); *c* 578 line drawings (*c* 572 completed or partly complete); *c* 10 plates)**

- 21.1 The prehistoric flints (*c* 3500 words (completed); 16 line drawings (completed))\*
- 21.2 The Roman coins (*c* 3000 words (completed))\*
- 21.3 The gold and silver (*c* 500 words (completed); three line drawings (completed))
- 21.4 The copper alloy (*c* 5000 words (completed); 121 line drawings (completed); two plates)\*
- 21.5 The ironwork (*c* 2000 words (completed); ten line drawings (completed))\*
- 21.6 The lead (*c* 1000 words (completed); three line drawings (completed))\*
- 21.7 The metalworking debris (*c* 1500 words; no publication work completed)\*
- 21.8 The stone objects, gemstones and architectural stone (*c* 3000 words (none completed); 58 line drawings (completed); two plates)\*
- 21.9 The jet, shale and amber (*c* 1500 words (none completed); seven line drawings (completed); two plates)\*
- 21.10 The glass (*c* 5000 words (none completed); 122 line drawings (118 completed to archive standard))\*
- 21.11 The ceramic objects (*c* 2000 words (none completed); seven line drawings (completed))\*
- 21.12 The ceramic building materials (*c* 3500 words (completed); two line drawings (not completed))
- 21.13 The bone, antler and ivory (*c* 2000 words (completed); 28 line drawings (completed))\*
- 21.14 The wooden objects, including inscribed wood (*c* 4000 words (completed); 32 line drawings (completed); two plates)\*

- 21.15 The leather shoes and sheet leather (*c* 7,000 words (completed); 169 line drawings (completed); two plates)\*  
 21.16 The basketry (*c* 500 words (completed))

**Chapter 22: The Post-Roman Finds (*c* 20,000 words (*c* 14,500 completed); *c* 269 line drawings (*c* 230 completed or partly complete); *c* 5 plates)**

- 22.1 The post-Roman coins (*c* 500 words (none completed))  
 22.2 The gold and silver (*c* 500 words (completed); one line drawing (completed))  
 22.3 The copper alloy (*c* 3000 words (completed); 80 line drawings (47 completed, 32 completed to archive standard, one not completed); two plates)\*  
 22.4 The ironwork (*c* 1000 words (completed); seven line drawings (one completed, six completed to archive standard))\*  
 22.5 The lead (*c* 1000 words (completed); six line drawings (completed to archive standard))\*  
 22.6 The tin and pewter (*c* 500 words (completed); two line drawings (not completed))  
 22.7 The metalworking debris (*c* 1500 words; no publication work completed)\*  
 22.8 The stone objects and architectural stone (*c* 2000 words (*c* 1000 completed); *c* 59 line drawings (54 completed to archive standard); one plate)\*  
 22.9 The clay tobacco pipes (*c* 1000 words, *c* 30 line drawings; no publication work completed)\*  
 22.10 The bone, antler and ivory (*c* 1000 words (completed); seven line drawings (completed to archive standard))\*  
 22.11 The wooden objects (*c* 2500 words (completed); 29 line drawings (21 completed, seven completed to archive standard, one not completed); one plate)\*  
 22.12 The leather shoes and sheet leather (*c* 3000 words (*c* 1500 completed); 45 line drawings (eight completed; 37 completed to archive standard); one plate)\*  
 22.13 The textiles (*c* 2500 words (completed); three line drawings (completed))\*

**Chapter 23: The Roman Environmental Evidence (*c* 51,000 words (*c* 42,000 completed); *c* 10 line drawings (none completed); *c* 5 plates)**

- 23.1 The human remains (*c* 3000 words (completed))  
 23.2 The animal bone (*c* 10,000 words (main report largely complete; residuality study partly complete))\*  
 23.3 The structural wood (*c* 2000 words, *c* 10 line drawings; no publication work completed)\*  
 23.4 Dendrochronology (*c* 4000 words (completed))  
 23.5 The charred and waterlogged plant remains, including charcoal and non-structural wood (*c* 15,000 words (largely complete))\*  
 23.6 The invertebrate remains (*c* 15,000 words (completed))\*  
 23.7 The marine molluscs (*c* 1000 words; no publication work completed)  
 23.8 Radiocarbon dating (*c* 1000 words; no publication work completed)

**Chapter 24: The Post-Roman Environmental Evidence (c 26,000 words (c 3500 completed); c 5 line drawings (none completed); c 5 plates)**

- 24.1 The animal bone (c 10,000 words; no publication work completed)
- 24.2 The structural wood (c 1000 words, c 5 line drawings; no publication work completed)\*
- 24.3 Dendrochronology (c 3000 words (completed))
- 24.4 The charred and waterlogged plant remains, including charcoal and non-structural wood (c 7000 words; no publication work completed)\*
- 24.5 The invertebrate remains (c 4000 words; no publication work completed)\*
- 24.6 Soil micromorphology (early medieval 'dark earth' in KLA C) (c 1000 words (c 500 completed))
- 24.7 The marine molluscs (c 1000 words; no publication work completed)

\* word-counts exclude detailed finds and environmental catalogues and tables, which will be published in DVD format in Volume 3 (see below)

**Bibliography**

**Index**

**VOLUME 3 (DVD)**

**(c 205-210,000 words (c 143,000 completed))**

**Preface**

Contents (including Vols 1 and 2)

List of Figures

List of Tables

List of Plates

Acknowledgements

Summary, including foreign language summaries

**Context list** (c 8600 contexts; none completed)

**Pre-Roman and Roman Artefact Catalogues (c 75-80,000 words (c 73,500 complete)) (\* indicates detailed descriptive catalogue)**

The prehistoric flints (162 artefacts; c 3000 words (completed))\*

The Roman coins (270 coins (completed))

The copper alloy (192 artefacts; c 15,000 words (completed))\*

The ironwork (27 artefacts; c 2000 words (completed))\*

The lead (12 artefacts; c 1000 words (completed))\*

The metalworking debris (quantification by context (not completed))

The stone objects, gemstones and architectural stone (83 artefacts; c 5000 words (completed))\*

The jet, shale and amber (seven artefacts; c 500 words (completed))\*

The glass (2225 fragments; c 20,000 words (largely completed))\*

The ceramic objects (33 artefacts, c 3000 words (completed))

The bone, antler and ivory (40 artefacts; c 3000 words (completed))

The wooden objects (45 artefacts; c 5000 words (completed))

The leather shoes and sheet leather (271 artefacts, *c* 15,000 words (completed))

**Detailed Post-Roman Artefact Catalogues (*c* 35,000 words (*c* 19,500 completed)) (\* indicates detailed descriptive catalogue)**

The copper alloy (158 artefacts; *c* 10,000 words (completed))\*

The ironwork (17 artefacts; *c* 1500 words (completed))\*

The lead (14 artefacts; *c* 1000 words (completed))\*

The metalworking debris (quantification by context; not completed)

The stone objects and architectural stone (60 artefacts; *c* 5000 words (*c* 1000 words completed))\*

The clay tobacco pipes (392 fragments; *c* 3000 words (not completed))\*

The bone, antler and ivory (12 artefacts; *c* 1000 words (completed))\*

The wooden objects (30 artefacts; *c* 3000 words (completed))\*

The leather shoes and sheet leather (101 artefacts; *c* 5000 words (*c* 500 completed))\*

The textiles (26 fragments; *c* 1500 words (completed))\*

**Detailed Roman Environmental Catalogues and Tables (*c* 61,000 words (*c* 50,000 completed))**

The animal bone (*c* 20,000 words (largely completed))

The structural wood (estimated *c* 40 fragments(?); *c* 3000 words (not completed))

The charred and waterlogged plant remains, including charcoal and non-structural wood (150 samples; *c* 15,000 words (largely complete))

The invertebrate remains (104 samples; *c* 20,000 words (largely complete))

The marine molluscs (*c* 2000 words (not completed))

Radiocarbon dating (*c* 1000 words (not completed))

**Detailed Post-Roman Environmental Catalogues and Tables (*c* 34,000 words (none completed))**

The animal bone (*c* 10,000 words (not completed))

The structural wood (estimated *c* 25 fragments(?); *c* 2000 words (not completed))

The charred and waterlogged plant remains, including charcoal and non-structural wood (*c* 10,000 words (not completed))

The invertebrate remains (*c* 10,000 words (not completed))

The marine molluscs (*c* 2000 words (not completed))

**Image gallery**

**9.4 OUTLINE SYNOPSIS OF THE POPULAR PUBLICATION**

(*c* 10,000 words, *c* 15 drawings and *c* 40 plates)

**Contents**

**Introduction** (*c* 250 words)

**The nature of the evidence** (*c* 500 words)

**Carlisle and the Lanes before the Romans** (*c* 250 words)

***Luguvalium*: the origins of Roman Carlisle and the ‘military/official enclave’ at the Lanes** (c 500 words)

***Civitas Carvetiorum*: the development of the Roman town and its regional significance** (c 1250 words)

**The Lanes in the Roman period: everyday life** (c 750 words)

**The ‘Dark Ages’ and the end of Roman Carlisle** (c 300 words)

**The origins of medieval Carlisle** (c 750 words)

**‘Merry Caerlel’: the city and the Lanes in the medieval period** (c 1500 words)

**Medieval life in the Lanes** (c 750 words)

**The Lanes and the emergence of the modern city** (c 700 words)

**Transformation: the Lanes in the nineteenth and twentieth centuries** (c 1250 words)

**‘Privies and dunghills’: life in the Lanes in the nineteenth and twentieth centuries** (c 1250 words)



---

## 10. RESOURCES, MANAGEMENT AND PROGRAMMING

---

### 10.1 PROGRAMMING

10.1.1 A tabulated task list detailing the products and tasks required to complete the north Lanes project, and cross-referenced to the project's aims and methods, is appended (*Appendix 3*), together with a gantt chart. The preferred date for the key OA North staff to commence work would be early July 2009, although this date is not critical.

### 10.2 MANAGEMENT AND PROJECT ASSURANCE

10.2.1 OA North would undertake the publication work on behalf of English Heritage, who will be provided with updates on the progress of the work at regular intervals during the course of the project. To this end, a small advisory group or project board (English Heritage 2006, 18) would be convened at quarterly intervals. Membership would comprise representatives of the project's key stakeholders, namely Carlisle City Council and its archaeological advisors in Cumbria County Council's Historic Environment Service, Tullie House Museum and Art Gallery, and English Heritage, together with key members of the OA North project team (*Section 10.3*).

10.2.2 OA North places importance on the tight and effective management of projects in order to deliver best value to our clients. An element of managerial time will be dedicated to on-going quality-assurance and internal monitoring. This is part of our internal quality assurance system and ensures the prompt delivery of the agreed report or other deliverables on time and budget. The management team is detailed below (*Section 10.3*).

10.2.3 OA North has considerable experience of excavation and post-excavation projects of all periods, including major projects in Carlisle itself, most notably the Carlisle Millennium Project and the Rickergate (Lanes extension) Project (Zant in press; Howard-Davis forthcoming; Zant *et al* forthcoming). To date, 16 titles have been published in OA North's *Lancaster Imprints* series, attesting to the company's good publication record. OA North is an Institute of Field Archaeologists (IFA) registered organisation (RAO 17), and all members of staff operate to the IFA Code of Conduct.

### 10.3 PROJECT TEAM

10.3.1 The members of the project team have been selected for their knowledge and experience of post-excavation projects, research, and of the archaeology of Carlisle, thereby providing both good value and good quality for this project. In accordance with *MoRPHE* guidelines (English Heritage 2006, 16-18), the team will include a Project Executive (*Section 10.3.2*) with ultimate responsibility for the project's outcome, a Project Manager (*Section 10.3.3*), who will oversee the project's day-to-day operation, and a team of Experts (or specialists), who will provide the project's expertise and undertake aspects of

the project in accordance with the project design (*Section 10.3.4-9; Section 10.3.11-15*). Project support will be supplied, as required, by OA North's Senior IT Support and Development Officer (*Section 10.3.10*).

- 10.3.2 **Project Executive:** the project will be under the executive direction of *Rachel Newman, BA, FSA*, Senior Executive Officer, Research and Publication. Rachel has worked in the North West for over 25 years, and has an extensive knowledge of Roman, early medieval and medieval archaeology in the region. She maintains an overview on all post-excavation projects in the office and is a Vice-President of the Cumberland and Westmorland Antiquarian and Archaeological Society. Rachel will also provide in-house quality assurance for the north Lanes project.
- 10.3.3 **Project Manager:** dependent upon the precise timetabling of the project, the northern Lanes will be managed either by Nick Johnson, Senior Project Manager with OA North, or Richard Gregory. A CV will be supplied when the project timetable has been finalised.
- 10.3.4 **Specialists (OA North):** *John Zant, BA, MIFA*, Post-Excavation Project Officer with OA North, was originally employed by CAU to undertake the analysis and reporting of the north Lanes stratigraphic sequence. He will complete his stratigraphic text, and will be responsible for supervising and co-ordinating much of the other work required to bring the north Lanes to publication. He will also liaise with external specialists and other relevant personnel to ensure that work is carried out to time and budget, and to keep all interested parties informed of progress and any other developments. John has nearly 15 years experience of dealing with excavation and post-excavation projects in Carlisle, and is thoroughly familiar with the archaeology of the city. He was a key member of the CAU team that worked on the north Lanes post-excavation programme in the mid-1990s, being responsible for preparation of the site phasing from the primary site records and the authorship of the stratigraphic text for the monograph report.
- 10.3.5 *Christine Howard-Davis, BA, MIFA*, Finds Manager with OA North, will be responsible for revising and completing a number of the north Lanes artefactual reports, in those instances where the original authors are unwilling or unable to undertake the work. She will also be responsible for managing and co-ordinating other aspects of the finds work, and for editing and collating reports received from external specialists. Chris has extensive experience in the assessment, analysis and management of material archives from many excavations in north-west England, including the assessment of large quantities of material from the Millennium and Rickergate (Lanes extension) projects in Carlisle. Chris was also responsible for the detailed assessment of the artefactual archive during Stage 2 of the Carlisle Archives project.
- 10.3.6 *Elizabeth Huckerby, BA, MSc, MIFA*, Environmental Manager with OA North, will assess the post-Roman environmental samples for their palaeobotanical potential and will also be responsible for managing and co-ordinating other aspects of the palaeoenvironmental work. Elizabeth has worked in the North West for many years and has extensive knowledge of the palaeoenvironmental record, having acted as palaeoecologist on the English Heritage-funded North

West Wetlands Survey. She also undertook the analysis of the pollen from the Carlisle Millennium project.

- 10.3.7 *Andrew Bates, BSc, MSc*, Project Officer with OA North, will be responsible for assessment and analysis of the post-Roman animal bones, including the production of an assessment report and, if appropriate, an analytical report suitable for publication. Andrew has 12 years experience as an animal bone specialist and co-authored the publication report on the large assemblage of animal bones recovered during the Carlisle Millennium excavations (Evans and Bates forthcoming). In recent years, he has also completed the analysis of pre-Roman, Roman and medieval animal bone assemblages from the Mitchell's Brewery site in Lancaster (Bates and Stallibrass in prep), and the excavations on the Darrington-Dishforth section of the A1(M) in West Yorkshire (Bates 2007; Bates *et al* 2007).
- 10.3.8 *Kathryn Blythe, BA, MA, AIFA*, Project Officer with OA North, will undertake map regression analysis and social history research on the north Lanes area. Kathryn has over 12 years experience of archaeological fieldwork and post-excavation work, including two years as an archaeological consultant. She has undertaken or contributed to a wide variety of desk-based projects, including archaeological desk-based assessments, Conservation Management Plans, Environmental Impact Assessments and landscape surveys. For OA North, Kathryn has provided major contributions to the Lancaster Urban Archaeological Database (UAD), the Chester Renaissance Project, and the Museum of Lancashire's Conservation Management Statement.
- 10.3.9 *Jeremy Bradley, BA, MA*, Project Officer with OA North, will undertake the analysis and reporting of the extremely large assemblage of post-Roman pottery from the northern Lanes. Jeremy has many years experience of excavation and post-excavation work in the north of England. He has worked on the analysis and reporting of several post-Roman pottery assemblages, most notably those from the Millennium excavations at Carlisle (Bradley and Miller forthcoming) and from a medieval pottery production site at Samlesbury, Lancashire (Wood *et al* in prep).
- 10.3.10 *Joanne Cook, BSc, MLitt, AIFA*, OA North's Senior IT Support and Development Officer, will be responsible for the creation of the Lanes context database, and will oversee the data input. She will also provide IT support throughout the project. Jo was responsible for the creation and subsequent adaption of the Carlisle Archives project and Carlisle Millennium project databases and had a lead role in the development of the recently completed Carlisle Urban Archaeological Database (UAD) (OA North 2007). She also contributed to the production of the Carlisle Archives project assessment reports (OA North 2003; forthcoming).
- 10.3.11 *Adam Parsons, BA*, Illustrator with OA North, will be responsible for all aspects of illustration, and will take a lead role in the design and production of the publication reports. His work will include the preparation of new publication drawings (finds, stratigraphic illustrations and standing building illustrations, as required) and the completion of partially-complete publication illustrations present in the project archive. He will also undertake digitisation

of all publication drawings and photographs, none of which are currently in digital format. Adam has over six years experience with OA North as an illustrator. His portfolio includes finds illustration and the preparation of stratigraphic and interpretative drawings, including reconstructions, for a number of published (or soon-to-be published) reports, including the Carlisle Millennium excavations, *The Archaeology of the A1(M), Norton Priory: Monastery to Museum*, and the popular booklet, *Flowing Through Time*.

10.3.12 *Chris Wild, BSc*, Buildings Project Officer with OA North, will be responsible for analysing the data generated by the Lanes standing building recording programme, and for producing a text for inclusion in the publication report. He will also supervise and co-ordinate other aspects of the standing buildings work and the historical/social history research, and will liaise with external specialists and other appropriate personnel. Chris has 15 years experience of all aspects of archaeological fieldwork and post-excavation, and particularly building recording, including rectified photographic survey and a variety of instrument survey work. During the 2001 Foot and Mouth crisis, he worked as a Building Conservation Officer in Cumbria under secondment to DEFRA, monitoring the cleaning of traditional buildings. He carried out the detailed building survey of the Murrays' Mills complex in Manchester, and co-authored the resulting monograph (Miller and Wild 2007).

10.3.13 **External specialists:** the following external specialists will revise their existing report texts in the light of recent research:

- David Shotter (Roman coins);
- Christopher Tolan-Smith (prehistoric flints);
- Sue Winterbottom (Roman and post-Roman sheet leather);
- Penelope Walton-Rogers (post-Roman textiles);
- Celia Harding (human bone);
- Simon Davis (Roman animal bone, main report);
- Jacqui Huntley (Roman plant remains);
- Harry Kenward (Roman insect remains);
- Richard MacPhail (soil micromorphology);
- Cathy Tyers (Roman and post-Roman dendrochronology).

10.3.14 The following external specialists will complete their incomplete report texts:

- Jenny Price (Roman glass);
- Sue Stallibrass (Roman animal bone, residuality study).

10.3.15 In the case of artefactual and ecofactual materials where no previous assessment or analysis has been done, or in cases where existing reports cannot be revised or completed either by the original author or in-house OA North personnel, the following specialists will undertake the work:

- David Higgins (clay tobacco pipes);
- Tim Young (metalworking debris);
- David Smith (post-Roman insect remains);
- Stephen Wadson (samian);
- Kay Hartley (mortaria).

---

## 11. BIBLIOGRAPHY

---

### PRIMARY SOURCES

Asquith, R, 1853 *Plan of the Borough of Carlisle*, Carlisle

Ordnance Survey, 1865 25-inch, 1st edn, Cumberland Sheet 23.3

Ordnance Survey, 1899 25-inch, 2nd edn, Cumberland Sheet 23.3

Wood, J, 1821 *Plan of the city of Carlisle from actual survey*, CRO(C) CaC17/3

### SECONDARY SOURCES

Alfrey, J, 2006 The Lanes, in Scott-Parker 2006, 39-57

Alfrey, J, nd *The poor houses of the Lanes: a social history of housing in the Lanes area of Carlisle in the nineteenth century*, unpubl diss

Bates, A, 2002 Assessment of the animal bone, in OA North, *Carlisle Millennium project, Volume 2: post-excavation assessment report*, unpubl rep, 158-67

Bates, A, 2007 Animal bones from other sites, in Brown *et al* 2007, 337-51

Bates, A, Jones, G, and Orton, D, 2007 Animal bone from the Ferry Fryston chariot burial, in Brown *et al* 2007, 326-37

Bates, A, and Stallibrass, S, in preparation The animal bones, in C Howard-Davis, I Miller, N J Hair, and R Newman (eds), in preparation *Excavations at Mitchell's Brewery, Lancaster*

Bradley, J, and Miller, I, forthcoming *The medieval and post-medieval pottery*, in C Howard-Davis forthcoming

Brennand, M (ed), 2006 *The archaeology of north-west England: an archaeological research framework for the north-west region. Volume 1: resource assessment*, Archaeol North-West, **8**, Manchester

Brennand, M (ed), 2007 *Research and archaeology in north-west England: an archaeological research framework for the north-west region. Volume 2: research agenda and strategy*, Archaeol North-West, **9**, Manchester

Brennand, M, Chitty, G, and Newman, R, 2007 Research Strategy, in Brennand 2007, 159-97

Brown, F, and Howard-Davis, C, 2008 *Norton Priory: Monastery to museum. Excavations 1970-87*, Lancaster Imprints, **16**, Lancaster

- Brown, F, Howard-Davis, C, Brennand, M, Boyle, A, Evans, T, O'Connor, S, Spence, A, Heawood, R, and Lupton, A, 2007 *The archaeology of the A1 (M) Darrington to Disforth DBFO road scheme*, Lancaster Imprints, **12**, Lancaster
- Burnham, B C, Collis, J, Dobinson, C, Haselgrove, C, and Jones, M, 2001 Themes for urban research c 100 BC to AD 200, in S James and M Millett (eds), *Britons and Romans: advancing an archaeological agenda*, CBA Res Rep, **125**, York, 67-76
- Buxton, K, and Howard-Davis, C, 2000 *Bremetenacum: excavations at Roman Ribchester 1980, 1989–1990*, Lancaster Imprints, **9**, Lancaster
- Caruana, I D, in preparation *The Roman forts at Carlisle: excavations at Annetwell Street, 1973–84*
- Chitty, G, and Brennand, M, 2007 Research Agenda introduction, in Brennand 2007, 7-30
- Clare, T, and Richardson, G G S, in preparation *A salvage operation in Scotch Street, Carlisle*
- DCMS, 2001 *The historic environment: a force for our future*, London
- Edwards, B J N, and Shotter, D C A, 2005 Two Roman milestones from the Penrith area, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 3 ser, **5**, 65–77
- Edwards, J, 2000 Pottery studies in the North-West 1975-2000 and beyond, *Medieval Ceramics*, **24**, 40-8
- English Heritage, 1991a *Management of archaeological projects*, 2nd edn, London
- English Heritage, 1991b *Exploring our past: strategies for the archaeology of England*, London
- English Heritage, 1997 *English Heritage Archaeology Division, draft research agenda*, unpubl rep
- English Heritage, 2002 *Environmental archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*, London
- English Heritage, 2005a *Making the past part of our future: English Heritage strategy 2005-2010*, London
- English Heritage, 2005b *Discovering the past, shaping the future: Research Strategy 2005-2010*, London
- English Heritage, 2005c *English Heritage Research Agenda: an introduction to English Heritage's research themes and programmes*, London
- English Heritage, 2006 *Management of research projects in the historic environment (MoRPHE)*, London

English Heritage, 2008 *SHAPE 2008: a strategic framework for historic environment activities and programmes in English Heritage*, London

English Heritage, nd *Minimum standards for MAP2 project designs and assessments: supplementary guidance to MAP2, draft notes*, London

Evans, E, and Bates, A, forthcoming *The animal bones*, in Howard-Davis forthcoming

Hall, A R, and Huntley, J P, 2007 *A review of the evidence for macrofossil plant remains from archaeological deposits in northern England*, English Heritage Research Department Res Ser, **87/2007**, London

Harding, C M, 2000 *The human bone*, in McCarthy 2000, 91

Hartley, K F, nd *Evaluation of stamped mortaria (and unstamped) from the Lanes II excavations at Carlisle*, unpubl rep

Hird, M L, and McCarthy, M R, 1996 *A research design for samian ware from the northern end of the Lanes, Carlisle, Cumbria*, Carlisle Archaeol Unit, unpubl rep

Hird, M L, McCarthy, M R, and Hartley, K F, 1996 *A research design for mortaria, with particular reference to mortarium stamps from the northern end of the Lanes, Carlisle*, Carlisle Archaeol Unit, unpubl rep

Hodgson, J, and Brennand, M (eds), 2006 *Prehistoric period resource assessment*, in Brennand 2006, 23-58

Hodgson, J, and Brennand, M (eds), 2007 *The prehistoric period research agenda*, in Brennand 2007, 31-54

Hogg, R, 1955 *Excavations in Carlisle, 1953*, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **55**, 59-107

Howard-Davis, C (ed), forthcoming *The Carlisle Millennium Project: excavations in Carlisle, 1998-2001. Volume 2: the finds*, Lancaster Imprints, **15**, Lancaster

Huckerby, E, forthcoming *The charred and waterlogged plant remains*, in Howard-Davis forthcoming

Huntley, J P, 1989a *Plant remains from Annetwell Street, Carlisle, Cumbria: the bulk samples*, Ancient Monuments Laboratory Rep, **1/89**, unpubl rep

Huntley, J P, 1989b *Waterlogged plant remains from Annetwell Street, Carlisle, Cumbria, Part 2: data analysis*, Ancient Monuments Laboratory Rep, **37/89**, unpubl rep

Huntley, J P, 1989c *Plant remains from Annetwell Street, Carlisle, Cumbria: a synthesis*, Ancient Monuments Laboratory Rep, **114/89**, unpubl rep

Huntley, J P, in preparation *The charred and waterlogged plant remains from Roman levels at the northern Lanes*

Jones, B C, 1981 The Grey Friars, Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **81**, 160–2

Kenward, H K, 1978 *The analysis of archaeological insect assemblages: a new approach*, Archaeol York, **19/1**, London

Kenward, H K, in preparation *The insect remains*, in Caruana in preparation

Kenward, H K, and Hall, A R, 1995 *Biological evidence from Anglo-Scandinavian deposits at 16-22 Coppergate*, Archaeol York, **14/7**, London

Kenward, H K, Hall, A R, and Jones, A K G, 1980 A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits, *Sci and Archaeol*, **22**, 3-15

Kenward, H K, Large, F, and Carrott, J, 1998 *The archaeological significance of insect and other invertebrate remains from Keay's and Law's Lanes, the Lanes, Carlisle: technical report*, Univ York Environ Archaeol Unit Rep, **98/32**, unpubl rep

Lucht, W H, 1987 *Die Kafer Mitteleuropas*, Krefeld

Lysons, S, 1815 *Magna Britannia*, **4**, London

MacPhail, R, 1980 *Soil report on 'dark earth' from Keay's Lane, Carlisle*, Ancient Monuments Laboratory Rep, **3058**, unpubl rep

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

McCarthy, M R, and Huntley, J P, 1996 *A research design for waterlogged wood and plant remains from the northern end of the Lanes, Carlisle*, Carlisle Archaeol Unit, unpubl rep

McCarthy, M R, Padley, T G, and Taylor, J, 1988 *The Lanes Project: an assessment*, Carlisle Archaeol Unit, unpubl rep

McCarthy, M R, and Taylor, J, 1990 Pottery of the Anglo-Saxon to post-medieval periods, in M R McCarthy, *A Roman, Anglian and medieval site at Blackfriars Street, Carlisle: excavations 1977-9*, Cumberland Westmorland Antiq Archaeol Soc Res Ser, **4**, Kendal, 301-11

McNeil, R, and Newman, R (eds), 2006a The post-medieval resource assessment, in Brennand 2006, 145-64

McNeil, R, and Newman, R (eds), 2006b The industrial and modern resource assessment, in Brennand 2006, 165-94



- Mellor, M, 1994 *Medieval ceramic studies in England: a review for English Heritage*, London
- Miller, I, and Wild, C, 2007 *A and G Murray and the cotton mills of Ancoats*, Lancaster Imprints, **13**, Lancaster
- Millett, M, 2001 Approaches to urban societies, in S James and M Millett (eds), *Britons and Romans: advancing an archaeological agenda*, CBA Res Rep, **125**, York, 60-6
- Museums and Galleries Commission, 1992 *Standards in the museum care of archaeological collections*, London
- Newman, C (ed), 2006 The medieval period resource assessment, in Brennand 2006, 115-44
- Newman, C, and Newman, R (eds), 2007 The medieval period research agenda, in Brennand 2007, 95-114
- Newman, R, and McNeil, R (eds), 2007a The post-medieval period research agenda, in Brennand 2007, 115-52
- Newman, R, and McNeil, R (eds), 2007b The industrial and modern period research agenda, in Brennand 2007, 133-58
- Newman, R M (ed), 2006 The early medieval period resource assessment, in Brennand 2006, 91-114
- Newman, R M, and Brennand, M (ed), 2007 The early medieval period research agenda, in Brennand 2007, 73-94
- OA North, 2002 *Rickergate, Carlisle: post-excavation assessment report*, unpubl rep
- OA North, 2003 *Carlisle Archives Project Stage 1 report*, unpubl rep
- OA North, 2004 *Carlisle Millennium Project: excavations in Carlisle, 1998-2001*, Lancaster
- OA North, 2006 *The northern Lanes, Carlisle, Cumbria: proposals*, unpubl rep
- OA North, 2007 *Carlisle Urban Archaeological Database: Method Statement*, unpubl rep
- OA North, forthcoming *Carlisle Archives Project Stage 2 report*, unpubl rep
- Owen, J (ed), 1995 *Towards an accessible archaeological archive*, Soc Mus Archaeol, London
- Perriam, D R, 1976 The demolition of Carlisle city walls, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **76**, 184-98

Philpott, R (ed), 2006 The Romano-British period resource assessment, in Brennand 2006, 59-90

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

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

Smith, D, and Tetlow, E, forthcoming *The insect remains*, in Howard-Davis forthcoming

Smith, K G V, 1973 *Insects and other arthropods of medical importance*, London

Smith, K G V, 1989 An introduction to the immature stages of British flies, *Handbooks for the identification of British insects*, **10/14**, London

Stallibrass, S, 1997 *An assessment of the Romano-British animal bones recovered from excavations in the northern part of The Lanes, Carlisle, Cumbria, 1978-1982*, unpubl rep

Summerson, H R T, 1993 *Medieval Carlisle: the city and the Borders from the late eleventh to the mid-sixteenth century*, Cumberland Westmorland Antiq Archaeol Soc Extra Ser, **25**, 2 vols, Kendal

Swan, V, McBride, R M, and Hartley, K F, forthcoming The Roman coarse pottery, in Howard-Davis forthcoming

Tullie House Museum, nd *Guidelines for excavators for the deposition of archaeological archives (draft)*, unpubl doc

Walker, K, 1990 *Guidelines for the preparation of excavation archives for long-term storage*, UKIC, London

Ward, M, forthcoming The samian, in Howard-Davis forthcoming

Wood, N, Bradley, J, and Miller, I, in preparation *A medieval pottery production site at Samesbury, Lancashire*

Zant, J M, in press *The Carlisle Millennium Project: excavations in Carlisle, 1998-2001. Volume 1: the stratigraphy*, Lancaster Imprints, **14**, Lancaster

Zant, J M, Miller, I, and Mould, Q, forthcoming *The northern defences of medieval Carlisle: excavations at Rickergate, 1998-99*

## 12. COSTS

Resource	Person	Cost per day (£)	No days	Total cost (£)
<b>OA North Staff</b>				
Senior Executive Officer	Rachel Newman	281	32.5	9132.50
Senior Project Manager	tbc	211	80.5	16,985.50
Senior Project Manager	Ian Miller	211	10	2110.00
Finds Manager	Chris Howard-Davis	170	230	39,100.00
Environmental Manager	Elizabeth Huckerby	154	38	5852.00
Project Officer	John Zant	154	255	39,270.00
Project Officer	Chris Wild	154	136	20,944.00
Project Officer	Jeremy Bradley	154	103	15,862.00
Project Officer	Andy Bates	154	32	4928.00
Project Officer (HMS)	Kathryn Blythe	154	23.5	3619.00
Senior IT Co-ordinator	Jo Cook	154	7	1078.00
Project Officer OA East	Stephen Wadeson	154	46	7084.00
Illustrator	Adam Parsons	121	220.5	26,680.50
OA Illustrator	tbc	121	1.5	181.50
Environmental Supervisor	Sandra Bonsall	108	25.5	2754.00
Supervisor	tbc	108	5.5	594.00
Assistant	tbc	90	180	16,200.00
Sub-total				<b>212,375.00</b>
<b>Non-staff costs</b>				
Consumables				1000.00
Travel				1500.00
Accommodation				1000.00

Sub-total				<b>3500.00</b>
Overheads @ 25%				<b>53,968.75</b>
<b>Specialists</b>				
D Higgins		225	2	450.00
T Youngs		220	4	880.00
D Smith		650	1.5	975.00
J Alfrey	CADW	N/a	2	-
J Price		210	30	6300.00
K Hartley		250	30	7500.00
S Davis		200	2	400.00
D Shotter		150	4	600.00
C Tolan-Smith		300	1	300.00
S Winterbottom		180	3	540.00
P Walton-Rogers		190	0.5	95.00
C Harding		200	0.5	100.00
H Kenward		250	2	500.00
R MacPhail		275	1	275.00
J Huntley	EH	N/a	16	-
S Stallibrass	EH	N/a	8	-
C Tyers	EH	N/a	3	-
Sub-Total				<b>18,915.00</b>
Specialists' Travel				<b>300.00</b>
Overheads @ 10%				<b>1921.50</b>
<b>Total costs</b>				<b>290,980.25</b>

<b>Year</b>	<b>2009/10</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
Estimated Expenditure @ 2009/10 costs	£54,574.25	£136,863.38	£56,536.25	£43,006.37
Inflation	-	2.5%	2.5%+2.5%	2.5%+2.5%+2.5%
Yearly Total	£54,574.25	£140,284.96	£59,395.40	£46,313.16
Cumulative Total	£54,574.25	£194,859.21	£254,254.61	£300,567.77

## APPENDIX 1: PRE-ROMAN AND ROMAN INDIVIDUALLY REGISTERED FINDS REQUIRING ILLUSTRATION

Note: the artefacts are cross-referenced with publication-standard artefact drawings found in the Lanes project archive.

Material category	Catalogue no	Description	Fig no in draft CAU/CAL Roman finds fascicule	Drawing found
<i>Gold (3)</i>	B1	Bead	4.1	✓
	B2	Jewellery	4.1	✓
	B3	Chain?	4.1	✓
<i>Copper alloy (121)</i>	C1	Hod Hill-derivative brooch	4.2	✓
	C2	Trumpet brooch	4.2	✓
	C3	Trumpet brooch	4.2	✓
	C4	Headstud brooch	4.2	✓
	C5	Plate brooch	4.2	✓
	C6	Enamelled disc brooch	4.2	✓
	C7	Knee brooch	4.3	✓
	C8	Knee brooch, S-profile	4.3	✓
	C9	Knee brooch, S-profile	4.3	✓
	C11	Knee brooch, enamelled	4.3	✓
	C12	Crossbow brooch	4.3	✓
	C13	Crossbow brooch	4.3	✓
	C15	Bow brooch	4.3	✓
	C17	Penannular brooch	4.3	✓
	C21	Penannular brooch	4.3	✓
	C23	Penannular brooch	4.3	✓
	C25	Penannular brooch	4.3	✓
	C26	Finger-ring and intaglio	4.4	✓
	C27	Earring	4.4	✓
	C28	Earring	4.4	✓
	C29	Bracelet	4.4	✓
	C30	Bracelet	4.4	✓
	C31	Bracelet	4.4	✓
	C32	Button and loop fastener	4.4	✓
	C33	Buckle	4.4	✓
C34	Buckle	4.4	✓	
C35	Buckle	4.4	✓	
C36	Pin	4.5	✓	
C37	Pin	4.5	✓	
C38	Pin	4.5	✓	
C39	Pin	4.5	✓	
C40	Pin	4.5	✓	
C42	Pin	4.5	✓	
C43	Nail cleaner?	4.5	✓	
C44	Toilet spoon	4.5	✓	
C45	Toilet spoon	4.5	✓	

Material category	Catalogue no	Description	Fig no in draft CAU/CAL Roman finds fascicule	Drawing found
<i>Copper alloy (continued)</i>	C46	Toilet spoon	4.5	✓
	C48	Cosmetic set; double-ended pestle	4.5	✓
	C49	Spatula	4.5	✓
	C52	Mirror	4.6	✓
	C53	Mirror	4.6	✓
	C55	Flagon lid	4.7	✓
	C56	Flagon lid	4.7	✓
	C58	Handle	4.7	✓
	C59	Saucepan handle	4.7	✓
	C60	Bucket escutcheon	4.7	✓
	C62	Spoon	4.8	✓
	C63	Circular fitting	4.8	✓
	C64	Seal box	4.8	✓
	C65	Seal box	4.8	✓
	C66	Linchpin	4.8	✓
	C68	Needle	4.8	✓
	C70	Needle	4.8	✓
	C71	Plumb-bob	4.8	✓
	C72	Tool: I-shaped handle	4.8	✓
	C73	Tool	4.9	✓
	C75	Drop handle	4.9	✓
	C76	Drop handle	4.9	✓
	C77	Drop handle	4.9	✓
	C78	Drop handle	4.9	✓
	C79	Drop handle	4.9	✓
	C80	Drop handle	4.9	✓
	C81	Drop handle?	4.9	✓
	C86	Double-spiked loop	4.9	✓
	C87	Bell-shaped stud	4.9	✓
	C89	Bell-shaped stud	4.9	✓
	C90	Bell-shaped stud	4.9	✓
	C91	Bell-shaped stud	4.9	✓
	C92	Bell-shaped stud	4.9	✓
	C93	Bun-headed stud	4.10	✓
	C94	Bun-headed stud	4.10	✓
	C96	Bun-headed stud	4.10	✓
	C97	Bun-headed stud	4.10	✓
	C98	Bun-headed stud	4.10	✓
	C99	Bun-headed stud	4.10	✓
	C103	Domed stud	4.10	✓
	C105	Flat-headed stud	4.10	✓
	C106	Dome-headed stud	4.10	✓
	C108	Dome-headed stud	4.10	✓
	C109	Dome-headed stud	4.10	✓
	C110	Dome-headed stud	4.10	✓
	C112	Conical-headed stud	4.10	✓
	C113	Lion-headed stud	4.10	✓
	C114	Stud	4.10	✓
	C115	Stud	4.10	✓
	C117	Knob	4.11	✓

<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Fig no in draft CAU/CAL Roman finds fascicule</b>	<b>Drawing found</b>
	C120	Lock bolt	4.11	✓
<i>Copper alloy (continued)</i>	C121	Lock bolt	4.11	✓
	C122	Lock bolt	4.11	✓
	C124	Ring key	4.11	✓
	C125	Key	4.11	✓
	C126	Key	4.11	✓
	C127	Hasp	4.11	✓
	C128	Hinge?	4.11	✓
	C129	Corner strengthener	4.12	✓
	C130	Fitting	4.12	✓
	C131	Fitting	4.12	✓
	C134	Washer?	4.12	✓
	C135	Binding	4.12	✓
	C155	Pendant	4.13	✓
	C157	Belt fitting; phallic	4.13	✓
	C158	Belt mount	4.13	✓
	C159	Belt plate	4.13	✓
	C162	Buckle	4.13	✓
	C163	Mount	4.13	✓
	C164	Mount	4.13	✓
	C165	Fitting	4.13	✓
	C167	Military pendant	4.13	✓
	C168	Military pendant	4.13	✓
	C170	Phallic amulet	4.14	✓
	C171	Double phallic amulet	4.14	✓
	C172	?Votive, miniature adze-hammer?	4.14	✓
	C173	Foot from statue?	4.14	✓
	C176	Unidentified object	4.15	✓
	C179	Unidentified object	4.15	✓
	C180	Unidentified object	4.15	✓
	C182	Unidentified object	4.15	✓
	C185	Unidentified object	4.15	✓
	C186	Unidentified object	4.15	✓
	C187	Unidentified object	4.15	✓
	C188	Unidentified object	4.15	✓
<i>Iron (10)</i>	D2	Linchpin	5.1	✓
	D3	Linchpin	5.1	✓
	D4	Hipposandal	5.1	✓
	D5	Knife	5.1	✓
	D7	Modelling tool?	5.1	✓
	D8	Netting needle	5.1	✓
	D10	Chain	5.2	✓
	D11	Padlock	5.2	✓
	D21	Ferrule	5.3	✓
	D23	Fitting	5.3	✓
<i>Lead (3)</i>	E7	Block	5.4	✓
	E8	Tube	5.4	✓
	E11	Strip	5.4	✓
<i>Fired clay (7)</i>	F1	Lamp	6.1	✓



Material category	F2 Catalogue no	Lamp Description	6.1 Fig no in draft CAU/CAL Roman finds fascicule	✓ Drawing found
<i>Fired clay (continued)</i>	F5	Lamp	6.1	✓
	F6	Candlestick	6.1	✓
	F12	Inkwell?	6.2	✓ (labelled F25 on drawing)
	F31	Crucible	6.2	✓
	F32	Crucible	6.2	✓
<i>Flints (16)</i>	G2	Microlith	No figure number (mounted with G3-4, G6, G8, G12)	✓
	G3	Microlith	See G2	✓
	G4	Microlith	See G2	✓
	G6	Bladelet	See G2	✓
	G8	Bladelet	See G2	✓
	G12	Bladelet	See G2	✓
	G22	Awl/piercer	No figure number (mounted with G23- 30)	✓
	G23	Awl/piercer	See G22	✓
	G24	Double awl/piercer	See G22	✓
	G25	End scraper with tang	See G22	✓
	G26	Scraper	See G22	✓
	G27	Scraper	See G22	✓
	G28	Blade	See G22	✓
	G29	Retouched flake	See G22	✓
	G30	Fabricator	See G22	✓
	G31	Polished axe	See G22	✓
			See G22	
<i>Other stone objects (58)</i>	G73	Intaglio	7.8	✓
	G74	Intaglio	7.8	✓
	G75	Intaglio	7.8	✓
	G77	Lid/architectural fragment	7.9	✓
	G78	Mortar	7.9	✓
	G79	Quern	7.10	✓
	G80	Quern	7.10	✓
	G81	Quern	7.10	✓
	G83	Quern	7.10	✓
	G84	Quern	7.11	✓
	G85	Quern	7.11	✓
	G86	Quern	7.11	✓
	G88	Quern	7.11	✓
	G91	Quern	7.11	✓
	G96	Quern	7.12	✓
	G97	Quern	7.12	✓
	G98	Quern	7.12	✓
	G99	Quern	7.12	✓
	G105	Grinding stone	7.13	✓
	G106	Quern	7.14	✓
	G107	Quern	7.14	✓
	G108	Quern	7.14	✓

<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Fig no in draft CAU/CAL Roman finds fascicule</b>	<b>Drawing found</b>
	G109	Quern	7.14	✓
<i>Other stone objects (continued)</i>	G110	Quern	7.15	✓
	G111	Quern	7.15	✓
	G112	Quern	7.15	✓
	G113	Quern	7.16	✓
	G114	Quern	7.17	✓
	G115	Quern	7.16	✓
	G116	Quern	7.17	✓
	G117	Quern	7.17	✓
	G119	Quern	7.17	✓
	G120	Millstone	7.18	✓
	G122	Quern	7.18	✓
	G124	Quern	7.18	✓
	G125	Counter	7.19	✓
	G126	Counter	7.19	✓
	G127	Counter	7.19	✓
	G128	Counter/lid	7.19	✓
	G129	Hypocaust pillar	7.20	✓
	G130	Hypocaust pillar	7.20	✓
	G131	Pivot stone?	7.21	✓
	G132	Moulding	7.21	✓
	G133	Moulding	7.21	✓
	G134	Moulding	7.21	✓
	G135	Moulding	7.21	✓
	G137	Moulded block?	7.22	✓
	G138	Facing stone	7.22	✓
	G144	Whetstone	7.23	✓
	G145	Whetstone	7.23	✓
	G146	Whetstone	7.23	✓
	G147	Whetstone	7.23	✓
	G148	Whetstone	7.23	✓
	G149	Whetstone	7.23	✓
	G150	Whetstone	7.23	✓
	G151	Sculpture	7.24	✓
	G152	Sculpture	7.24	✓
	G153	Sculpture with inscription	7.25	✓
<i>Jet/shale/amber (7)</i>	H1	Amber finger-ring	7.26	✓
	H2	Jet finger-ring	7.26	✓
	H3	Shale bead	7.26	✓
	H4	Amber bead	7.26	✓
	H5	Jet bangle	7.26	✓
	H6	Shale bangle	7.26	✓
	H7	Shale platter	7.26	✓
<i>Bone/antler (28)</i>	J1	Pin	9.1	✓
	J3	Pin	9.1	✓
	J4	Pin	9.1	✓
	J7	Pin	9.1	✓
	J9	Pin	9.1	✓
	J10	Pin	9.1	✓
	J11	Pin	9.1	✓

Material category	J12 Catalogue no	Inlaid box Description	9.1 Fig no in draft CAU/CAL Roman finds fascicule	✓ Drawing found
<i>Bone/antler (continued)</i>	J13	Counter	9.1	✓
	J15	Counter	9.1	✓
	J17	Counter	9.1	✓
	J19	Counter	9.1	✓
	J20	Counter	9.1	✓
	J21	Counter	9.1	✓
	J23	Counter	9.1	✓
	J24	Needle	9.2	✓
	J26	Handle/cheek piece	9.2	✓
	J27	Tool; handle	9.2	✓
	J28	Tool; handle	9.2	✓
	J29	Rake	9.3	✓
	J33	Pin rough-out	9.4	✓
	J34	Toggle	9.4	✓
	J35	Toggle	9.4	✓
	J36	Toggle	9.4	✓
	J37	Amulet	9.4	✓
	J38	Point	9.4	✓
	J39	Arrow-shaped object	9.4	✓
	J40	Unidentified object	9.4	✓
<i>Wooden objects (32)</i>	K1	Clog	10.1	✓
	K2	Comb	10.2	✓
	K3	Comb	10.2	✓
	K4	Furniture	10.3	✓
	K5	Barrel	10.4	✓
	K6	Barrel stave	10.5	✓
	K7	Barrel head	10.5	✓
	K8	Barrel head	10.5	✓
	K9	Barrel head	10.5	✓
	K10	Barrel head	10.5	✓
	K11	Tub	10.6	✓
	K12	Tankard	10.7	✓
	K13	Bung	10.7	✓
	K14	Bung	10.7	✓
	K15	Scoop	10.8	✓
	K16	Bowl	10.9	✓
	K18	Bowl	10.9	✓
	K21	Writing tablet	10.10	✓
	K22	Writing tablet	10.10	✓
	K25	Writing tablet	10.10	✓
	K27	Writing tablet	10.10	✓
	K30	Wheel	10.11	✓
	K31	Bobbin	10.12	✓
	K32	Bobbin	10.12	✓
	K34	Offcut	10.12	✓
	K35	Peg	10.13	✓
	K36	Peg	10.13	✓
	K37	Peg?	10.13	✓
	K38	Unidentified object	10.13	✓
	K41	Unidentified object	10.13	?

	(K42)	Unidentified object	No figure number	✓
<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Fig no in draft CAU/CAL Roman finds fascicule</b>	<b>Drawing found</b>
<i>Wooden objects (continued)</i>	K43	Unidentified object	10.13	✓
	K45	Unidentified object	10.13	✓
<i>Leather (shoes) (66)</i>		Nailed shoes (29)	11.1-11.5	✓
		Latchet boots (9)	11.6	✓
		Sandals (6)	11.7	✓
		Stitched shoes (8)	11.8	✓
		Cork-soled mule (1)	11.9	✓
		One-piece T-seam shoes (9)	11.10-11.1	✓
		Shoes of uncertain type (4)	11.11-11.12	✓
<i>Leather (sheet) (103)</i>	M1	Tent panel	12.4	✓
	M2-M23	Tent fragments	12.5	✓
	M24	Tent panel	12.4	✓
	M25	Applique	12.4	✓
	M26	Applique?	12.4	✓
	M27	Tent panel	12.6	✓
	M28	Tent panel	12.6	✓
	M29	Applique	12.6	✓
	M30	Applique	12.6	✓
	M31	Hem-binding strip	12.6	✓
	M32	Applique	12.4	✓
	M34	Tent panel	12.7	✓
	M35	Tent panel	12.7	✓
	M36	Tent panel	12.7	✓
	M37	Tent panel	12.7	✓
	M38	Seam reinforcing strip	12.7	✓
	M39	Repair patch	12.7	✓
	M40	Tent panel	12.7	✓
	M43	Tent panel	12.8	✓
	M44	Seam reinforcing strip	12.8	✓
	M45	Tent panel	12.8	✓
	M46	Tent panel	12.9	✓
	M47	Tent panel	12.9	✓
	M48	Seam reinforcing strip	12.9	✓
	M49	Seam reinforcing strip	12.9	✓
	M50	Seam reinforcing strip	12.9	✓
	M51	Edge infill	12.9	✓
	M52	Tent panel		✓
	M53	Seam reinforcing strip	12.9	✓
	M54	Tent panel	12.9	✓
	M55	Tent panel	12.9	✓

<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Fig no in draft CAU/CAL Roman finds fascicule</b>	<b>Drawing found</b>
	M56	Tent panel	12.9	✓
<i>Leather (sheet) (continued)</i>	M57	Tent panel	12.9	✓
	M58	Seam reinforcing strip	12.9	✓
	M59	Seam reinforcing strip	12.9	✓
	M60	Seam reinforcing strip	12.9	✓
	M61	Tent panel	12.10	✓
	M62	Tent panel	12.10	✓
	M63	Seam reinforcing strip	12.10	✓
	M64	Tent panel	12.10	✓
	M65	Tent panel	12.10	✓
	M66	Tent panel	12.10	✓
	M67	Tent panel	12.10	✓
	M68	Tent panel	12.10	✓
	M69	Tent panel	12.10	✓
	M70	Tent panel	12.10	✓
	M71	Seam reinforcing strip	12.10	?
	M72	Tent panel	12.10	?
	M73	Tent panel	12.10	?
	M74	Tent panel	12.10	?
	M75	Seam reinforcing strip	12.10	✓
	M76	Seam reinforcing strip	12.10	✓
	M77	Tent panel	12.10	✓
	M78	Tent panel	12.10	✓
	M79	Tent panel	12.11	✓
	M80	Tent panel	12.11	✓
	M81	Stitched fragment	12.11	✓
	M82	Infill piece	12.11	✓
	M83	Tent panel	12.11	✓
	M84	Hem binding strip	12.11	✓
	M85	Tent panel	12.11	✓
	M86	Applique	12.12	✓
	M87	Applique	12.12	✓
	M88	Tent panel	12.12	✓
	M89	Tent panel	12.12	✓
	M90	Tent panel	12.12	✓
	M91	Tent panel	12.12	?
	M92	Reinforcing strip	12.12	✓
	M93	Tent panel	12.12	✓
	M94	Tent panel	12.12	✓
	M95	Tent panel	12.12	✓
	M96	Tent panel	12.12	?
	M97	Applique fragment	12.12	✓
	M98	Tent panel	12.12	✓
	M99	Panel or applique	12.12	✓
	M100	Shield cover fragment	12.13	✓
	M101	Decorative applique	12.13	✓

<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Fig no in draft CAU/CAL Roman finds fascicule</b>	<b>Drawing found</b>
	M102	Stitched fragment	12.14	✓
<i>Leather (sheet) (continued)</i>	M103	Folded strip	12.14	✓
	M104	Strip	12.14	✓
	M105	Stitched piece	12.14	✓

## APPENDIX 2: POST-ROMAN INDIVIDUALLY REGISTERED FINDS REQUIRING ILLUSTRATION

Note: the listing below provides an indication of those artefacts for which publication-standard drawings were located in the Lanes project archive. Most of the drawings are in pencil or do not exist.

Material category	Catalogue no	Description	Publication drawing found	Comments
<i>Gold and silver (1)</i>	B1	Gold finger-ring	✓	
<i>Copper alloy (73)</i>	C1	Turret brooch	✓	Nine sheets of publication-standard illustrations containing 47 items located; 26 objects drawn on archive record sheets; one object not located
	C3	Finger-ring	✗	Archive drawing found (Table 8)
	C5	Buckle; circular frame	✗	Archive drawing found (Table 8)
	C6	Buckle; oval frame	✗	Archive drawing found (Table 8)
	C7	Buckle; oval frame with plate	✗	Archive drawing found (Table 8)
	C8	Buckle; double-oval frame	✗	Archive drawing found (Table 8)
	C9	Buckle; double-oval frame	✗	Archive drawing found (Table 8)
	C10	Buckle; D-shaped frame	✗	Archive drawing found (Table 8)
	C13	Buckle; rectangular/oval frame	✗	Archive drawing found (Table 8)
	C14	Buckle; rectangular frame with plate	✗	Archive drawing found (Table 8)
	C15	Buckle; rectangular frame with plate	✗	Archive drawing found (Table 8)
	C16	Buckle; rectangular frame	✗	Archive drawing found (Table 8)
	C19	Buckle; trapezoidal frame with plate	✗	Archive drawing found (Table 8)
	C20	Buckle; trapezoidal frame with plate	✗	Archive drawing found (Table 8)
	C21	Buckle; trapezoidal integral plate	✗	Archive drawing found (Table 4)
	C23	Buckle	✗	Archive drawing found (Table 8)
	C24	Buckle; rectangular folded plate	✗	Archive drawing found (Table 8)
	C27	Buckle pin	✗	Archive drawing found (Table 8)
	C29	Strap-end	✓	
	C31	Strap-end	✓	

Material category	Catalogue no	Description	Publication drawing found	Comments
<i>Copper alloy (continued)</i>	C34	Strap-end	✓	
	C35	Strap-end	✓	
	C36	Strap-loop	✓	
	C38	Bar-mount	✓	
	C39	Bar-mount	✓	
	C40	Circular mount	✓	
	C41	Arched pendant mount	✓	
	C43	Pendant	✓	
	C44	Belt hook?	✓	
	C45	Lace-chape	✓	
	C46	Bell; rumbler type	✓	
	C48	Tweezers	✓	
	C49	Tweezers	✓	
	C50	Tweezers	✓	
	C52	Tweezers	✓	
	C54	Vessel	✓	
	C56	Vessel	✓	
	C62	Diamond-shaped vessel mend	✓	
	C66	Heraldic pendant	✓	
	C67	Weight	✓	
	C68	Ingot?	✓	
	C69	Ingot	✓	
	C72	Needle	✓	
	C73	Needles (3)	✓	
	C75	Thimble	✓	
	C79	Chape	✓	
	C80	Chape	✓	
	C82	Book plaque?	✓	
	C83	D-shaped handle?	✓	
	C84	Domed stud; lozenge-shaped	✓	
	C87	Dome-headed stud	✓	
	C88	Dome-headed stud	✓	
	C91	Stud	✓	
	C98	Padlock	✗	Archive drawing found (Table 8)
	C104	Rotary key	✗	Archive drawing found (Table 8)
	C105	Rotary key	✗	Archive drawing found (Table 8)
	C106	Rotary key	✗	Archive drawing found (Table 8)
	C107	Rotary key	✗	Archive drawing found (Table 8)
	C108	Washer?	✗	Archive drawing found (Table 8)
	C125	Chain	✗	Archive drawing found (Table 8)
	C126	Fitting	✗	Archive drawing found (Table 8)
	C130	Fitting	✗	Archive drawing found (Table 8)
	C132	Sword/dagger	✓	
	C133	Sword/dagger	✓	
	C134	Spur	✓	
	C136	Spiral rod	✓	
	C137	Strip	✓	



<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Publication drawing found</b>	<b>Comments</b>
<i>Copper alloy (continued)</i>	C142	Unidentified object	✓	
	C146	Unidentified object	✓	
	C147	Unidentified object	✓	
	C149	Unidentified object	✓	
	C150	Unidentified object	✓	
	C157	Unidentified object	✓	
<i>Iron (7)</i>	D3	Buckle	✗	Archive drawing found (Table 8)
	D6	Shears	✗	Archive drawing found (Table 8)
	D7	Woodsmen's axe and haft	✓	
	D8	Bloom/ingot	✗	Archive drawing found (Table 8)
	D13	Rotary key	✗	Archive drawing found (Table 8)
	D14	Rotary key	✗	Archive drawing found (Table 8)
	D16	Rowel spur	✗	Archive drawing found (Table 8)
<i>Lead (6)</i>	E2	Seal	✗	Archive drawing found (Table 8)
	E7	Weight	✗	Archive drawing found (Table 8)
	E9	Spindle whorl	✗	Archive drawing found (Table 8)
	E10	Spindle whorl	✗	Archive drawing found (Table 8)
	E11	Spindle whorl	✗	Archive drawing found (Table 8)
	E13	Sheet	✗	Archive drawing found (Table 8)
<i>Tin/tin alloy (2)</i>	F1	Buckle; circular frame	✗	No drawing located
	F2	Spoon	✗	No drawing located
<i>Stone objects (12)</i>	G78	Lid	✗	Archive drawing found (Table 8)
	G145	Sharpening stone	✗	Archive drawing found (Table 8)
	G146	Sharpening stone	✗	Archive drawing found (Table 8)
	G147	Sharpening stone	✗	Archive drawing found (Table 8)
	G152	Whetstone	✗	Archive drawing found (Table 8)
	G153	Whetstone	✗	Archive drawing found (Table 8)
	G154	Whetstone	✗	Archive drawing found (Table 8)
	G155	Whetstone	✗	Archive drawing found (Table 8)
	G156	Whetstone	✗	Archive drawing found (Table 8)
	G158	Whetstone	✗	Archive drawing found (Table 8)
	G160	Whetstone	✗	Archive drawing found (Table 8)
	G162	Whetstone	✗	Archive drawing found (Table 8)
<i>Bone and antler (7)</i>	K1	Spoon	✗	Archive drawing found (Table 8)
	K2	Parchment pricker	✗	Archive drawing found (Table 8)
	K3	Knife/tool	✗	Archive drawing found (Table 8)

Material category	Catalogue no	Description	Publication drawing found	Comments
<i>Bone and antler (continued)</i>	K4	Knife	X	Archive drawing found (Table 8)
	K5	Potter's burnisher?	X	Archive drawing found (Table 8)
	K6	Offcut	X	Archive drawing found (Table 8)
	K7	Needle case	X	Archive drawing found (Table 8)
<i>Wooden objects (29)</i>	K1	Bowl	✓	Three sheets of publication-standard illustrations containing bowls K1-K20 located
	K3	Bowl	✓	
	K4	Bowl	✓	
	K5	Bowl	✓	
	K6	Bowl	✓	
	K7	Bowl	✓	
	K8	Bowl	✓	
	K9	Bowl	✓	
	K10	Bowl	✓	
	K11	Bowl	✓	
	K12	Bowl	✓	
	K13	Bowl	✓	
	K14	Bowl	✓	
	K15	Bowl	✓	
	K16	Bowl	✓	
	K17	Bowl	✓	
	K18	Bowl	✓	
	K19	Bowl	✓	
	K20	Bowl	✓	
	K21	Spindle	X	No drawing located
	K22	Separate-bladed shovel	✓	Two sheets of publication-standard illustrations of two wooden objects (K22, K30) present in archive
	K23	Tool	X	Archive drawing found (Table 8)
K24	Peg	X	Archive drawing found (Table 8)	
K25	Spurtle?	X	Archive drawing found (Table 8)	
K26	Serrated disc	X	Archive drawing found (Table 8)	
K27	Unidentified object	X	Archive drawing found (Table 8)	
K28	Unidentified object	X	Archive drawing found (Table 8)	
K29	Unidentified object	X	Archive drawing found (Table 8)	
K30	Unidentified object	✓		
<i>Sheet leather (11)</i>	M1	Sling rough-out?	✓	Three small sheets of publication-standard illustrations containing eight items of sheet leather located; not labelled, but comparison with archive sheets proved the objects to be M1-M5 and M7-M9. Three archive drawings also found
	M2	Sling?	✓	
	M3	Riveted strip	✓	
	M4	Stitched fragment	✓	

<b>Material category</b>	<b>Catalogue no</b>	<b>Description</b>	<b>Publication drawing found</b>	<b>Comments</b>
<i>Sheet leather (continued)</i>	M5	Sheath	✓	
	M6	Panel	✗	Archive drawing found (Table 8)
	M7	Hem-binding strip	✓ (?)	Drawing is probably of this item, but not certain
	M8	Decorated panel	✓	
	M9	'Plaque'	✓	
	M10	Stitched piece	✗	Archive drawing found (Table 8)
	M11	Hem-binding strip?	✗	Archive drawing found (Table 8)
<i>Textiles (3)</i>	N1	Texture-patterned wool	✓	One sheet of publication-standard illustrations found; unlabelled, but must be these items
	N10	Colour-patterned wool	✓	
	N14	Wool	✓	

### APPENDIX 3: LIST OF PRODUCTS AND TASKS

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
			<b>EXECUTION STAGE 1: ASSESSMENT</b>			
			<b>Transport of materials requiring assessment</b>	1		
1	4.1-2	8.2.2	Transport of materials from Shaddon Mill, Carlisle, to external specialists		John Zant Supervisor	0.5 days 1.5 days
2	4.1-2	8.2.2	Transport of materials from Shaddon Mill, Carlisle, to OA North premises		John Zant Supervisor	0.5 days 1 day
			<b>Compatibility of data for ADS</b>			
3	23.1-2	8.2.3	Ensure specialists produce data in format compatible with ADS standards		Jo Cook	0.5 days
			<b>Assessment</b>			
			<i>Clay tobacco pipes</i>			
4	1.1; 2.2-3; 3.2; 3.11; 3.15; 3.17; 5.1	8.2.4	Locate assemblage in Shaddon Mill archive and extract for further analysis		John Zant Assistant	0.5 days 0.5 days
5	1.1; 2.2-3; 3.2; 3.11; 3.15; 3.17; 5.1	8.2.4	Assess assemblage		David Higgins	1 day
6	1.1; 2.2-3; 3.2; 3.11; 3.15; 3.17; 5.1	8.2.4	Produce assessment report	2	David Higgins	1 day
			<i>Metalworking debris</i>			
7	1.1; 2.3-4; 3.3-4; 3.11; 3.13; 3.15; 5.2	8.2.5	Locate assemblage in Shaddon Mill archive and extract for assessment and further analysis		John Zant Assistant	0.5 days 0.5 days
8	1.1; 2.3-4; 3.3-4; 3.11; 3.13; 3.15; 5.2	8.2.5	Assess assemblage		Tim Young	3 days
9	1.1; 2.3-4; 3.3-4; 3.11; 3.13; 3.15; 5.2	8.2.5	Produce assessment report	3	Tim Young	1 day
			<i>Post-Roman animal bone</i>			
10	1.1; 2.1; 2.3; 3.2; 3.4; 3.8; 3.11; 3.15; 3.17; 5.3	8.2.6-8	Locate assemblage in Shaddon Mill archive and extract for assessment and further analysis		John Zant Assistant	1 day 1 day
11	1.1; 2.1; 2.3; 3.2; 3.4; 3.8; 3.11; 3.15; 3.17; 5.3	8.2.6-8	Assess assemblage		Andrew Bates	23 days
12	1.1; 2.1; 2.3; 3.2; 3.4; 3.8; 3.11; 3.15; 3.17; 5.3	8.2.6-8	Produce assessment report	4	Andrew Bates	7 days
			<i>Structural wood</i>			
13	1.1; 3.2-4; 3.8-9; 5.4	8.2.9	Locate assemblage in Shaddon Mill and extract for assessment		John Zant Assistant	1 day 1 day
14	1.1; 3.2-4; 3.8-9; 5.4	8.2.9	Assess assemblage at Shaddon Mill		Christine Howard-Davis Assistant	10 days 10 days
15	1.1; 3.2-4; 3.8-9; 5.4	8.2.9	Formulate discard policy		Christine Howard-Davis	0.5 days
16	1.1; 3.2-4; 3.8-9; 5.4	8.2.9	Produce assessment report	5	Christine Howard-Davis	2 days

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
			<i>Post-Roman plant and insect remains</i>			
17	1.1; 2.3; 3.2; 3.8-9; 5.5	8.2.10	Locate post-Roman samples in Shaddon Mill archive and extract for assessment		John Zant Assistant	1 day 1 day
18	1.1; 2.3; 3.2; 3.8-9; 5.5	8.2.10	Scan post-Roman samples and exclude any that are clearly unsuitable for further work		Elizabeth Huckerby John Zant	2 days 2 days
19	1.1; 2.3; 3.2; 3.8-9; 5.5	8.2.10- 11	Formulate discard policy for samples of all periods		Elizabeth Huckerby	1 day
20	1.1; 2.3; 3.2; 3.8-9; 5.5-6	8.2.12- 16	Process and assess selected post-Roman samples for plant remains and record levels of insect preservation		Supervisor Elizabeth Huckerby	25 days 25 days
21	1.1; 2.3; 3.2; 3.8-9; 5.5	8.2.11	Produce assessment report for post-Roman plant remains	6	Elizabeth Huckerby	6 days
22	1.1; 2.3; 3.2; 3.8-9; 5.5	8.2.12	Consultation to formulate recommendations for analysis of post-Roman plant remains, if appropriate		Jacqui Huntley Elizabeth Huckerby	1 day 1 day
23	1.1; 2.3; 3.2; 3.8-9; 5.6	8.2.15- 18	Dispatch representative sample of processed flots (up to 36) for checking for insect preservation		Supervisor	0.5 days
24	1.1; 2.3; 3.2; 3.8-9; 5.6	8.2.15- 18	Check sample of processed flots (up to 36) to confirm accuracy of levels of insect preservation, and assess archaeological potential		David Smith	1 day
25	1.1; 2.3; 3.2; 3.8-9; 5.6	8.2.16- 18	Produce assessment report	7	David Smith	0.5 days
			<i>Marine molluscs</i>			
26	1.1; 5.7	8.2.19	Locate assemblage in Shaddon Mill archive and extract for assessment		John Zant	0.5 days
27	1.1; 5.7	8.2.19	Assess assemblage		Christine Howard-Davis	1 day
28	1.1; 5.7	8.2.19	Produce assessment report	8	Christine Howard-Davis	0.5 days
			<i>Radiocarbon dating</i>			
29	1.1; 2.1-2.2; 3.2; 3.5-7; 5.8	8.2.20- 21	Assess animal bones, charcoal and other suitable materials from Period 12 deposits for radiocarbon dating		Andrew Bates Elizabeth Huckerby	1 day 1 day
30	1.1; 2.1-2.2; 3.2; 3.5-7; 5.8	8.2.20- 21	Produce assessment report	9	Andrew Bates Elizabeth Huckerby	1 day 1 day
			<b>Review (MoRPHE Review Point R3)</b>			
31	6.1	8.3.2	Review assessment results against aims and objectives		Project Manager	3 days
32	6.1	8.3.3	Review other project elements		Project Manager	1 day
33	6.2	8.3.2-3	Prepare updated project design for Execution Stage 2	10	Project Manager Rachel Newman	5 days 1 day
			<b>EXECUTION STAGE 2: ANALYSIS AND PUBLICATION</b>			
			<b>Transport of materials</b>	11		
34	7.1	8.4.2	Transport of materials from Shaddon Mill, Carlisle, to external specialists		John Zant Supervisor	2 days 2 days
35	7.2	8.4.2	Transport of materials from Shaddon Mill, Carlisle, to OA North premises		John Zant Supervisor	1 day 1 day
			<b>Stratigraphic, standing building and historical analysis</b>			
			<i>Context database</i>	12		
36	1.1; 8.1	8.4.4	Compile context database (c 8600 contexts)		John Zant Assistant	6 days 43 days
			<i>Stratigraphic narrative</i>	13		
37	1.1; 2.1-4; 3.1-17; 9.1	8.4.5	Complete Roman stratigraphic narrative		John Zant	20 days

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
38	1.1; 2.1-4; 3.1-17; 9.2	8.4.6	Produce post-Roman stratigraphic narrative		John Zant	40 days
39	1.1; 2.1-4; 3.1-17; 9.3	8.4.7	Integrate relevant artefactual and environmental data to stratigraphic narratives		John Zant	10 days
			<b>Standing building and social history analysis</b>	14		
40	1.1; 3.2; 3.11; 3.14; 3.16-17; 10.1	8.4.8	Conduct programme of map regression analysis		Kathryn Blythe John Zant	10 days 2 days
41	1.1; 3.2; 3.14; 3.16-17; 10.2	8.4.9	Match photographic, drawn and written records for each of the Lanes standing buildings		Chris Wild	15 days
42	1.1; 3.2; 3.14; 3.16-17; 10.3	8.4.9	Compile record for each building-type and each lane, creating a research archive		Chris Wild	60 days
43	1.1; 3.2; 3.14; 3.16-17; 10.4	8.4.9	Synthesise research archive to produce a narrative suitable for publication		Chris Wild	30 days
44	1.1; 2.3; 3.2; 3.14-16; 10.5	8.4.10	Gather relevant social history data		Kathryn Blythe	10 days
45	1.1; 2.3; 3.2; 3.14-16; 10.5	8.4.10	Consult with Judith Alfrey concerning data contained in thesis		John Zant Judith Alfrey	2 days 2 days
46	1.1; 3.2; 10.6	8.4.11	Integrate standing building narrative and social history data with stratigraphic narrative		Chris Wild John Zant	12 days 4 days
			<b>Historical research</b>	15		
47	1.1; 2.1; 2.3; 3.2; 3.11; 3.14-15; 3.17; 11.1	8.4.12	Contact Bruce Jones and discuss issues pertaining to Lanes historical research		John Zant	2 days
48	1.1; 2.1; 2.3; 3.2; 3.11; 3.14-15; 3.17; 11.2	8.4.13	Digitise historical research notes using text-recognition software		Assistant	0.5 days
49	1.1; 2.1; 2.3; 3.2; 3.11; 3.14-15; 3.17; 11.3	8.4.13	Select material suitable for publication, and re-order, collate, and edit material to produce summary report		John Zant Kathryn Blythe	10 days 2.5 days
50	1.1; 2.1; 2.3; 3.2; 3.11; 3.14-15; 3.17; 11.4	8.4.14	Assess feasibility of integrating historical research into stratigraphic, standing building and social history narrative, and integrate if possible		John Zant Chris Wild Kathryn Blythe	4 days 2 days 1 day
			<b>Overview/discussion</b>	16		
51	1.1; 2.1-4; 3.1-17; 12.1	8.4.15	Library research		John Zant	15 days
52	1.1; 2.1-4; 3.1-17; 12.2-3	8.4.15	Produce introductory and discursive chapters, preliminary sections, and bibliography		John Zant	40 days
			<b>Drawings</b>	17		
53	1.1; 3.2; 13.1-3	8.4.16	Dispatch existing oversized (c A1) stratigraphic drawings to OA premises in Oxford for scanning		Adam Parsons	1 day
54	1.1; 3.2; 13.1-3	8.4.16	Scan 34 partially complete Roman stratigraphic phase drawings		OA Illustrator	1 day
55	1.1; 3.2; 13.1-3	8.4.16-17	Complete 34 partially complete Roman stratigraphic phase drawings in digital format, including sub-division of oversize illustrations		Adam Parsons John Zant	20 days 1 day
56	1.1; 3.2; 13.1-3	8.4.16-17	Add contextual data to Roman stratigraphic phase drawings		Adam Parsons John Zant	4 days 1 day
57	1.1; 3.2; 13.1-3	8.4.16-17	Scan pencil mock-ups of c 12 post-Roman stratigraphic phase drawings		OA Illustrator	0.5 days
58	1.1; 3.2; 13.1-3	8.4.16-17	Produce post-Roman stratigraphic phase drawings in digital format		Adam Parsons John Zant	15 days 1 day
59	1.1; 3.2; 13.1-3	8.4.16-17	Add contextual data to post-Roman stratigraphic phase drawings		Adam Parsons John Zant	2 days 1 day

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
60	1.1; 3.2; 13.1-3	8.4.18-19	Prepare list of additional drawings required for stratigraphic narrative		John Zant	2 days
61	1.1; 3.2; 13.1-3	8.4.18-19	Produce additional drawings for stratigraphic narrative (c 50)		Adam Parsons John Zant	25 days 3 days
62	1.1; 3.2; 13.1-3	8.4.18-19	Produce drawings for introductory and discursive chapters of stratigraphic report (c 25)		Adam Parsons John Zant	18 days 2 days
63	1.1; 3.2; 13.4	8.4.20	Prepare publication-standard drawings to accompany standing building narrative (c 40 drawings)		Adam Parsons Chris Wild	15 days 1 day
64	1.1; 3.2; 13.5	8.4.21	Check all drawings against text		John Zant	5 days
			<b>Photographs</b>	18		
65	1.1; 3.2; 14.1-2	8.4.22	Compile list of plates to accompany stratigraphic and standing building narrative		John Zant	3 days
66	1.1; 3.2; 14.1-2	8.4.22	Extract negatives from archive		John Zant	2 days
67	1.1; 3.2; 14.1-2	8.4.22	Scan and print photographs (c 150 photographs)		Adam Parsons	10 days
68	1.1; 3.2; 14.3	8.4.23	Assess availability of aerial photographs, early photographs, and other historical images of Lanes area		Chris Wild	10 days
69	1.1; 3.2; 14.3	8.4.23	Select suitable images (c 20) and obtain copies for inclusion in report		Chris Wild	5 days
			<b>Pottery, artefactual and environmental analysis</b>			
			<b>i) Outstanding reports and catalogues</b>			
			<i>Samian (main report)</i>			
70	1.1; 2.2-2.4; 3.2-3.4; 15.1	8.4.26	Produce full analytical report, including catalogue of illustrated decorated sherds and discussion of stratified assemblage	17	Stephen Wadeson	40 days
71	1.1; 2.2-2.4; 3.2-3.4; 15.1	8.4.26	Enter samian archive listing to modern database		Assistant	42 days
72	1.1; 2.2-2.4; 3.2-3.4; 15.1	8.4.26	Add EVEs to database		Assistant	6 days
			<i>Mortaria</i>			
73	1.1; 2.2-2.4; 3.2-3.4; 15.2	8.4.27	Produce full analytical report, including catalogue of illustrated sherds and discussion of stratified assemblage	18	Kay Hartley	20 days
74	1.1; 2.2-2.4; 3.2-3.4; 15.2	8.4.27	Enter mortaria archive listing to modern database		Kay Hartley	5 days
			<i>Post-Roman pottery</i>			
75	1.1; 2.3; 3.2; 3.4; 3.8; 3.10-12; 3.14-15; 3.17; 15.3-4	8.4.28	Check existing versions of paper copies of catalogues against assemblage, to determine which version(s) is/are the most accurate, complete, and up-to-date		Jeremy Bradley Ian Miller	5 days 2 days
76	1.1; 2.3; 3.2; 3.4; 3.8; 3.10-12; 3.14-15; 3.17; 15.3-4	8.4.28	Complete final catalogues with reference to the medieval and post-medieval pottery assemblages, as required		Jeremy Bradley Ian Miller	20 days 1 day
77	1.1; 2.3; 3.2; 3.4; 3.8; 3.10-12; 3.14-15; 3.17; 15.3-4	8.4.28	Compile up-to-date databases of medieval and post-medieval pottery		Assistant	40 days
78	1.1; 2.3; 3.2; 3.4; 3.8; 3.10-12; 3.14-15; 3.17; 15.3-4	8.4.28	Analysis of medieval and post-medieval pottery		Jeremy Bradley Ian Miller	40 days 2 days
79	1.1; 2.3; 3.2; 3.4; 3.8; 3.10-12; 3.14-15	8.4.28	Production of medieval and post-medieval pottery reports, including catalogues and discussion of stratified assemblage	19	Jeremy Bradley Ian Miller	30 days 5 days

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
			<i>ii) Partially completed reports and catalogues</i>			
80	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.29	Digitise incomplete specialist reports available only as hard copies using text-recognition software		Assistant Jo Cook	6 days 0.5 days
81	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.29	Digitise hard copies of incomplete specialist reports unsuitable for use of text-recognition software by manual keying		Assistant	5 days
82	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.29	Contact original authors to complete reports, or arrange completion by other specialists, as required		John Zant	1 day
83	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.29	Dispatch digitised incomplete reports to authors/specialists for completion		Assistant	1 day
			<i>Samian stamps</i>	20		
84	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.30	Complete catalogue of potters' stamps		Stephen Wadeson	3 days
85	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.30	Input samian stamp archive listing to modern database		Assistant	2 days
86	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.30	Add site phasing (period) details to draft samian stamp report		John Zant	2 days
87	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.30	Check finalised dates for c 200 potters' stamps and revise, as necessary		Stephen Wadeson	1 day
			<i>Roman coarse pottery</i>	21		
88	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.31-3	Review detailed archive recording sheets for Roman pottery		Christine Howard-Davis	15 days
89	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.31-3	Address outstanding stratigraphic queries		Christine Howard-Davis	10 days
90	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.31-3	Revise existing Roman coarse pottery report text		Christine Howard-Davis	5 days
91	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.31-3	Draft additional text for the Roman coarse pottery report, for the second-century assemblage		Christine Howard-Davis	10 days
			<i>Stone</i>	22		
92	1.1; 3.2; 3.4; 16.1-3	8.4.34	Prepare discussion for Roman stone artefacts		Christine Howard-Davis	3 days
93	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.34	Locate collection of photocopies of post-Roman architectural stone archive drawings in Shaddon Mill and transport to OA North's premises in Lancaster for analysis		John Zant	0.25 days
94	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.34	Conduct analysis and produce detailed catalogue of post-Roman architectural stone		Christine Howard-Davis	5 days
95	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.34	Prepare discussion for post-Roman architectural stone		Christine Howard-Davis	2 days
			<i>Jet/shale/amber</i>	23		
96	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.35	Prepare discussion		Christine Howard-Davis	1 day
			<i>Glass</i>	24		
97	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.36	Re-examine assemblage		Jenny Price	10 days
98	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.36	Revise descriptive catalogue		Jenny Price	6 days
99	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.36	Prepare discussion		Jenny Price	10 days
100	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.36	Discuss aspects of phasing and interpretation and integrate into report		Jenny Price John Zant	2 days 1 day
			<i>Ceramic objects</i>	25		
101	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.37	Prepare discussion		Christine Howard-Davis	2 days
			<i>Post-Roman leather shoes</i>	26		
102	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.38	Locate assemblage in archive and extract		John Zant	1 day
103	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.38	Produce descriptive catalogue		Christine Howard-Davis	5 days



Task	Objective	Method	Task/Product description	Product No	Performed by	Days
104	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.38	Prepare discussion		Christine Howard-Davis	5 days
			<i>Roman animal bone (residuality)</i>	27		
105	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.39- 40	Convert databases and spreadsheets to modern formats		Jo Cook	0.5 days
106	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.39- 40	Data analysis		Sue Stallibrass	4 days
107	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.39- 40	Produce report	28	Sue Stallibrass	4 days
108	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.39- 40	Integrate results to main animal bone report		John Zant Simon Davis	1 day 1 day
			<i>iii) Completed reports and catalogues</i>	29		
109	1.1; 2.1-4; 3.1-17; 17.1-3	8.4.41	Digitise completed specialist reports available only as hard copies using text-recognition software		Assistant Jo Cook	10 days 1 day
110	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.41	Digitise hard copies of completed specialist reports unsuitable for use of text-recognition software by manual keying		Assistant	10 days
111	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.41	Contact original authors to revise completed reports, or arrange for revision by other specialists, as required		John Zant	2 days
112	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.41	Dispatch digitised completed reports to authors/specialists for revision		Assistant	0.5 days
			<i>Roman graffiti</i>			
113	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman graffiti report		Christine Howard-Davis	0.5 days
			<i>Metalwork</i>			
114	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman coin report		David Shotter	4 days
115	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise post-Roman coin report		John Zant	1 day
116	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman gold/silver reports		Christine Howard-Davis	0.5 days
117	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman copper-alloy reports		Christine Howard-Davis	1.5 days
118	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman iron reports		Christine Howard-Davis	1.5 days
119	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman lead reports		Christine Howard-Davis	1.5 days
120	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise tin/pewter report		Christine Howard-Davis	0.5 days
			<i>Other artefacts</i>			
121	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise prehistoric flint report		Christopher Tolan-Smith	1 day
122	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise ceramic building materials report		Christine Howard-Davis	2 days
123	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman bone/antler/ivory reports		Christine Howard-Davis	2 days
124	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman wooden object reports		Christine Howard-Davis	2 days
125	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman inscribed wood report		Christine Howard-Davis	0.5 days
126	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman leather shoes report		Christine Howard-Davis	3 days
127	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman sheet leather report		Sue Winterbottom	3 days
128	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise basketry report		Christine Howard-Davis	0.5 days
129	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise textiles report		Penelope Walton- Rogers	0.5 days
			<i>Environmental</i>			
130	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise human bone report		Celia Harding	0.5 days

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
131	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman animal bone report		Simon Davis	1 day
132	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman and post-Roman dendrochronology reports		Cathy Tyers	3 days
133	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman section of plant remains report, including addition of non-structural wood		Jacqui Huntley	15 days
134	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise Roman section of insect report		Harry Kenward	2 days
135	1.1; 2.1-4; 3.2-4; 16.1-3	8.4.42	Revise soil micromorphology report for KLA C 'dark earth'		Richard MacPhail	1 day
			<i>iv) Pottery illustrations</i>	30		
			<i>Samian</i>			
136	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Extract 81 existing inked drawings of decorated samian from Shaddon Mill archive		John Zant	0.25 days
137	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Scan 81 inked decorated samian drawings, plate-up and label		Adam Parsons	2 days
138	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Extract ten decorated sherds that require drawing from Shaddon Mill archive		John Zant	0.5 days
139	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Draw ten decorated samian sherds requiring illustration		Adam Parsons	3 days
140	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Select c 65 samian stamps for illustration		Stephen Wadeson	1 day
141	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Extract c 65 samian stamps selected for illustration from Shaddon Mill archive		John Zant	1 day
142	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Draw c 65 samian stamps requiring illustration		Adam Parsons	6 days
143	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Dispatch all completed samian drawings to specialist for checking		Adam Parsons	0.5 days
144	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Check samian drawings to ensure accuracy		Stephen Wadeson	1 day
145	1.1; 2.1-4; 3.2-4; 18.1-2	8.4.44	Correct samian drawings in light of specialist comments		Adam Parsons	3 days
			<i>Mortaria</i>			
146	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Extract 72 existing archive drawings of mortaria from Shaddon Mill archive		John Zant	0.25 days
147	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Check archive drawings to ensure accuracy		Kay Hartley	3.5 days
148	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Scan 72 existing archive drawings of mortaria, complete, plate-up, and label		Adam Parsons	4 days
149	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Extract 25 stamped mortaria sherds requiring illustration from Shaddon Mill archive		John Zant	0.5 days
150	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Draw 25 mortaria stamps requiring illustration		Adam Parsons	2 days
151	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Dispatch 25 mortaria stamp drawings to specialist for checking		Adam Parsons	0.5 days
152	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Check mortaria stamp drawings to ensure accuracy		Kay Hartley	1.5 days
153	1.1; 2.1-4; 3.2-4; 18.3-4	8.4.45	Correct mortaria drawings (all) in light of specialist comments		Adam Parsons	3 days
			<i>Roman graffiti</i>			
154	1.1; 2.1-4; 3.2-4; 18.5	8.4.46	Extract existing inked drawings from Shaddon Mill archive		John Zant	0.25 days
155	1.1; 2.1-4; 3.2-4; 18.5	8.4.46	Scan existing drawings, plate-up and label		Adam Parsons	1 day
			<i>Post-Roman pottery</i>			
156	1.1; 2.1; 3.2; 3.8; 3.10-12; 3.14-15; 3.17; 18.6	8.4.47	Check 49 boxes of post-Roman material selected by CAU for illustration (c 233 vessels), to ensure all is appropriate for illustration		Jeremy Bradley	2 days

Task	Objective	Method	Task/Product description	Product No	Performed by	Days
157	1.1; 2.1; 3.2; 3.8; 3.10-12; 3.14-15; 3.17; 18.6	8.4.47	Draw all selected post-Roman sherds		Adam Parsons	20 days
158	1.1; 2.1; 3.2; 3.8; 3.10-12; 3.14-15; 3.17; 18.6	8.4.47	Check post-Roman pottery drawings to ensure accuracy		Jeremy Bradley	5 days
159	1.1; 2.1; 3.2; 3.8; 3.10-12; 3.14-15; 3.17; 18.6	8.4.47	Correct post-Roman pottery drawings		Adam Parsons	5 days
			<b>v) Artefact illustrations</b>	31		
160	19.1	8.4.48	Scan, plate-up and label the 447 completed illustrations of Roman IRFs		Adam Parsons	15 days
161	19.2	8.4.48	Extract seven Roman IRFs requiring illustration from Shaddon Mill archive		John Zant	0.25 days
162	19.2	8.4.48	Draw seven Roman IRFs requiring illustration		Adam Parsons	1 day
163	19.3	8.4.48	Extract 118 pencil drawings of Roman glass from Shaddon Mill archive		John Zant	0.25 days
164	19.3	8.4.48	Check glass drawings to ensure accuracy		Jenny Price	1.75 days
165	19.3	8.4.48	Scan 118 pencil drawings of Roman glass and complete to publication standard, correcting as required following specialist check		Adam Parsons	6 days
166	19.4	8.4.48	Extract four items of Roman glass requiring illustration from archive		Jenny Price	0.25 days
167	19.4	8.4.48	Draw four items of Roman glass requiring illustration		Adam Parsons	0.5 days
168	19.5	8.4.49	Scan, plate-up and label the 81 completed illustrations of post-Roman IRFs		Adam Parsons	3 days
169	19.6	8.4.49	Extract archive drawings of 70 post-Roman IRFs requiring illustration from Shaddon Mill archive		John Zant	0.5 days
170	19.6	8.4.49	Scan 70 archive drawings of post-Roman IRFs and complete to publication standard		Adam Parsons	5.5 days
171	19.7	8.4.49	Extract 34 archive drawings of post-Roman shoes requiring illustration from Shaddon Mill archive		John Zant	0.5 days
172	19.7	8.4.49	Scan 34 archive drawings of post-Roman shoes and complete to publication standard		Adam Parsons	2.5 days
173	19.8	8.4.49	Extract four post-Roman IRFs requiring illustration from Shaddon Mill archive		John Zant	0.5 days
174	19.8	8.4.49	Draw four post-Roman IRFs requiring illustration		Adam Parsons	1.5 days
175	19.9	8.4.50	Create list of significant artefacts requiring photography		John Zant	1 day
176	19.9	8.4.50	Extract selected artefacts from archive		John Zant	1 day
177	19.9	8.4.50	Photograph selected artefacts		Adam Parsons	1 day
178	19.9	8.4.50	Produce copies of artefact photographs		Adam Parsons	0.5 days
			<b>vi) Overview/discussion</b>	32		
179	1.1; 3.2; 20.1	8.4.51	Library research		Christine Howard-Davis	15 days
180	1.1; 3.2; 20.2	8.4.51	Produce overview (discussion) of finds and environmental evidence, introductory and preliminary sections, and bibliography		Christine Howard-Davis	35 days
			<b>Academic publication</b>	33		
181	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.52	Compile individual reports into chapters		Christine Howard-Davis John Zant	40 days 20 days
182	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.53	Submit edited reports to specialists for comment		Christine Howard-Davis	1 day

183	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.53	Integrate edited reports and illustrations into final report for publication		Christine Howard-Davis John Zant	10 days 5 days
184	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.53	Compile contents of DVD		Christine Howard-Davis John Zant	15 days 5 days
185	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.53	Edit final report and DVD		Project Manager Rachel Newman	25 days 15 days
186	1.1; 2.1-4; 3.1-17; 21.1-3	8.4.53	Submit final report to English Heritage and external referees for formal review		Project Manager	1 day
			<b>Popular publication</b>	34		
187	22.1	8.4.54	Prepare text		John Zant Christine-Howard-Davis	7 days 7 days
188	22.2	8.4.55	Prepare illustrations (c 15)		Adam Parsons	20 days
189	22.2	8.4.56	Compile list of plates		John Zant	0.5 days
190	22.2	8.4.56	Extract negatives from archive		John Zant	1 day
191	22.2	8.4.56	Scan and print photographs (c 40)		Adam Parsons	2 days
192	22.1-2	8.4.57	Editing		Project Manager Rachel Newman	2 days 0.5 days
193	22.1-2	8.4.57	Submit publication to English Heritage		Project Manager	0.5 days
			<b>Project archive</b>	35		
194	23.1	8.4.58	Estimate quantity and scope of digital information to be supplied to the ADS		John Zant Christine Howard-Davis	1 day 1 day
195	23.1	8.4.58	Collate data to be supplied to ADS		Jo Cook	3 days
196	23.2	8.4.58	Initiate discussions with ADS		Jo Cook	1 day
197	23.2	8.4.58	Deposit data with ADS		Jo Cook	0.5 days
			<b>Management, monitoring and review</b>	37		
		8.4.60	Internal monitoring		Rachel Newman	3 days
	24.1	8.4.61	General management		Project Manager	25 days
	24.2	8.4.62	Project Team review meetings		Rachel Newman Project Manager John Zant Christine Howard-Davis Elizabeth Huckerby Chris Wild Adam Parsons Jeremy Bradley	3 days 3 days 3 days 3 days 1 day 1 day 2 days 1 day
	24.3	8.4.63	Preparation for meetings		Project Manager	5 days
	24.4	8.4.64	Project Board meetings		Rachel Newman Project Manager John Zant Christine Howard-Davis	10 days 10 days 10 days 10 days

---

**APPENDIX 4: RISK LOG**


---

<b>Risk</b>	<b>Description</b>	<b>Probability</b>	<b>Impact</b>	<b>Countermeasures</b>	<b>Owner</b>
1	Material for assessment (Execution Stage 1) proves to have extremely high potential for analysis, greatly increasing resource requirements for Execution Stage 2	Medium	High	Recosting	John Zant
2	Material assessed for radiocarbon dating potential proves to have extremely high potential, increasing resource requirements for Execution Stage 2	Medium	Medium	Recosting	John Zant
3	Loss of existing data (mostly non-digital), limiting understanding of site and potential for analysis and reporting during Execution Stage 2	Medium	High	Digitise all non-digital data at an early stage in the project; back-up digital material regularly	John Zant
4	Loss, damage to, or disorganisation of artefactual and environmental materials requiring assessment or analysis, rendering it useless for assessment and analysis	Medium	High	Ensure organised working environment, with materials clearly labelled and supporting documentation completed, including forms for removal, receipt and return of material for specialist examination.	Christine Howard-Davis
5	Loss or damage to existing non-digital illustrations, requiring preparation of illustrations from scratch during Execution Stage 2	Medium	High	Digitise all relevant illustrations at the beginning of the project; back up digital material regularly	Adam Parsons
6	Reference material for publication report not obtainable within project timetable, leading to report being delayed/compromised	Low	Medium	Undertake literature search at early stage of project, focusing on key texts	John Zant
7	Hardware/software failure, leading to loss of data and/or set-back to timetable	Medium	High	OA North employs robust data back-up systems; OA North IT personnel will repair or replace hardware and software as required	Jo Cook
8	Illness of key team members/specialists, leading to set-back of timetable	High	Medium	Leave sufficient time in schedule to allow for reasonable periods of sickness	John Zant
9	Competition with other projects, leading to set-back of timetable	Medium	Medium	Post-excavation Programme manager to timetable staff appropriately	Project Manager

---

## FIGURES

---

- Figure 1      Location plan
- Figure 2      Street plan of the Lanes prior to redevelopment
- Figure 3      Location of excavation trenches and areas of watching brief, and the boundary between the northern and southern Lanes
- Figure 4:      Northern Lanes showing principal medieval features



Figure 1: Location plan



Figure 2: Street plan of The Lanes prior to redevelopment



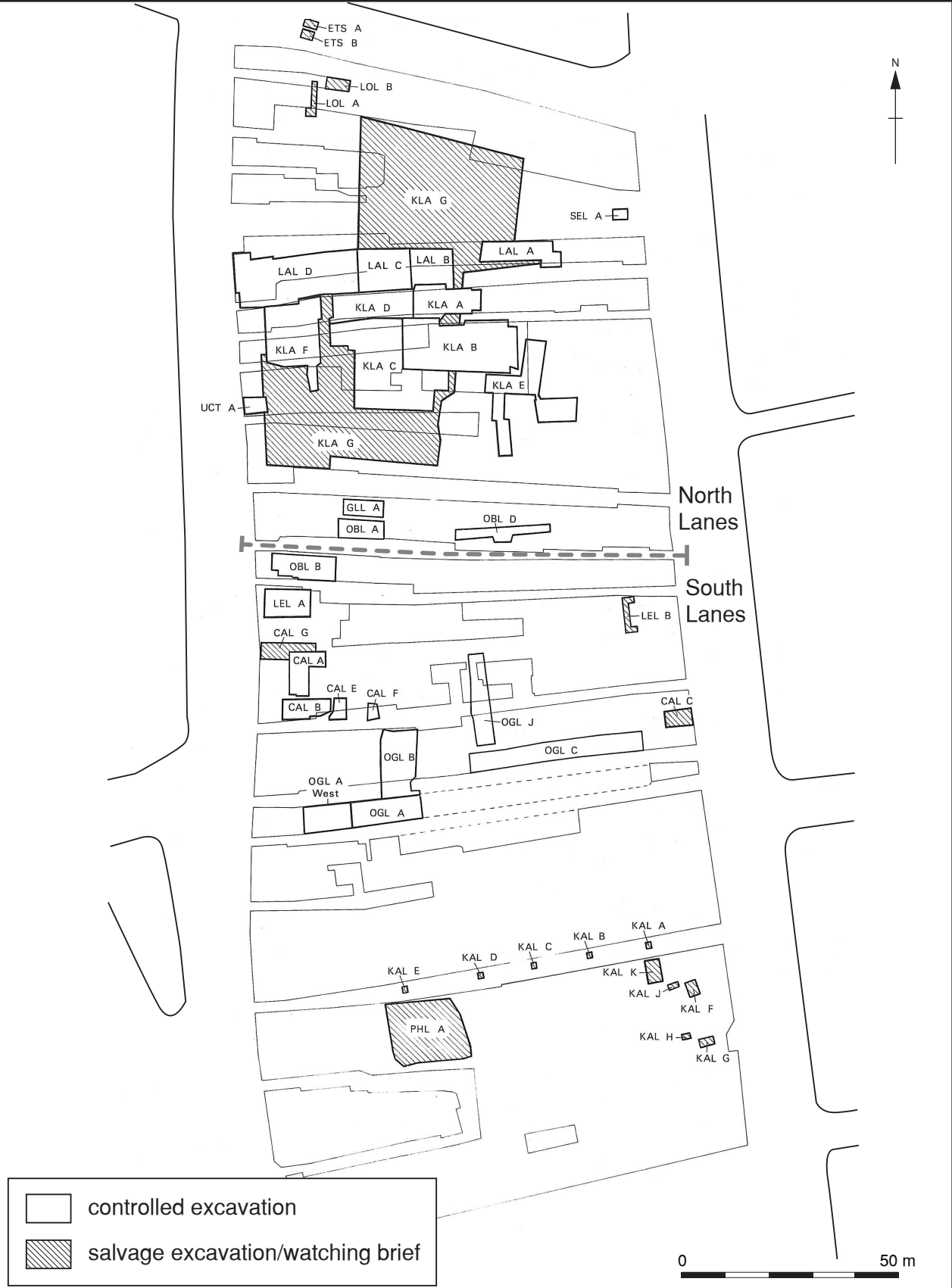


Figure 3: Location of excavation trenches and areas of watching brief, and the boundary between the northern and southern Lanes

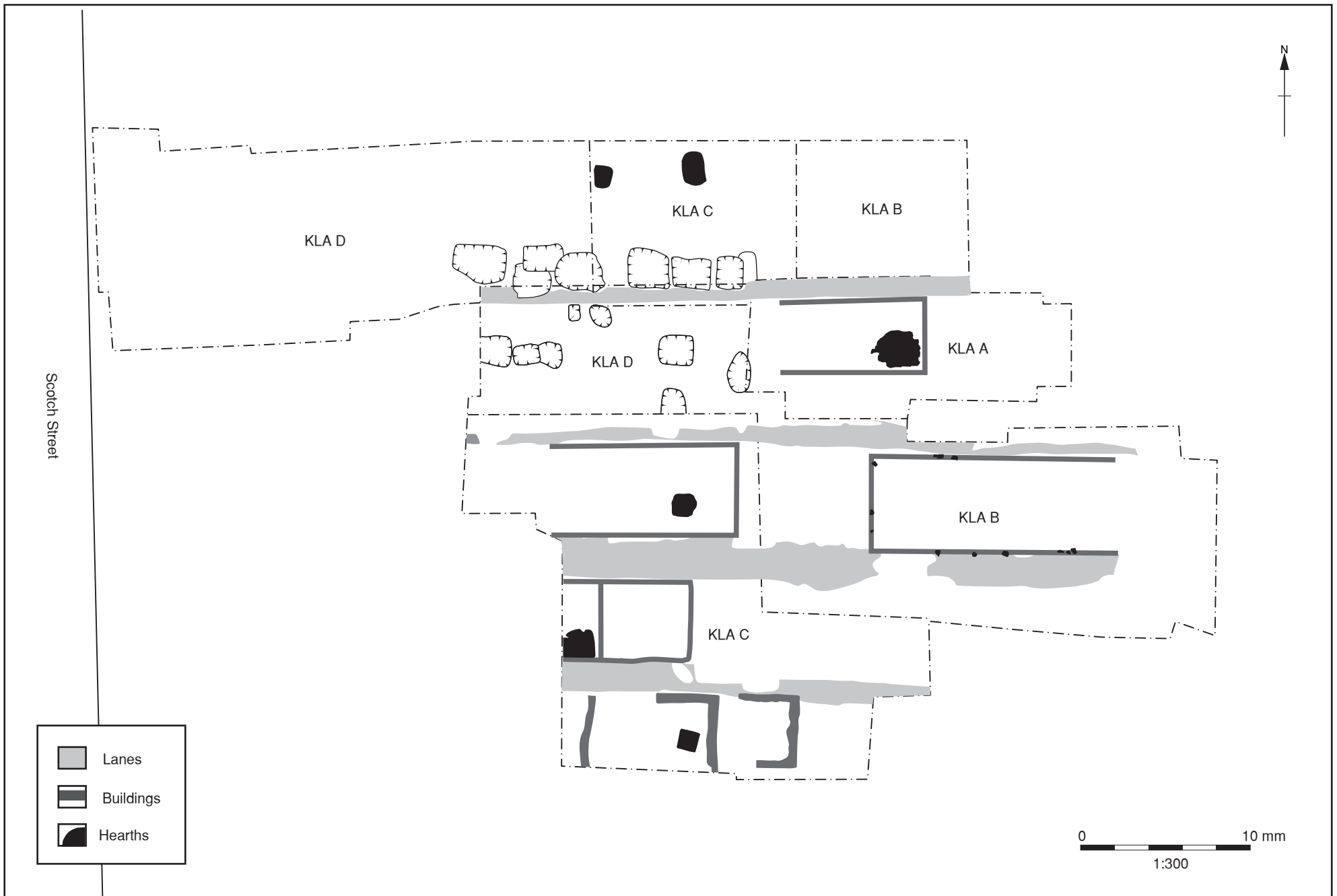
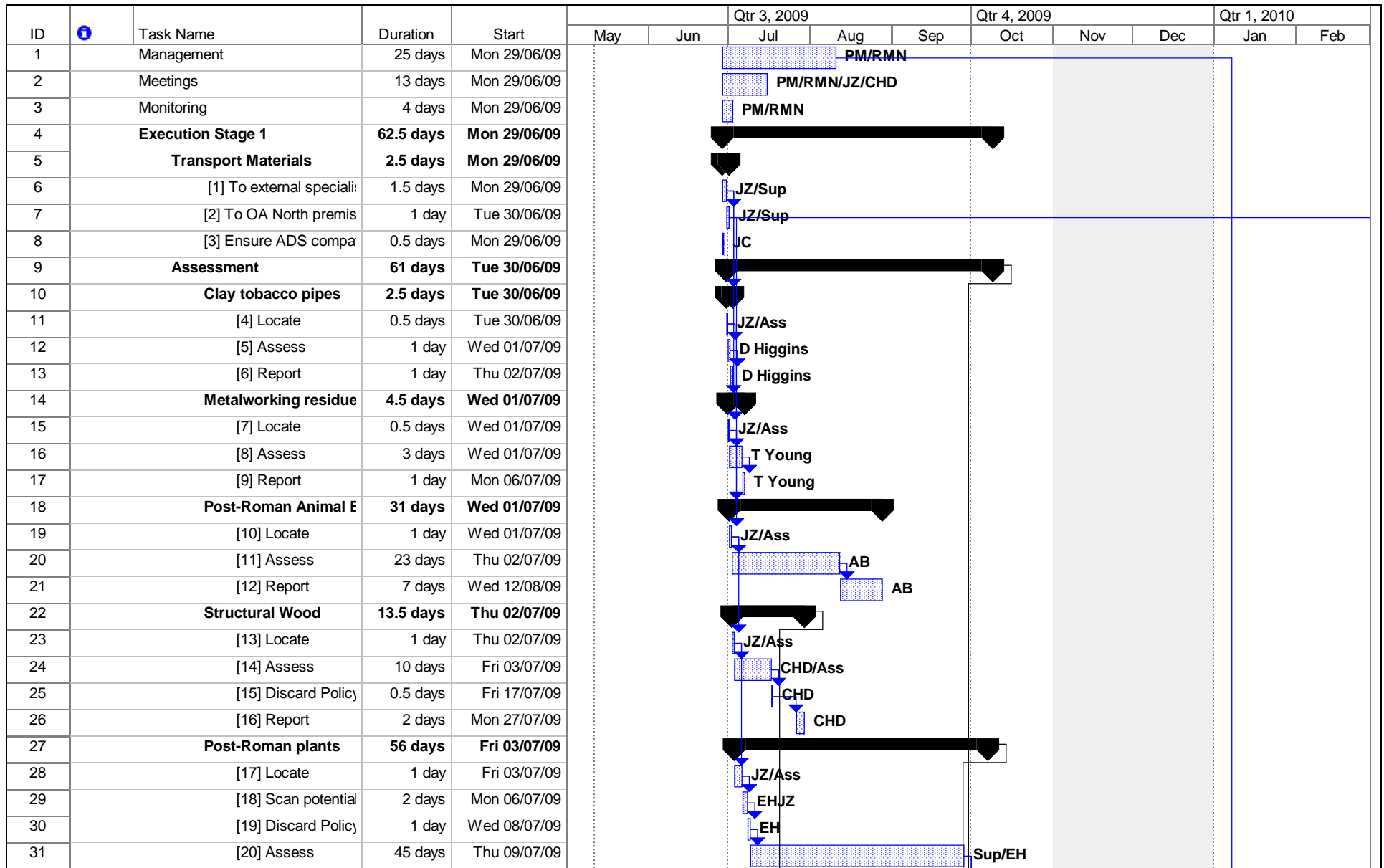
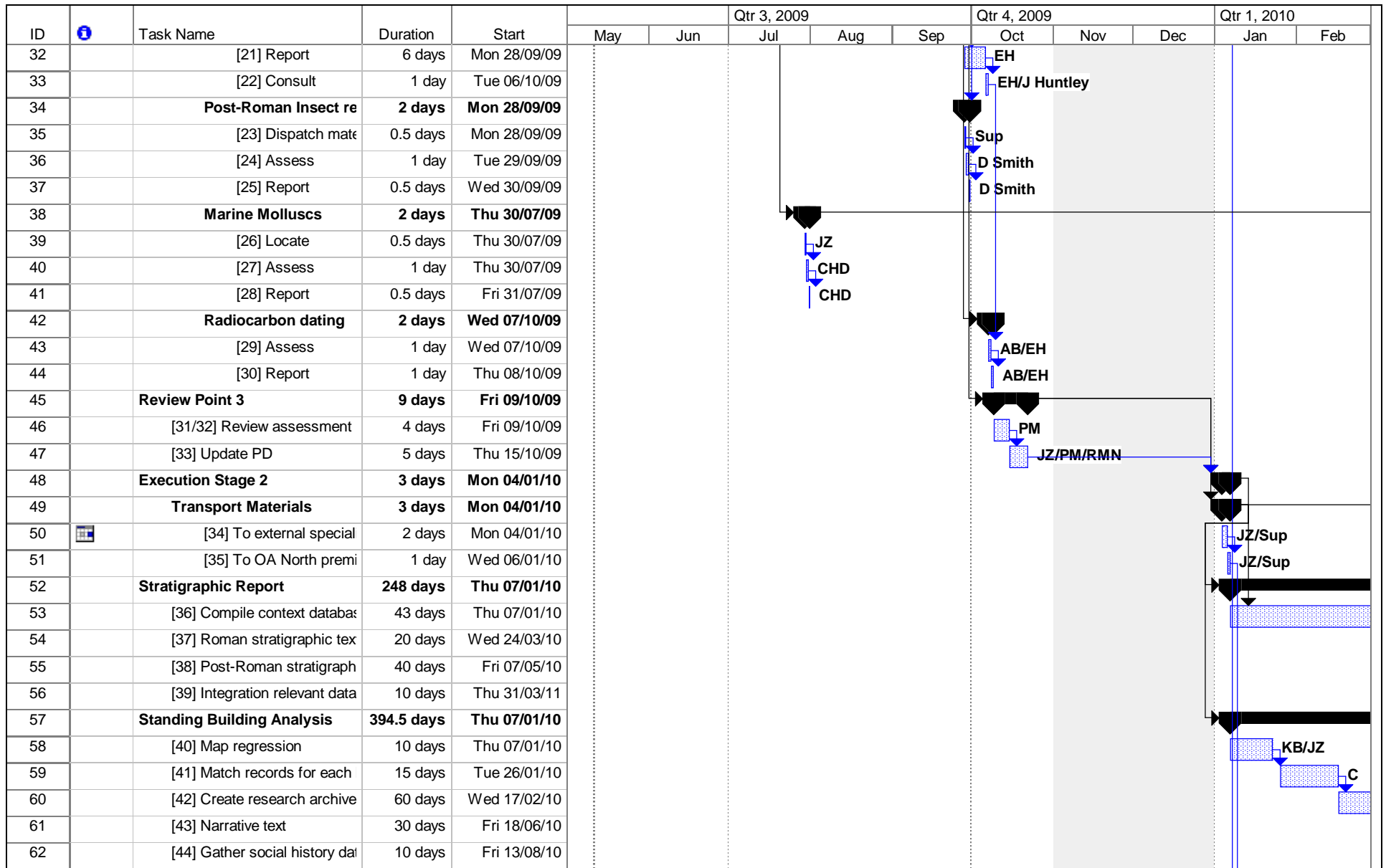


Figure 4: Northern Lanes showing principal medieval features

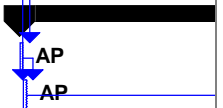


Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



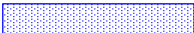








Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID	Task Name	Duration	Start	Qtr 3, 2009					Qtr 4, 2009			Qtr 1, 2010	
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
63	[45] Consult J Alfrey	2 days	Thu 05/01/12										
64	[46] Integrate narrative with e	13 days	Mon 09/01/12										
65	<b>Historical Research</b>	<b>14.5 days</b>	<b>Thu 14/04/11</b>										
66	[47] Liaise Bruce Jones	2 days	Thu 14/04/11										
67	[48] Input relevant sections	0.5 days	Thu 14/04/11										
68	[49] Summary report	10 days	Thu 14/04/11										
69	[50] Assess integration into s	4 days	Tue 10/05/11										
70	<b>Overview/discussion</b>	<b>55 days</b>	<b>Mon 16/05/11</b>										
71	[51] Library research	15 days	Mon 16/05/11										
72	[52] Introduction/Discussion	40 days	Thu 16/06/11										
73	<b>Stratigraphic Illustrations</b>	<b>384.5 days</b>	<b>Thu 07/01/10</b>										
74	[53] Dispatch oversize phase	1 day	Thu 07/01/10										
75	[54] Scan Roman phase dra	1 day	Fri 08/01/10										
76	[55] Complete Roman phase	20 days	Fri 07/05/10										
77	[56] Contextual data Roman	4 days	Wed 16/06/10										
78	[57] Scan Post-Roman phas	0.5 days	Tue 20/07/10										
79	[58] Complete Post-Roman c	15 days	Tue 20/07/10										
80	[59] Contextual data Post-Rc	2 days	Thu 08/09/11										
81	[60] List additional drawings	2 days	Mon 12/09/11										
82	[61] Additional drawings	25 days	Wed 14/09/11										
83	[62] Intro/discussion drawing	18 days	Tue 01/11/11										
84	[63] Publication drawings sta	15 days	Thu 01/12/11										
85	[64] Check drawings against	5 days	Thu 05/01/12										
86	<b>Stratigraphic Plates</b>	<b>15 days</b>	<b>Thu 12/01/12</b>										
87	[65] List Plates	3 days	Thu 12/01/12										
88	[66] Negatives from archives	2 days	Wed 18/01/12										
89	[67] Scan negatives	10 days	Fri 20/01/12										
90	[68] Assess availability other	10 days	Thu 12/01/12										
91	[69] Select images	5 days	Mon 30/01/12										
92	<b>Artefactual/Environmental Rep</b>	<b>135 days</b>	<b>Tue 20/07/10</b>										
93	<b>Outstandingreports</b>	<b>135 days</b>	<b>Tue 20/07/10</b>										



Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

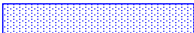








ID	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
94	<b>Samian (main report)</b>	<b>42 days</b>	<b>Tue 20/07/10</b>									
95	[70] Analysis and r	40 days	Tue 20/07/10									
96	[71] Database for s	42 days	Tue 20/07/10									
97	[72] Add EVEs dat	6 days	Tue 20/07/10									
98	<b>Mortaria</b>	<b>25 days</b>	<b>Tue 20/07/10</b>									
99	[73] Analysis and r	20 days	Tue 20/07/10									
100	[74] Database for r	5 days	Thu 02/09/10									
101	<b>Post-Roman pottery</b>	<b>135 days</b>	<b>Tue 20/07/10</b>									
102	[75] Check existin	5 days	Tue 20/07/10									
103	[76] Complete fina	20 days	Tue 03/08/10									
104	[77] Compile data	40 days	Fri 10/09/10									
105	[78] Analysis	40 days	Mon 22/11/10									
106	[79] Report	30 days	Thu 03/02/11									
107	<b>Incomplete reports</b>	<b>64 days</b>	<b>Tue 20/07/10</b>									
108	<b>General</b>	<b>13 days</b>	<b>Tue 20/07/10</b>									
109	[80] Digitise paper	6 days	Tue 20/07/10									
110	[81] Manually key :	5 days	Wed 04/08/10									
111	[82] Contact report	1 day	Thu 12/08/10									
112	[83] Dispatch repo	1 day	Fri 13/08/10									
113	<b>Samian stamps</b>	<b>8 days</b>	<b>Fri 08/10/10</b>									
114	[84] Complete star	3 days	Fri 08/10/10									
115	[85] Create stamp:	2 days	Thu 14/10/10									
116	[86] Add phasing t	2 days	Mon 18/10/10									
117	[87] Check and rev	1 day	Wed 20/10/10									
118	<b>Roman coarse potter</b>	<b>40 days</b>	<b>Tue 20/07/10</b>									
119	[88] Review recor	15 days	Tue 20/07/10									
120	[89] Address strati	10 days	Wed 18/08/10									
121	[90] Revise text	5 days	Fri 10/09/10									
122	[91] Additional text	10 days	Mon 20/09/10									
123	<b>Stone</b>	<b>10 days</b>	<b>Tue 05/10/10</b>									
124	[92] Discussion R	3 days	Tue 05/10/10									

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
125	[93] Locate archive	0.25 days	Tue 05/10/10									
126	[94] Analysis and c	5 days	Tue 12/10/10									
127	[95] Discussion, p	2 days	Tue 19/10/10									
128	<b>Jet/shale/amber</b>	<b>1 day</b>	<b>Thu 21/10/10</b>									
129	[96] Prepare discu	1 day	Thu 21/10/10									
130	<b>Glass</b>	<b>28 days</b>	<b>Tue 20/07/10</b>									
131	[97] Re-examine a	10 days	Tue 20/07/10									
132	[98] Revise catalog	6 days	Wed 11/08/10									
133	[99] Prepare discu	10 days	Thu 19/08/10									
134	[100] Discuss pha	2 days	Mon 13/09/10									
135	<b>Ceramic objects</b>	<b>2 days</b>	<b>Fri 22/10/10</b>									
136	[101] Prepare disc	2 days	Fri 22/10/10									
137	<b>Post-Roman shoes</b>	<b>11 days</b>	<b>Tue 02/11/10</b>									
138	[102] Locate and e	1 day	Tue 02/11/10									
139	[103] Produce catr	5 days	Wed 03/11/10									
140	[104] Prepare disc	5 days	Wed 10/11/10									
141	<b>Roman animal bone (</b>	<b>5.5 days</b>	<b>Tue 20/07/10</b>									
142	[105] Convert data	0.5 days	Tue 20/07/10									
143	[106] Analysis	4 days	Tue 20/07/10									
144	[107] Report	4 days	Tue 20/07/10									
145	[108] Integrate res	1 day	Mon 02/08/10									
146	<b>Completed reports</b>	<b>67 days</b>	<b>Mon 16/08/10</b>									
147	<b>General</b>	<b>22.5 days</b>	<b>Mon 16/08/10</b>									
148	[109] Digitise pape	10 days	Mon 16/08/10									
149	[110] Manually key	10 days	Wed 08/09/10									
150	[111] Contact auth	2 days	Thu 23/09/10									
151	[112] Dispatch rep	0.5 days	Tue 28/09/10									
152	<b>Revisions</b>	<b>44.5 days</b>	<b>Tue 28/09/10</b>									
153	<b>Pottery</b>	<b>0.5 days</b>	<b>Fri 19/11/10</b>									
154	[113] Revise :	0.5 days	Fri 19/11/10									
155	<b>Metalwork</b>	<b>34.5 days</b>	<b>Tue 28/09/10</b>									

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
156	[114] Revise	4 days	Tue 28/09/10									
157	[115] Revise	1 day	Tue 28/09/10									
158	[116] Revise	0.5 days	Fri 19/11/10									
159	[117] Revise	1.5 days	Mon 22/11/10									
160	[118] Revise	1.5 days	Tue 23/11/10									
161	[119] Revise	1.5 days	Thu 25/11/10									
162	[120] Revise	0.5 days	Fri 26/11/10									
163	<b>Other artefacts</b>	<b>44.5 days</b>	<b>Tue 28/09/10</b>									
164	[121] Revise	1 day	Wed 01/12/10									
165	[122] Revise	2 days	Wed 01/12/10									
166	[123] Revise	2 days	Fri 03/12/10									
167	[124] Revise	2 days	Tue 07/12/10									
168	[125] Revise	0.5 days	Fri 10/12/10									
169	[126] Revise	3 days	Fri 10/12/10									
170	[127] Revise	3 days	Tue 28/09/10									
171	[128] Revise	0.5 days	Thu 16/12/10									
172	[129] Revise	0.5 days	Tue 28/09/10									
173	<b>Environmental</b>	<b>15 days</b>	<b>Tue 28/09/10</b>									
174	[130] Revise	0.5 days	Tue 28/09/10									
175	[131] Revise	1 day	Tue 28/09/10									
176	[132] Revise	3 days	Tue 28/09/10									
177	[133] Revise	15 days	Tue 28/09/10									
178	[134] Revise	2 days	Tue 28/09/10									
179	[135] Revise	1 day	Tue 28/09/10									
180	<b>Artefactual/Environmental Illus</b>	<b>#####</b>	<b>Tue 07/02/12</b>									
181	<b>Samian</b>	<b>15.75 days</b>	<b>Tue 07/02/12</b>									
182	[136] Extract existing dr	0.25 days	Tue 07/02/12									
183	[137] Scan, plate-up an	2 days	Tue 07/02/12									
184	[138] Extract sherds rex	0.5 days	Tue 07/02/12									
185	[139] Draw selected sh	3 days	Thu 09/02/12									
186	[140] Select stamps for	1 day	Wed 08/02/12									

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



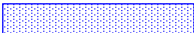








ID	f	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
					May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
187		[141] Extract stamps fo	1 day	Thu 09/02/12									
188		[142] Draw selected sta	6 days	Tue 14/02/12									
189		[143] Dispatch drawing:	0.5 days	Fri 02/03/12									
190		[144] Check drawings	1 day	Mon 05/03/12									
191		[145] Corrections	3 days	Tue 06/03/12									
192		<b>Mortaria</b>	<b>14.75 days</b>	<b>Fri 09/03/12</b>									
193		[146] Extract existing dr	0.25 days	Fri 09/03/12									
194		[147] Check existing dr:	3.5 days	Fri 09/03/12									
195		[148] Scan, plate-up an	4 days	Fri 16/03/12									
196		[149] Extract stamps fo	0.5 days	Fri 09/03/12									
197		[150] Draw selected sta	2 days	Fri 23/03/12									
198		[151] Dispatch drawing:	0.5 days	Tue 27/03/12									
199		[152] Check drawings	1.5 days	Tue 27/03/12									
200		[153] Corrections	3 days	Fri 30/03/12									
201		<b>Graffiti</b>	<b>1.25 days</b>	<b>Wed 18/04/12</b>									
202		[154] Extract existing dr	0.25 days	Wed 18/04/12									
203		[155] Scan, plate-up an	1 day	Wed 18/04/12									
204		<b>Post-Roman pottery</b>	<b>32 days</b>	<b>Thu 19/04/12</b>									
205		[156] Check material se	2 days	Thu 19/04/12									
206		[157] Draw selected shu	20 days	Mon 23/04/12									
207		[158] Specialist check c	5 days	Tue 22/05/12									
208		[159] Corrections	5 days	Wed 06/06/12									
209		<b>Other artefacts</b>	<b>36.5 days</b>	<b>Wed 13/06/12</b>									
210		[160] Scan, plate-up an	15 days	Wed 13/06/12									
211		[161] Extract Roman IR	0.25 days	Wed 13/06/12									
212		[162] Draw selected Ro	1 day	Mon 09/07/12									
213		[163] Extract pencil dra	0.25 days	Wed 13/06/12									
214		[164] Check glass draw	1.75 days	Wed 13/06/12									
215		[165] Scan glass drawir	6 days	Tue 10/07/12									
216		[166] Extract glass requ	0.25 days	Fri 15/06/12									
217		[167] Draw selected gla	0.5 days	Thu 19/07/12									

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

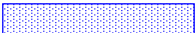








ID	f	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
					May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
218		[168] Scan, plate-up an	3 days	Thu 19/07/12									
219		[169] Extract archive dr.	0.5 days	Fri 15/06/12									
220		[170] Scan archive drav	5.5 days	Tue 31/07/12									
221		[171] Extract archive dr.	0.5 days	Mon 18/06/12									
222		[172] Scan archive drav	2.5 days	Fri 10/08/12									
223		[173] Extract post-Rom	0.5 days	Mon 18/06/12									
224		[174] Draw selected po	1.5 days	Tue 14/08/12									
225		[175] Create list of artef	1 day	Tue 19/06/12									
226		[176] Extract artefacts r	1 day	Thu 21/06/12									
227		[177] Photograph selec	1 day	Thu 16/08/12									
228		[178] Produce photogra	0.5 days	Fri 17/08/12									
229		<b>Overview/discussion</b>	<b>50 days</b>	<b>Fri 17/12/10</b>									
230		[179] Library research	15 days	Fri 17/12/10									
231		[180] Produce overview/disc	35 days	Wed 19/01/11									
232		<b>Publication Text</b>	<b>#####</b>	<b>Thu 08/09/11</b>									
233		[181] Edit all reports	40 days	Thu 08/09/11									
234		[182] Submit edited reports t	1 day	Fri 17/08/12									
235		[183] Compile edited reports	10 days	Mon 20/08/12									
236		[184] Compile DVD	15 days	Wed 12/09/12									
237		[185] Edit finalised volumes	25 days	Tue 09/10/12									
238		[186] Submit report to EH	1 day	Wed 21/11/12									
239		<b>Popular Publication</b>	<b>40.25 days</b>	<b>Tue 07/02/12</b>									
240		[187] Prepare text	7 days	Tue 07/02/12									
241		[188] Prepare illustrations	20 days	Fri 09/03/12									
242		[189] Compile list plates	0.5 days	Thu 16/02/12									
243		[190] Extract from archive	1 day	Fri 17/02/12									
244		[191] Scan photographs	2 days	Wed 25/04/12									
245		[192] Edit volume	2 days	Fri 27/04/12									
246		[193] Submit EH	0.5 days	Tue 01/05/12									
247		<b>Project Archive</b>	<b>5.5 days</b>	<b>Thu 22/11/12</b>									
248		[194] Estimate digital inform	1 day	Thu 22/11/12									

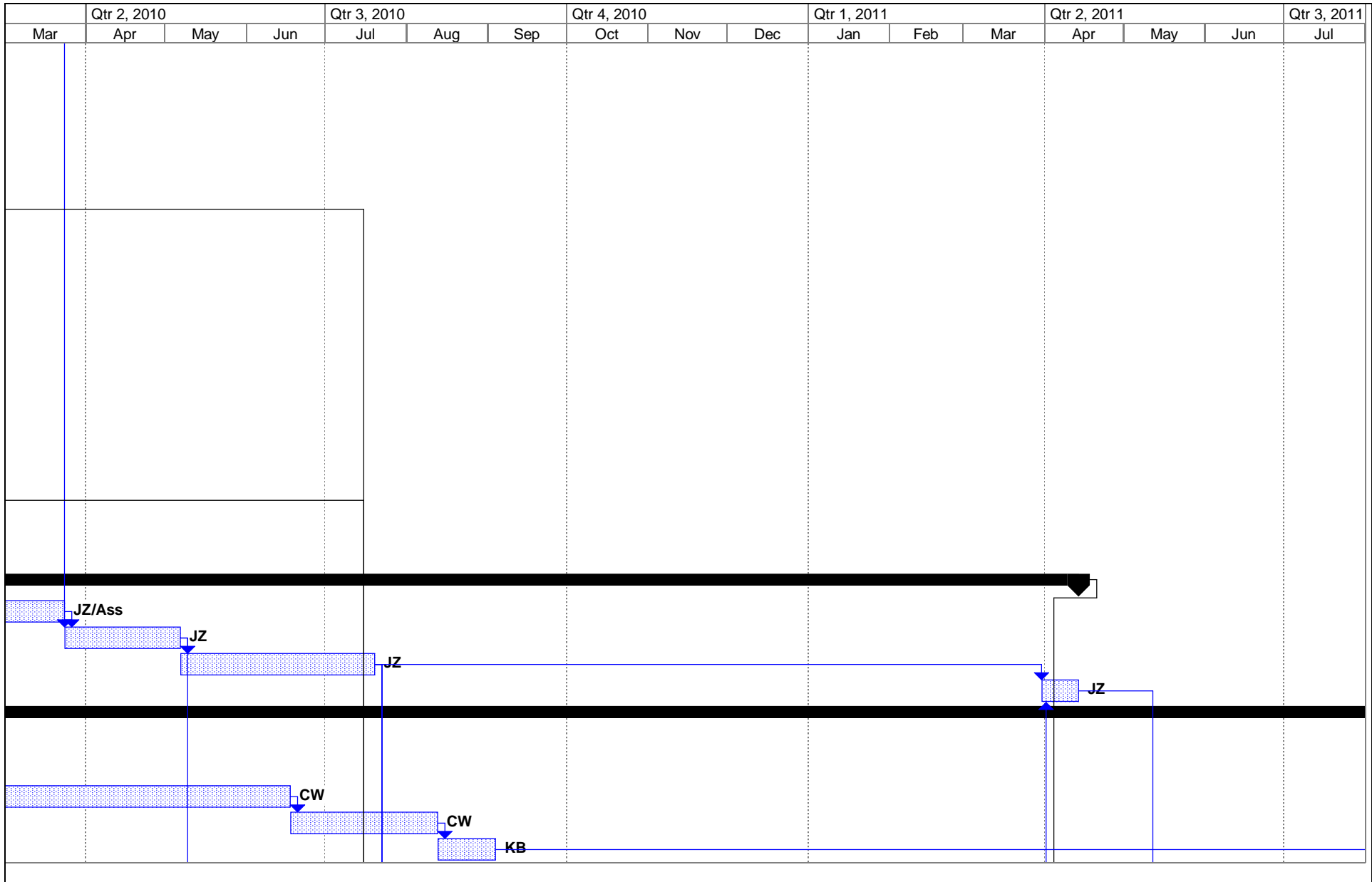
Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID	Task Name	Duration	Start	Qtr 3, 2009			Qtr 4, 2009			Qtr 1, 2010		
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
249	[195] Agree scope ADS data	3 days	Fri 23/11/12									
250	[196/197] Deposit	1.5 days	Wed 28/11/12									

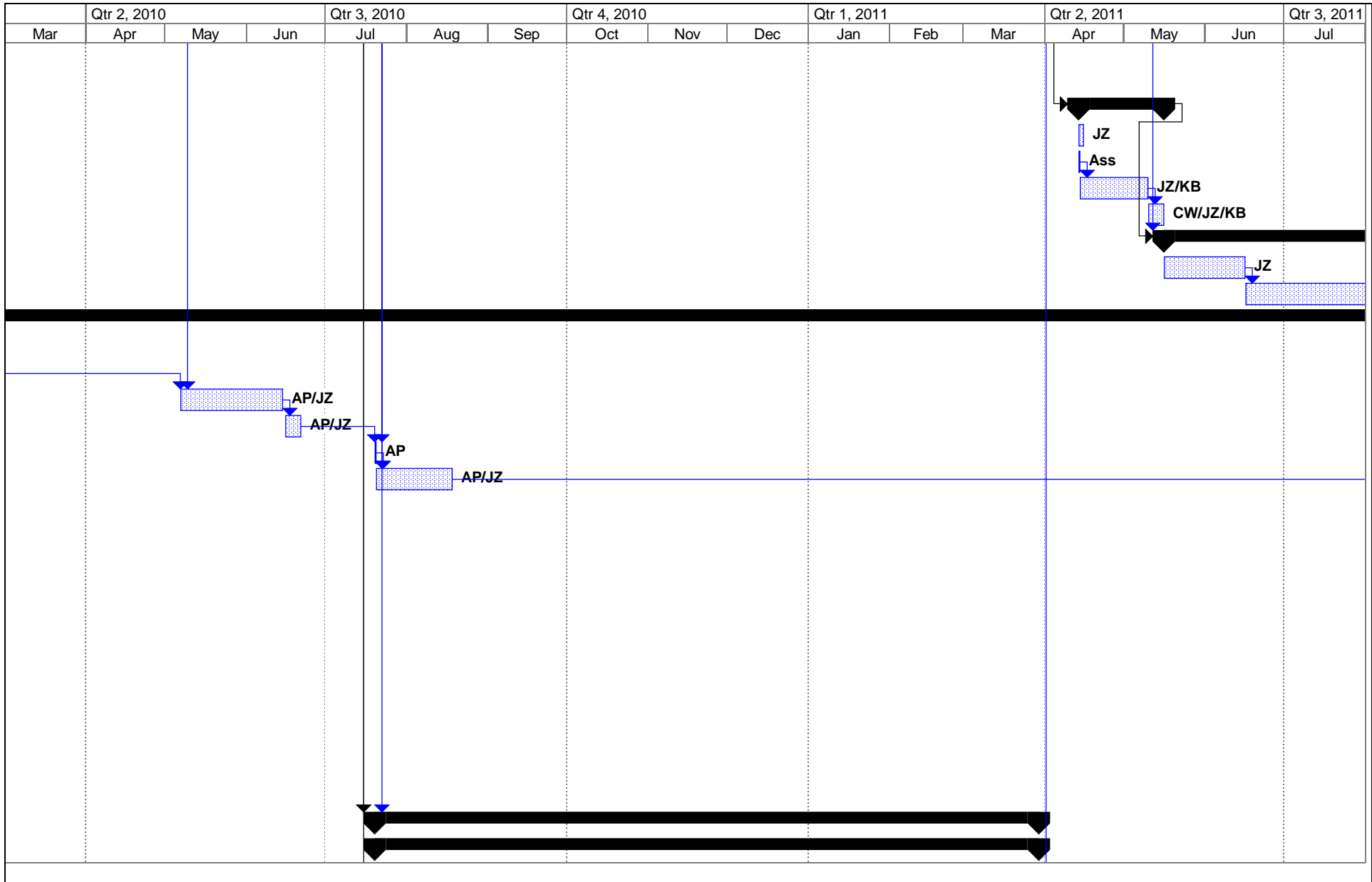
Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

	Qtr 2, 2010			Qtr 3, 2010			Qtr 4, 2010			Qtr 1, 2011			Qtr 2, 2011			Qtr 3, 2011
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<div style="border: 1px solid blue; width: 40px; height: 100px; margin-left: 5px;"></div>																

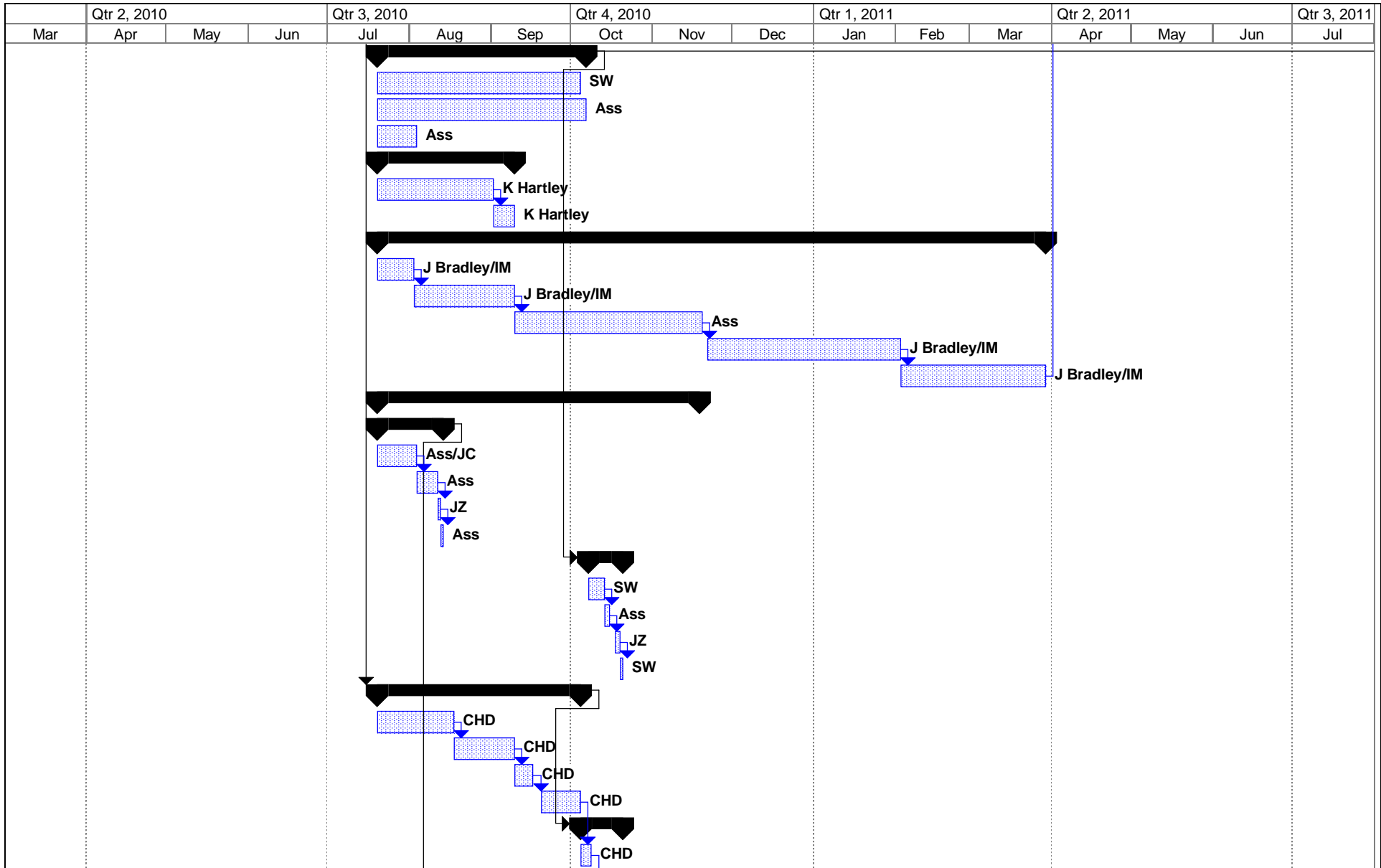
Project: lanes Date: Mon 11/05/09	Task 	Milestone 	External Tasks 
	Split 	Summary 	External Milestone 
	Progress 	Project Summary 	Deadline 



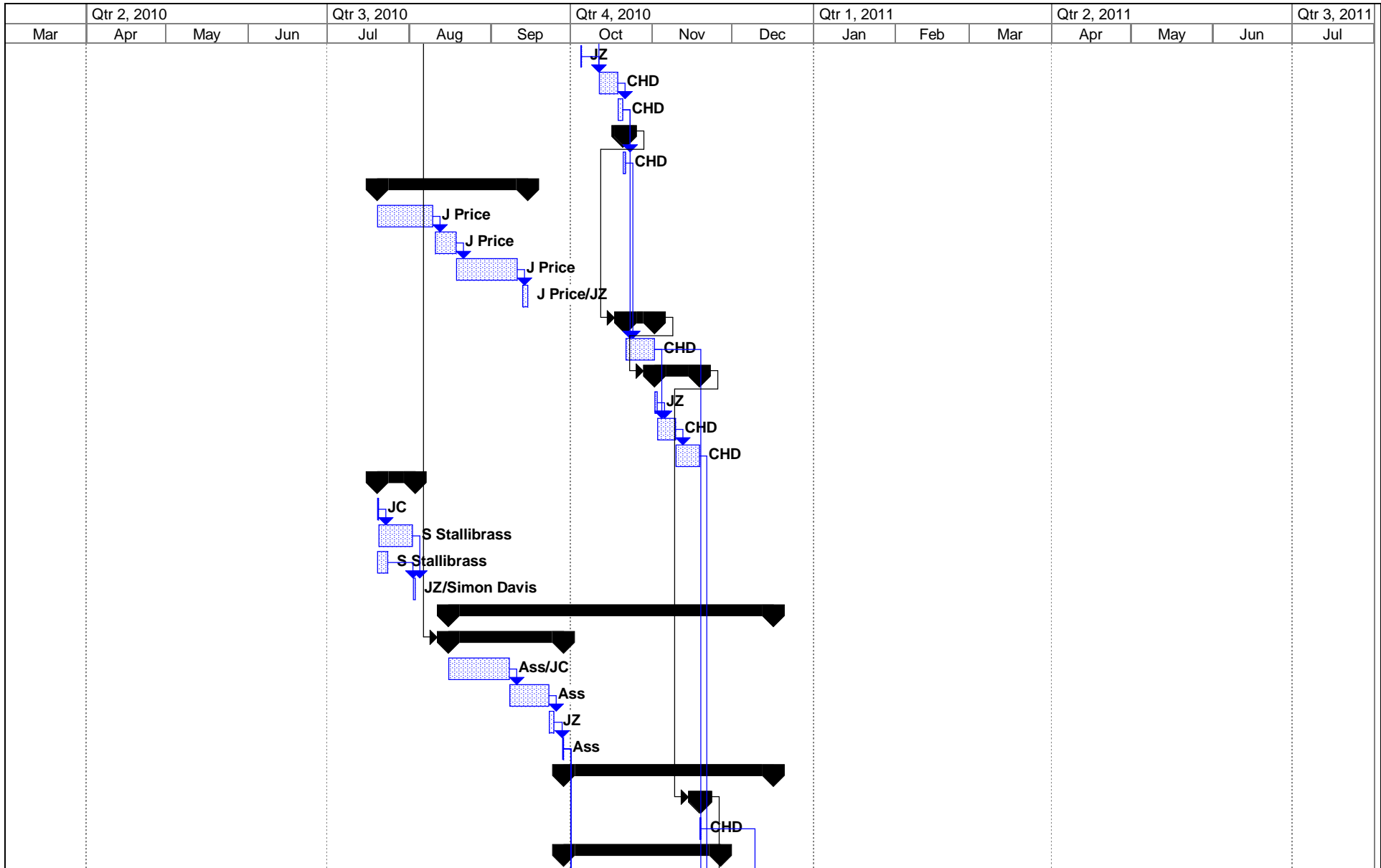
Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

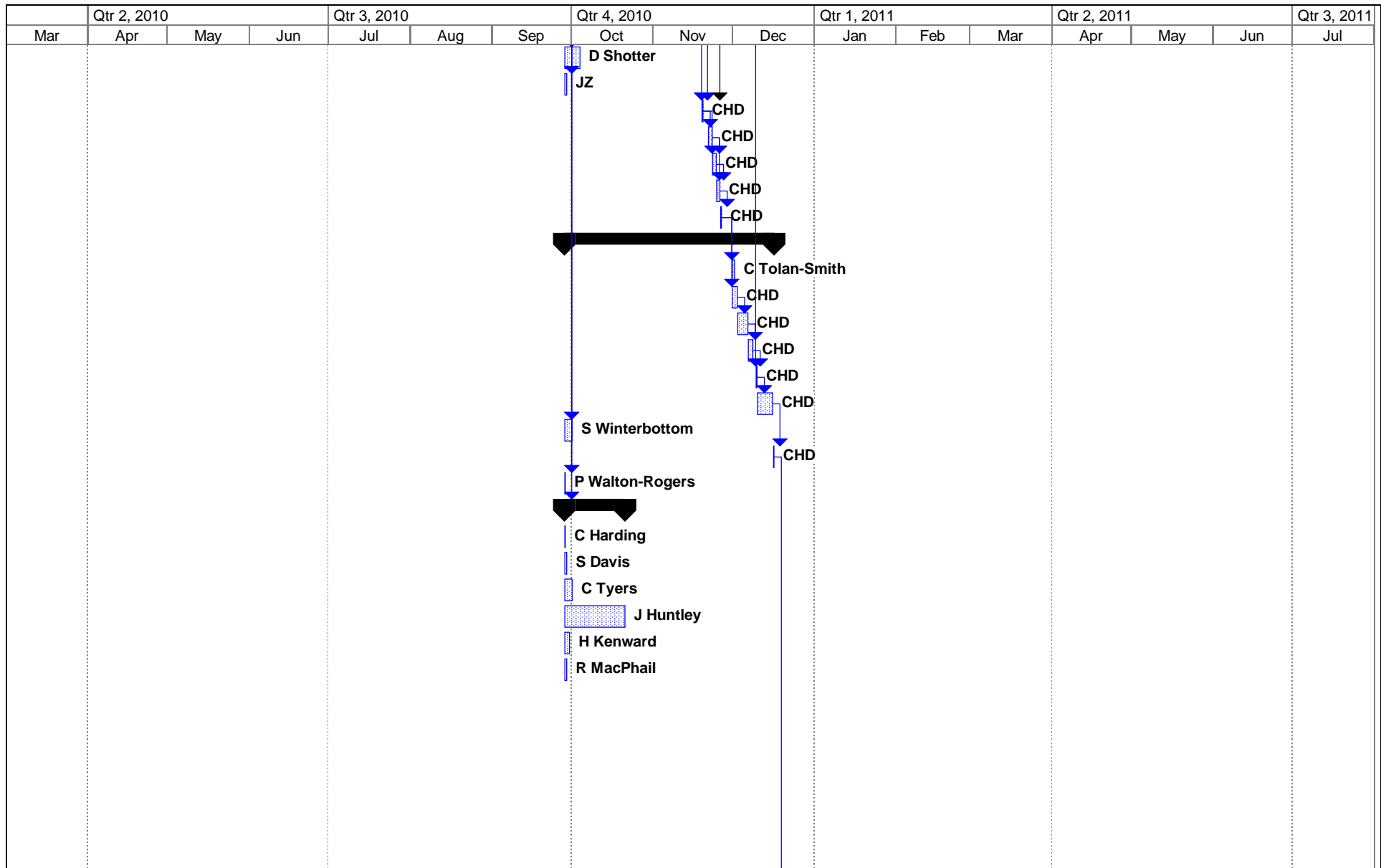


Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



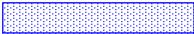








Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

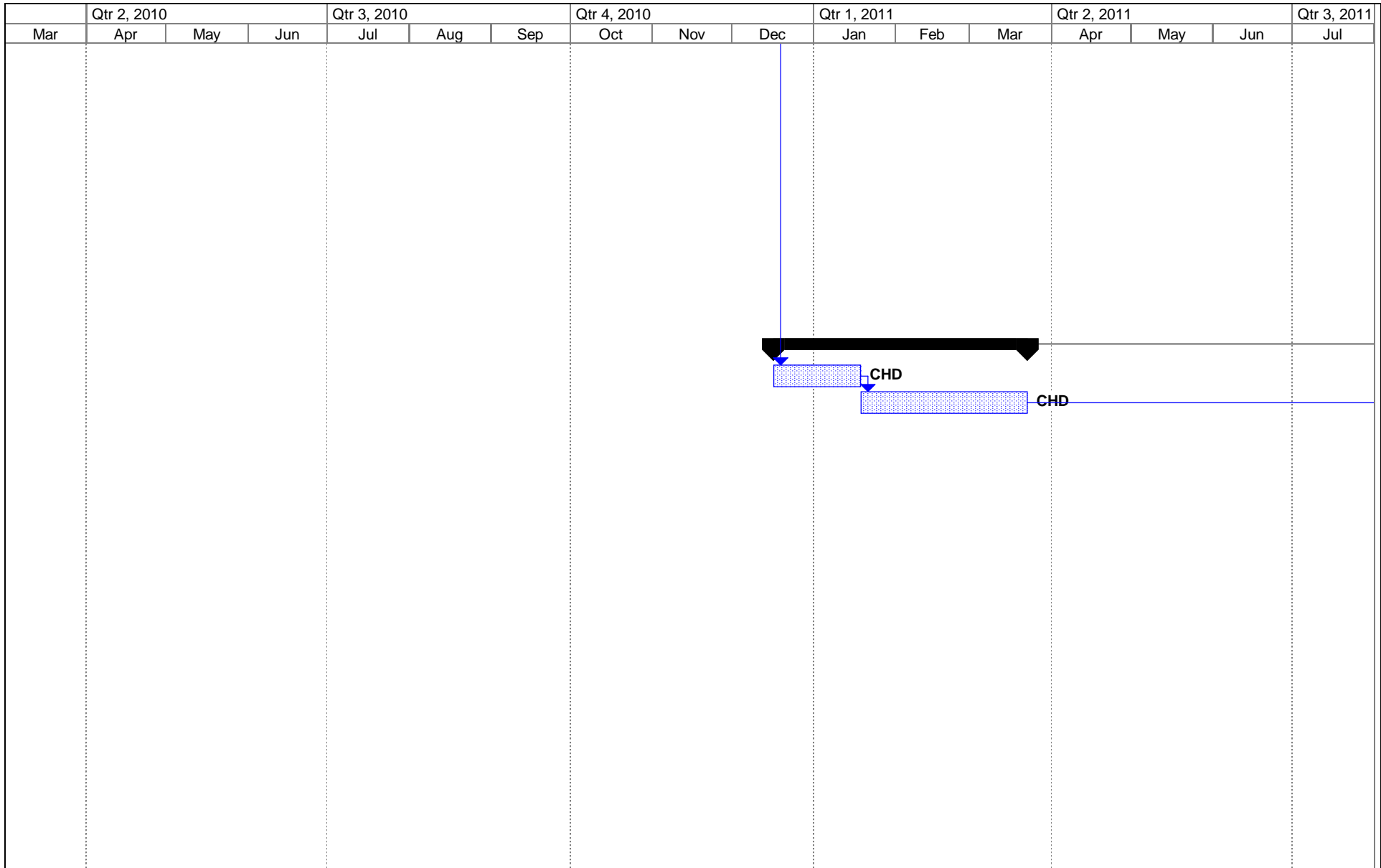




Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

	Qtr 2, 2010				Qtr 3, 2010			Qtr 4, 2010			Qtr 1, 2011			Qtr 2, 2011			Qtr 3, 2011
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	

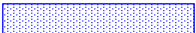








Project: lanes Date: Mon 11/05/09	Task 	Milestone 	External Tasks 
	Split 	Summary 	External Milestone 
	Progress 	Project Summary 	Deadline 



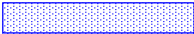








Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

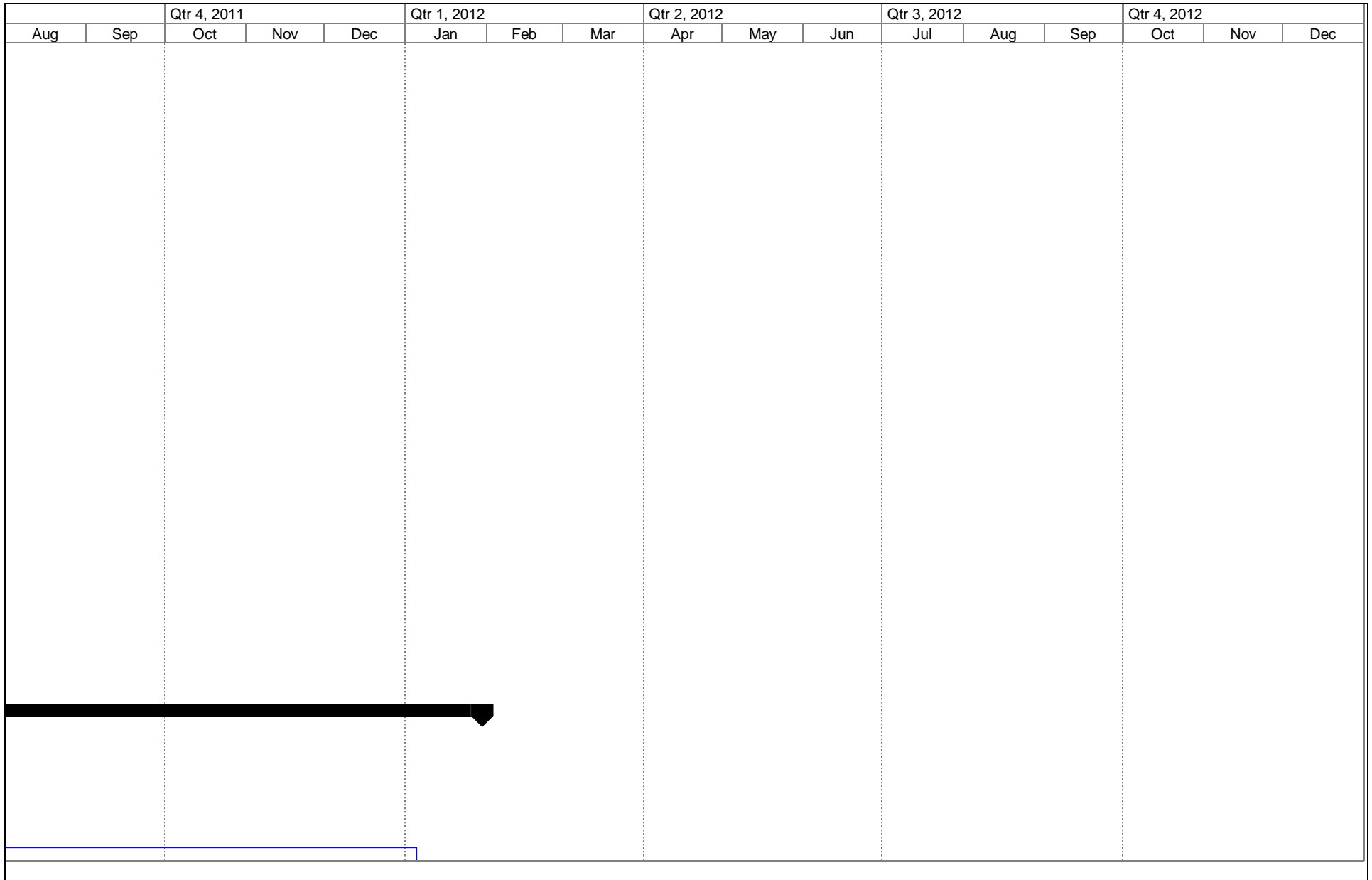
	Qtr 2, 2010				Qtr 3, 2010			Qtr 4, 2010			Qtr 1, 2011			Qtr 2, 2011			Qtr 3, 2011
Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	



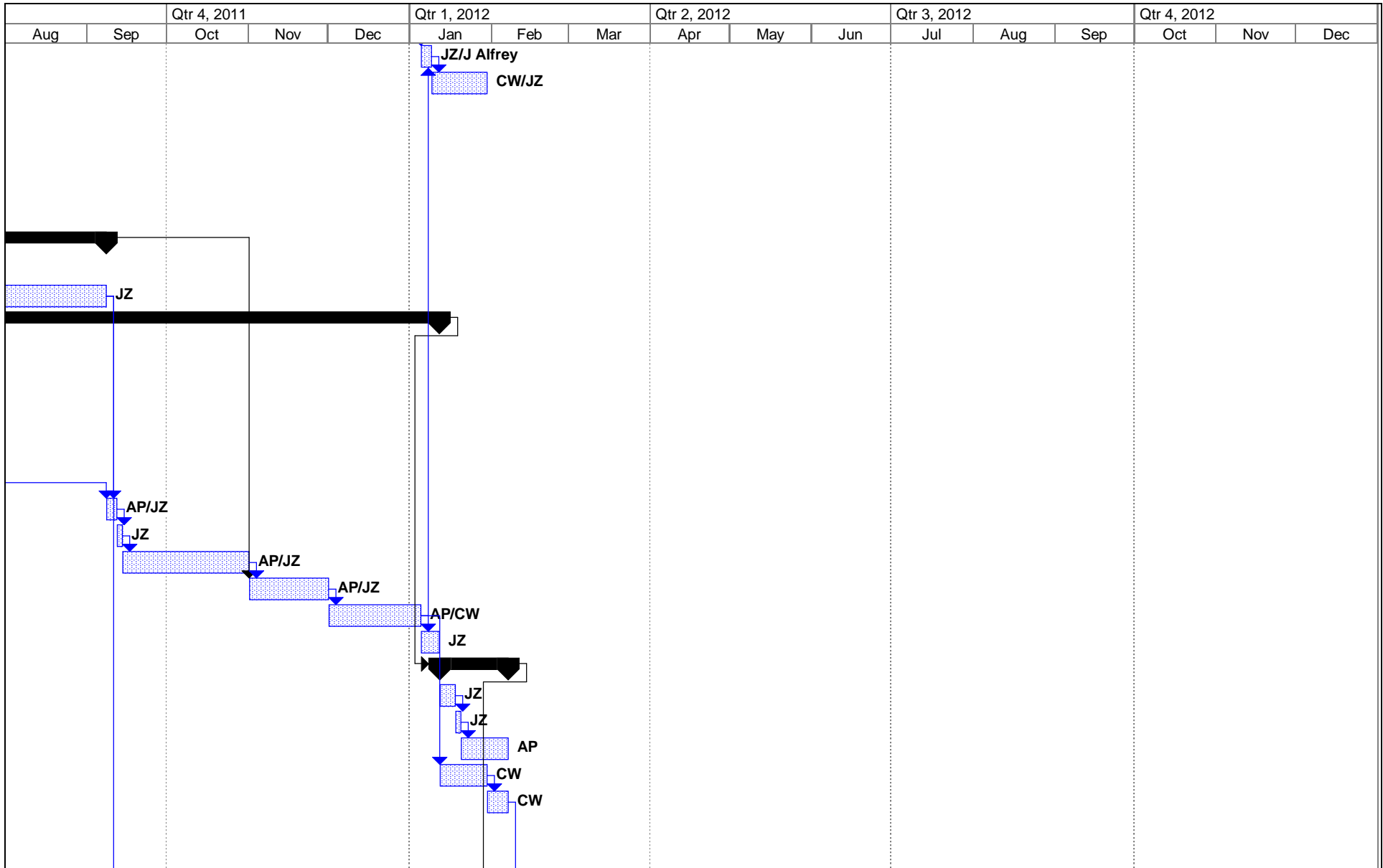
Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

		Qtr 4, 2011			Qtr 1, 2012			Qtr 2, 2012			Qtr 3, 2012			Qtr 4, 2012		
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

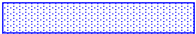










Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



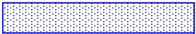








Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

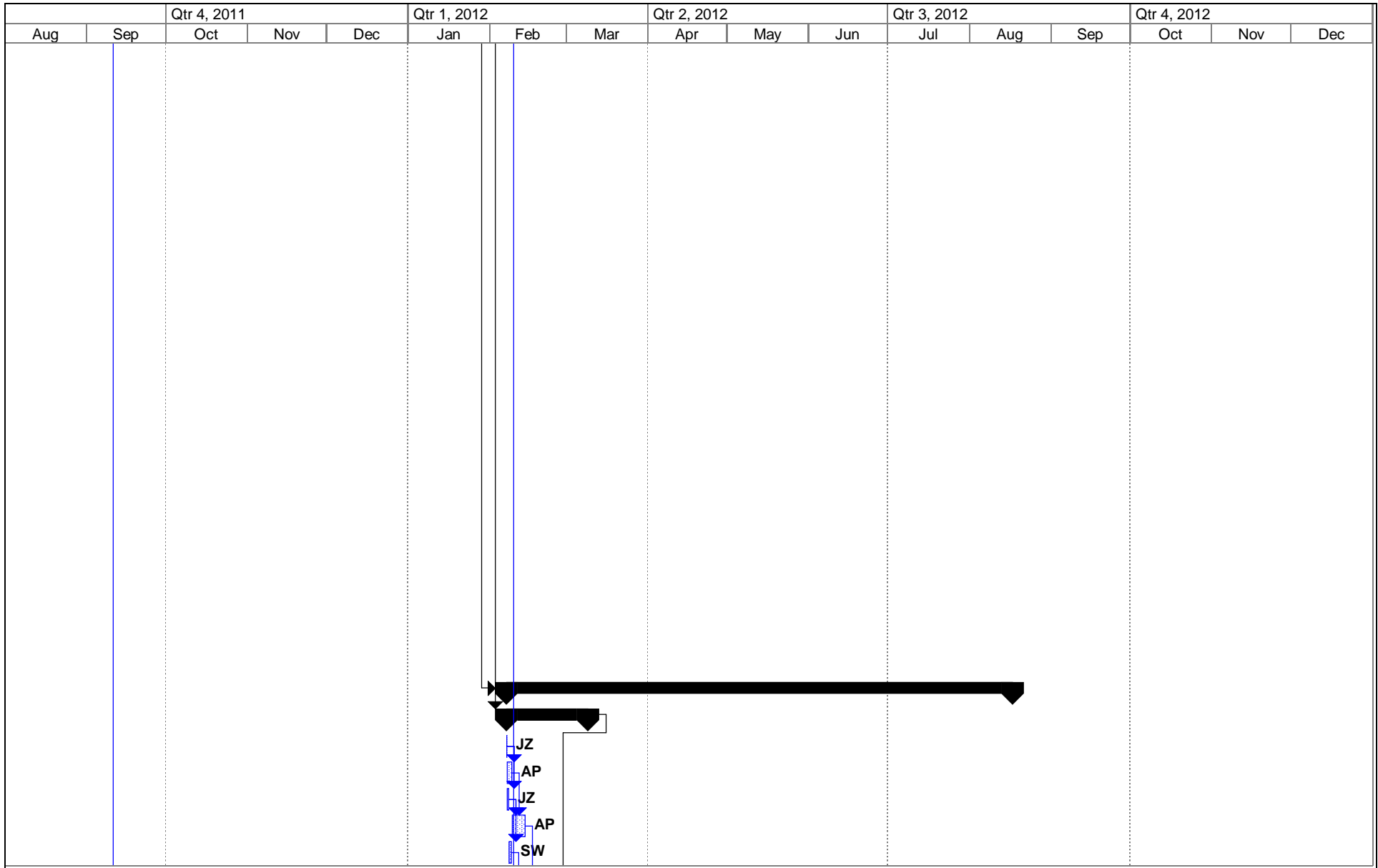
Aug		Sep		Qtr 4, 2011			Qtr 1, 2012			Qtr 2, 2012			Qtr 3, 2012			Qtr 4, 2012		
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		

Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

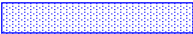










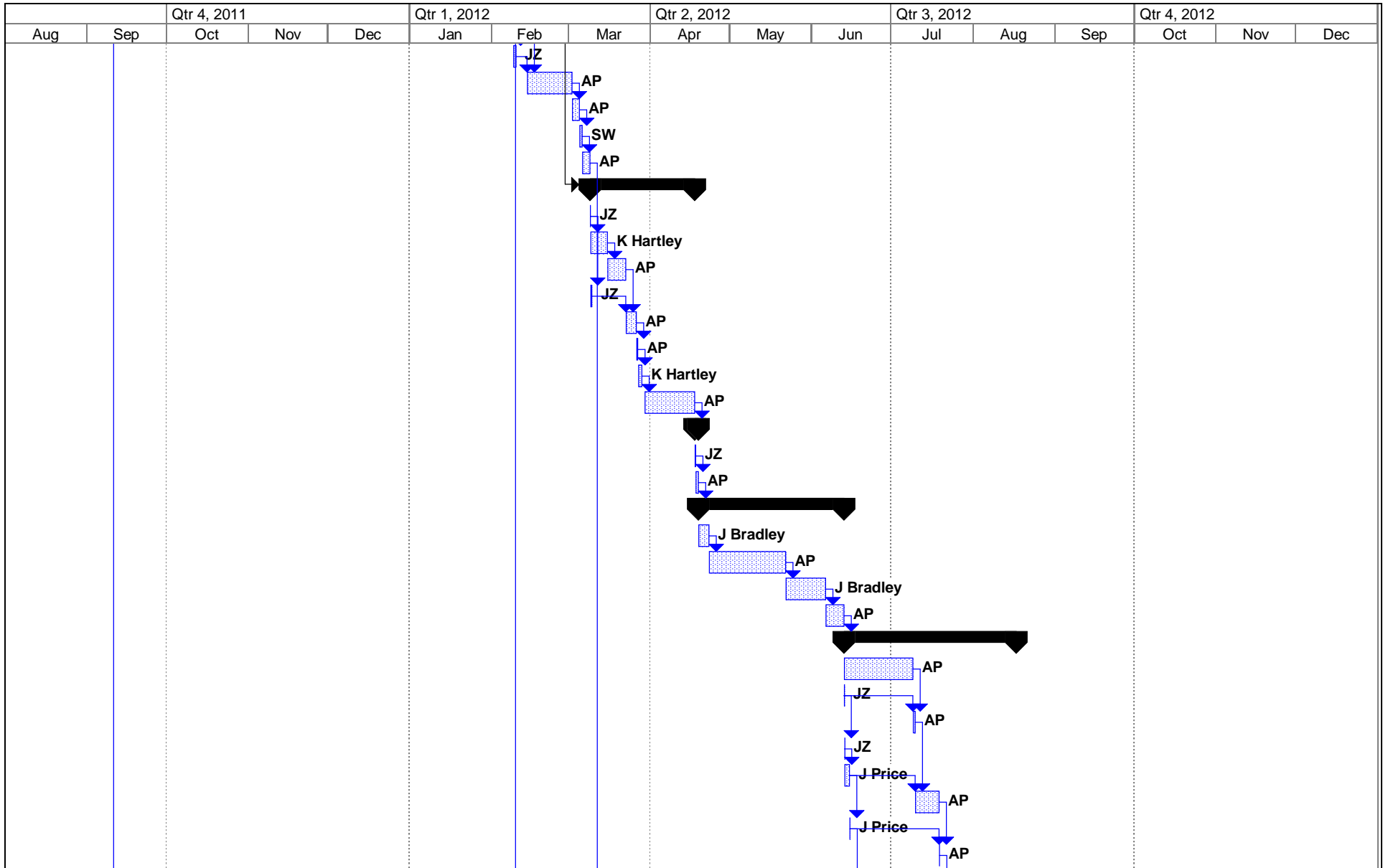
Aug		Qtr 4, 2011			Qtr 1, 2012			Qtr 2, 2012			Qtr 3, 2012			Qtr 4, 2012		
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Project: lanes Date: Mon 11/05/09	Task 	Milestone 	External Tasks 
	Split 	Summary 	External Milestone 
	Progress 	Project Summary 	Deadline 

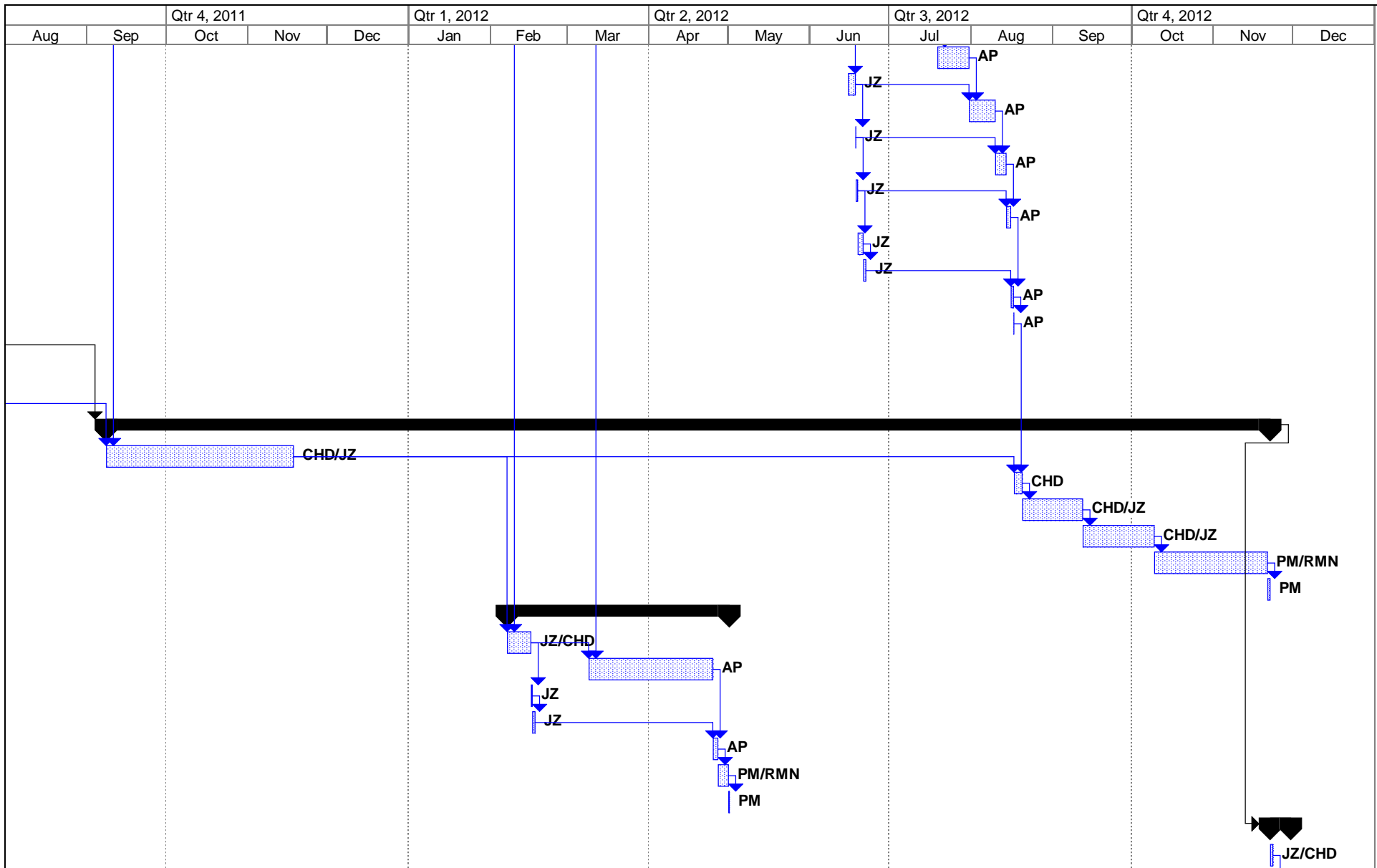


Project: lanes  
Date: Mon 11/05/09


Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

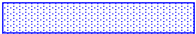










Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	



Project: lanes Date: Mon 11/05/09	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

		Qtr 4, 2011			Qtr 1, 2012			Qtr 2, 2012			Qtr 3, 2012			Qtr 4, 2012		
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
																

Project: lanes Date: Mon 11/05/09	Task 	Milestone 	External Tasks 
	Split 	Summary 	External Milestone 
	Progress 	Project Summary 	Deadline 



## **Oxford Archaeology North**

Mill 3

Moor Lane Mills

Moor Lane

Lancaster

LA1 1GF

t: (01524 541000

f: (01524) 848606

e: [mail@oxfordarch.co.uk](mailto:mail@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 Unit Ltd.  
Janus House, Osney Mead, Oxford, OX2 0ES