1 DORSET RISE

CITY OF LONDON

ASSESSMENT OF AN ARCHAEOLOGICAL EXCAVATION

DOR 13

AUGUST 2014

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

1 DORSET RISE
CITY OF LONDON

EXCAVATION

Quality Control

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An Archaeological Excavation at 1 Dorset Rise, City of London, London EC4Y 8EN

Site Code: DOR 13

Report No.: R11808

Central National Grid Reference: TQ 31552 81003

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Pre-Construct Archaeology Limited, August 2014

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CONTENTS

Plates

1 ABSTRACT

1.1 This report presents the results of a series of archaeological interventions conducted by Pre-Construct Archaeology Ltd at 1 Dorset Rise, City of London, London EC4Y 8EN. The excavated areas were mainly located in the southern part of the courtyard which at present lies immediately to the west of the Premier Inn (2 Dorset Rise): additional trenches were located in the basement of the standing building at 1 Dorset Rise which was unoccupied when the excavations were undertaken. The courtyard is currently bounded by Kildare House to the north (3 Dorset Rise), the Premier Inn to the east (2 Dorset Rise), Dorset Rise to the west and 1 Dorset Rise to the south. The site boundary to the south comprises the southern frontage of 1 Dorset Rise on Tudor Street.

1.2 The archaeological potential of the site was somewhat unclear prior to the excavation of trial trenches which began in January 2013. Although the site lies in an area with considerable archaeological potential, it is located immediately to the west of Henry VIII's Royal Palace at Bridewell, the upper part of the archaeological sequence had clearly been severely impacted by modern construction and demolition. This is particularly true for the courtyard which was created by wholesale ground reduction in the early 1950s; it now lies several metres below the street level on Dorset Rise. The extent of modern ground reduction is most apparent on the north side of the courtyard which has been terraced into the hillside which leads up to Fleet Street. The creation of the basement below 1 Dorset Rise would have further impacted any archaeological remains that may once have been present.

1.3 Ms Kathryn Stubbs, Assistant Director Historic Environment, City of London, recommended that an archaeological evaluation be undertaken prior to the commencement of any construction, to test the extent of truncation in the area. The results of the initial trial work indicated that though most if not all of the archaeological sequence had been removed in the central and northern parts of the courtyard considerable potential remained in the south, specifically the area adjacent to the northern frontage of 1 Dorset Rise.

1.4 A sequence of archaeological features and deposits was apparent in the first two trenches opened; particularly Test Pit 3 which was located in the south of the courtyard immediately to the north of 1 Dorset Rise. The most prominent structure consisted of a brick built drain which dated to the 16th century and might have been associated with the construction of Bridewell Palace. The construction trench for the drain had been cut through a sequence of medieval land levelling deposits. These layers undoubtedly formed part of the land reclamation efforts that took place close to the Thames and Fleet waterfronts as the City expanded westward from its historic core within the walled Roman city located to the east of the Fleet River. In total the archaeological sequence extended c. 2.40m below the modern courtyard surface.

1.5 Subsequent excavation of two small trial holes within the basement of 1 Dorset Rise also demonstrated that archaeological features and deposits survived below the floor slab. The remains in this area consisted principally of medieval levelling and land reclamation deposits.

1.6 The trial trenching undertaken on the site demonstrated very clearly that the site retained considerable archaeological potential despite the effects of modern impacts. It was therefore determined that the areas threatened by the proposed construction works should be fully excavated prior to the commencement of building. The archaeological interventions essentially covered three separate areas. These consisted of:

- The excavation of a light well on the northern side of, and adjacent to, the basement of 1 Dorset Rise.
- The excavation of a foundation trench for a landscape wall located within the courtyard. The wall followed a winding route running from the statue of St. George and the dragon in the north toward the southeast corner of the courtyard.
- The excavation of a series of trenches in the basement which would serve a new drainage system.

1.7 Given the limited scope of the archaeological intervention the results were quite remarkable. The excavations demonstrated unequivocally that Bridewell Palace had once extended considerably further to the west than had previously been thought. Although some depictions of the palace on early maps of London can hardly be described as accurate it had been assumed that the modern courtyard area had always been located to the west of the palace buildings. This area is invariably shown as a garden before it became used as the burial ground associated with the poor house and hospital into which the palace was later converted. With the exception of one large skull fragment mixed in with some 20th-century construction debris there was no evidence for the presence of the cemetery. It must be assumed that this was cleared during the post-war building work carried out in the early 1950s.

2 INTRODUCTION

2.1 A series of archaeological interventions was undertaken by Pre-Construct Archaeology Ltd at 1 Dorset Rise, City of London. The initial stage of works consisted of an evaluation comprising four test pits which succeeded in demonstrating the archaeological potential of the site. This led to a number of subsequent interventions which aimed to fully excavate given areas to their project depth or the top of natural deposits. Due to the complexity of the refurbishment and landscaping programme numerous phases of site work were required, not all of which are detailed in this document though the results of all phases of work, including the initial evaluation, are reported on here. Trial work was carried out in two phases in January and March 2013, subsequent excavation began in April and continued intermittently until September 2013.

2.2 The site is bordered by an office block Kildare House (3 Dorset Rise) to the north, the Premier Inn (2 Dorset Rise) to the east, Dorset Rise to the west and the southern frontage of 1 Dorset Rise on Tudor Street to the south. The footprint of site, comprising the entire courtyard and the basement of 1 Dorset Rise, measures 975m^2 in total.

2.3 The central National Grid Reference for the area evaluated is TQ 31552 81003.

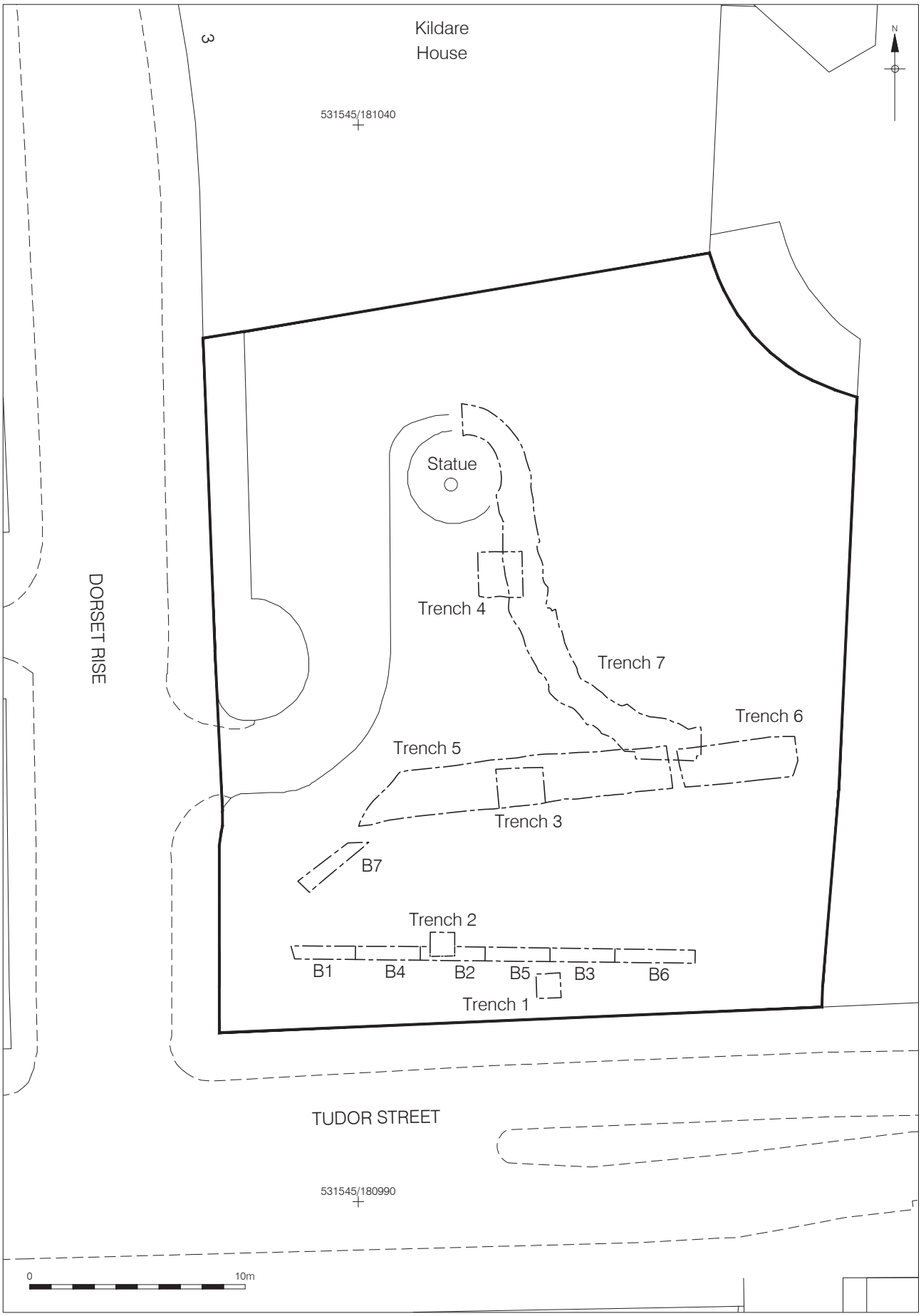
2.4 The site was given the unique Museum of London site code DOR13.

2.5 The archaeological interventions conducted on the site were required as mitigation for the proposed building works. The construction project consisted of the conversion of the disused office block at 1 Dorset Rise into an extension of the Premier Inn which currently occupies 2 Dorset Rise. This conversion required the excavation of a light well along the north side of the basement of 1 Dorset Rise, the installation of a new drainage system below the basement slab and the building of a substantial landscape wall within the sunken courtyard which lies to the north of 1 Dorset Rise.

2.6 The project was monitored by Ms Kathryn Stubbs, Assistant Director Historic Environment, City of London and project managed for Pre-Construct Archaeology Limited by Helen Hawkins. Jon Butler managed the post-excavation project for PCA, the evaluation and excavations were supervised by the author.

01/08/14 JS

Figure 1
Site Location
1:20,000 at A4



01/08/14 JS

Figure 2
Trench Location
1:250 at A4

3 PLANNING BACKGROUND

3.1 National Guidance

3.1.1 The Departments of Communities and Local Government (DCLG) issued a new series of planning guidelines, the National Planning Policy Framework, in March 2012. This document superseded the previous guidance contained in Planning Policy Statement 5. The policies regarding archaeology set out in the NPPF are contained in **Section 12 Conserving and enhancing the historic environment**. These state:

126. Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment[1], including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. In developing this strategy, local planning authorities should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

127. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

130. Where there is evidence of deliberate neglect of or damage to a heritage asset the deteriorated state of the heritage asset should not be taken into account in any decision.

131. In determining planning applications, local planning authorities should take account of:

[1] The principles and policies set out in this section apply to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-taking.

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- the desirability of new development making a positive contribution to local character and distinctiveness.

132. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

133. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site; and
- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and
- the harm or loss is outweighed by the benefit of bringing the site back into use.

134. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

135. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

136. Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

137. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

138. Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 133 or less than substantial harm under paragraph 134, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

139. Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

140. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

141. Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible2. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

3.1.2 The provisions set out in the new guidelines superseded the policy framework set out in previous government guidance namely Planning Policy Statement 5 (PPS 5) 'Planning for the Historic Environment'. Planning Policy Statement 5 had itself replaced Planning Policy Guidance Note 16, PPG 16, which was issued in November 1990 by the Department of the Environment.

3.1.3 Although PPG 16 has been superseded the Unitary Development Plans of most local authorities, or Local Development Frameworks where these have been adopted, still contain sections dealing with archaeology that are based on the provisions set out in PPG 16. The City of London is among these local authorities (see policy 11.7 below). The key points in PPG16 can be summarised as follows:

3.1.4 Archaeological remains should be seen as a finite and non-renewable resource, and in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly and thoughtlessly destroyed. They can contain irreplaceable information about our past and the potential for an increase in future knowledge. They are part of our sense of national identity and are valuable both for their own sake and for their role in education, leisure and tourism.

3.1.5 Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by a proposed development there should be a presumption in their physical preservation.

3.1.6 If physical preservation in situ is not feasible, an archaeological excavation for the purposes of 'preservation by record' may be an acceptable alternative. From an archaeological point of view, this should be as a second best option. Agreements should also provide for subsequent publication of the results of any excavation programme.

3.1.7 The key to informed and reasonable planning decisions is for consideration to be given early, before formal planning applications are made, to the question of whether archaeological remains are known to exist on a site where development is planned and the implications for the development proposal.

3.1.8 Planning authorities, when they propose to allow development which is damaging to archaeological remains, must ensure that the developer has satisfactorily provided for

[2] Copies of evidence should be deposited with the relevant Historic Environment Record, and any archives with a local museum or other public depository

excavation and recording, either through voluntary agreement with archaeologists or, in the absence of agreement, by imposing an appropriate condition on the planning permission

3.2 Regional Guidance: The London Plan

3.2.1 The over-arching strategies and policies for the whole of the Greater London area are contained within the Greater London Authority's London Plan (July 2011) which includes the following statement relating to archaeology:

Policy 7.8

Heritage assets and archaeology

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

G Boroughs, in consultation with English Heritage, Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.

3.3 Local Guidance: Archaeology in the City of London

3.3.1 The City of London Corporation fully recognises the importance of the archaeological heritage located within its bounds and has adopted policies to preserve it. These are now contained within the Core Strategy which was adopted in 2011 and include saved policies which formed

part of the Unitary Development Plan which was adopted in 2002. The policies contained within the Core Strategy state:

City Culture and Heritage

HISTORIC ENVIRONMENT

3.12.1 The City's unique townscape of historic buildings, streets and open spaces juxtaposed with contemporary modern buildings creates a varied, attractive and lively environment which attracts companies and visitors who support the services which contribute to its cultural vibrancy. The City contains a large number of heritage assets which include almost 600 listed buildings, 26 conservation areas, 48 scheduled ancient monuments and 4 historic parks and gardens. There are many protected trees in conservation areas and with Tree Preservation Orders. Historic buildings characteristic of the City include notable buildings such as Mansion House, Guildhall and St Paul's Cathedral, livery company halls and a large number of churches. In addition, the Tower of London, which lies just outside the City boundary, is inscribed by UNESCO as a World Heritage Site of universal significance and its protection includes a buffer area which is partly within the City.

3.12.2 The City is the historic core from which the rest of London developed. Its townscape is derived from its historical development and role as a centre of commerce and trade. The street pattern comprises medieval lanes and alleyways, overlain by later, wider streets. The dense nature of development is ameliorated by the many green spaces, including a high number of small open spaces such as former churchyards, as well as larger gardens.

3.12.3 The City is characterised by many historically important buildings and collections of buildings. Its varied townscape includes areas of formal layout, those with a more domestic and small scale character, as well as larger building complexes such as Smithfield and Leadenhall Markets. There is a close proximity of very different historic areas with a common purpose and business function, which contributes to the special character of the townscape. The City can claim to have one of the greatest concentrations of church buildings of outstanding architectural quality in the country, with 42 places of worship, all but one of which are listed. The City also possesses a modern architectural heritage including, for example, the listed Barbican and Golden Lane Estates.

3.12.4 The City is one of the most important areas in the country in terms of archaeology. Its unique archaeological heritage dates back to the Roman settlement and has evolved through Saxon, medieval and later periods. Many Roman, Saxon and medieval remains still survive in the City today, including buried as well as visible remains, such as the Roman amphitheatre below Guildhall, the Roman and medieval London wall and the reconstructed Temple of Mithras in Queen Victoria Street. Archaeological investigation is an important aspect of development proposals.

Policy CS12: Historic Environment

To conserve or enhance the significance of the City's heritage assets and their settings, and provide an attractive environment for the City's communities and visitors, by:

1. Safeguarding the City's listed buildings and their settings, while allowing appropriate adaptation and new uses.

2. Preserving and enhancing the distinctive character and appearance of the City's conservation areas, while allowing sympathetic development within them.

3. Protecting and promoting the evaluation and assessment of the City's ancient monuments and archaeological remains and their settings, including the interpretation and publication of results of archaeological investigations.

4. Safeguarding the character and setting of the City's gardens of special historic interest.

5. Preserving and, where appropriate, seeking to enhance the Outstanding Universal Value, architectural and historic significance, authenticity and integrity of the Tower of London World Heritage Site and its local setting.

3.3.2 The saved policies which form parts of the Unitary Development Plan, adopted in 2002, are listed in Chapter 11 Archaeology. These are reproduced below:

INTRODUCTION

11.1 The modern City of London has its origins in the settlement of the area at least as far back as the Roman period. This has resulted in a complex and varied archaeological heritage forming an historic landscape which has shaped and influenced the modern townscape. The origins of the City as a pre-eminent civic, commercial and trading centre derive from its past occupation.

11.2 The development of the City through the Roman, Saxon and medieval periods to the present day is contained in the visible and buried monuments and archaeological remains. The almost continuous occupation of the City has led to the build up and development of a very complex, and in some areas, deep archaeological sequence. The nature of development, through the construction of deeper and more extensive basements, has meant that this evidence has been eroded, and consequently much of the information has been lost, in many areas with no record or an incomplete record of only part of the site.

11.3 Ancient monuments and archaeological remains surviving in the City are important evidence of the City's role as a commercial and trading centre, reflecting past land use, society and occupation as well as social and economic change. They have influenced the existing built and unbuilt environment and street pattern. The importance of these remains lies in their intrinsic value as well as their contribution to the wider landscape of the City and the development and growth of London, its hinterland and trading connections. In some cases the

importance of archaeological remains derives from the grouping of a sequence of remains or the development of a particular feature or structures, in addition to the individual value of one or more components. These monuments and remains may be of international, national, regional or local importance.

11.4 There have been observations and recording of archaeology since as long ago as the 16th century and recent systematic investigation and recording has provided much information and understanding of our past. For later periods, documentary evidence may survive, which complements the archaeological evidence, but for much of the City's history, surviving archaeological remains are the only source of information. New information and reinterpretation of existing records adds continually to our knowledge. In many areas, monuments, for example the Roman and medieval City wall, have been retained and conserved as part of a development, illustrating this rich heritage. Elsewhere, remains are buried below existing building basements, streets and open spaces, or earlier buildings may survive subsumed into later fabric. Even small survivals of archaeological remains have the capacity to provide valuable evidence, and advances in scientific techniques mean that it is possible to gain an increasing amount of information from remains, adding to the wider picture of the natural environment, its occupation and exploitation over the last two thousand years. This historic landscape is also made up of other, more visible features such as street names, building lines and plot widths, perpetuated through redevelopment, and open spaces including many former churchyards.

AIMS

11.5 The following aims set out the general intentions of the Archaeology chapter and set the context for the chapter's strategic and local policies.

• Protect and promote the conservation, preservation in situ and enhancement of ancient monuments and archaeological remains of national importance and their settings.

• Assess and evaluate sites of archaeological potential prior to a decision on a planning application.

• Ensure the proper investigation, recording and publication of evidence of ancient monuments and archaeological remains as an integral part of a development programme.

STRATEGIC POLICY

11.6 The strategic policy and its supporting text sets out the London-wide and regional context for the more detailed archaeological policies of the Plan.

POLICY STRAT 11A

To recognise the archaeological importance of the City as the historic centre of the capital and to seek the adequate safeguarding and investigation of ancient monuments and archaeological remains.(NB this is no longer current City of London Corporation Policy)

11.7 Strategic Guidance states that account should be taken of the desirability of preserving ancient monuments and their settings and of the Secretary of State's guidance in PPG 16, Archaeology and Planning. Archaeological remains are an irreplaceable resource and often the only evidence of past development. These remains are a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. They contain irreplaceable information about our past and the potential for an increase in future knowledge.

11.8 Where nationally important archaeological remains, whether scheduled or not, and their settings are affected by proposed development there is a presumption in favour of their physical preservation in situ. Some monuments and archaeological remains are protected as scheduled ancient monuments under Part I of the Ancient Monuments and Archaeological Areas Act 1979. These are shown on Map 11.1. Applications for works which may affect a scheduled ancient monument are determined by the Secretary of State for Culture, Media and Sport, with advice from English Heritage. This procedure is different from any consents that may be necessary under Town Planning legislation. Due to the potentially complex nature of archaeological remains in the City, the Corporation will expect applications for scheduled monument consent and planning permission to be prepared and considered in parallel.

11.9 Not all important monuments and remains are scheduled, and in some cases, remains of more local importance will be considered worthy of preservation. PPG 16 gives criteria for assessing the national importance of an ancient monument and considering whether scheduling is important. Development schemes should be designed to incorporate the preservation in situ of important monuments and archaeological remains, and respect and enhance their settings.

11.10 On sites where archaeological remains of lesser importance exist, and it is considered by the Corporation that preservation in situ is not appropriate, investigation, recording and publication will be required. This is to ensure preservation by record, placing those remains in a wider context, and adding to our understanding and interpretation of the historic landscape.

11.11 Where development groundworks are proposed that are permitted development under the Town and Country Planning (General Permitted Development) Order 1995, account should be taken of policies in the UDP. Developers and statutory undertakers are encouraged to discuss the proposals with the Corporation in order that an appropriate mitigation study can be put in place.

LOCAL POLICIES

Requirement for Assessment and Evaluation of Sites of Archaeological Potential

POLICY ARC 1

To require planning applications which involve excavation or groundworks on sites of archaeological potential to be accompanied by an archaeological assessment and evaluation of the site including the impact of the proposed development.

11.12 All of the City is considered to have archaeological potential unless it can be demonstrated that archaeological remains have been lost, due to basement construction or other groundworks. The Corporation will indicate the potential of a site, its relative importance, and the likely impact to a developer at an early stage so that the appropriate assessment and design development can be undertaken. Map 11.2 indicates areas of archaeological potential and this information will be updated periodically.

11.13 On sites of archaeological potential, which may be affected by development schemes or groundworks, an archaeological assessment will be required to be submitted with the application. This will set out the archaeological potential of the site and impact of the proposals. Where appropriate, this should be supplemented by evaluation, carrying out trial work in specific areas of the site to provide more information and inform consideration of the development proposals by the Corporation, prior to a decision on that application.

Preservation in Situ and Recording of Ancient Monuments and Archaeological Remains

POLICY ARC 2

To require development proposals to preserve in situ, protect and safeguard important ancient monuments and important archaeological remains and their settings, and where appropriate, to require the permanent public display and/or interpretation of the monument or remains.

POLICY ARC 3

To ensure the proper investigation, recording of sites, and publication of the results, by an approved organisation as an integral part of a development programme where a development incorporates archaeological remains or where it is considered that preservation in situ is not appropriate.

11.14 On sites where important monuments or archaeological remains exist, development proposals should take this fully into account and be designed to enhance physical preservation and avoid disturbance or loss. This can be done by the sympathetic design of

basements, raising ground levels, site coverage, and the location of foundations to avoid or minimise archaeological loss and securing their preservation for the future, although they remain inaccessible for the time being.

11.15 The interpretation and presentation of a visible or buried monument to the public and enhancement of its setting, should form part of the development proposals. Agreement will be sought to achieve reasonable public access. The Corporation will consider refusing schemes which do not provide an adequate assessment of a site or make no provision for the incorporation, safeguarding or preservation in situ of nationally or locally important monuments or remains, or which would adversely affect those monuments or remains.

11.16 In some cases, a development may reveal a monument or archaeological remains which will be displayed on the site, or reburied. Investigation and recording of those features will be required as part of a programme of archaeological work to be submitted to and approved by the Corporation. Where the significance of the remains is considered, by the Corporation, not sufficient to justify their physical preservation in situ and they will be affected by development, archaeological recording should be carried out. A programme of archaeological work for investigation, excavation and recording, and publication of the results, to a predetermined research framework, by an approved organisation, should be submitted to and approved by the Corporation, prior to development. This will be controlled through the use of conditions and will ensure the preservation of those remains by record.

3.3.3 In addition, the City of London has published archaeological advice in the form of Planning Advice Note 3.

3.3.4 There are no Scheduled Ancient Monuments or listed buildings within the development site.

3.4 Site Specific Background

3.4.1 Planning permission (Planning Ref 12/00724/Full) has been granted for the proposed development at the site. A schedule of planning conditions has been issued, including Conditions 10-12 which specify:

Condition 10 Prior to and during any building, engineering or other operations hereby permitted, archaeological evaluation shall be carried out in order to compile archaeological records in accordance with a timetable and scheme of such archaeological work submitted to and approved in writing by the Local Planning Authority before any commencement of archaeological work. that a programme of archaeological works is required and that these works are carried out in accordance with an approved Written Scheme of Investigation

Reason: To ensure that an opportunity is provided for the archaeology of the site to be considered and recorded in accordance with the following policy of the Unitary Development Plan: ARCI.

Condition 11 No works except demolition to basement slab level shall take place until the developer has secured the implementation of a programme of archaeological work to be carried out in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Local Planning Authority. This shall include all on site work, including details of any temporary works which may have an impact on the archaeology of the site and all off site work such as the analysis, publication and archiving of the results. All works shall be carried out and completed as approved, unless otherwise agreed in writing by the Local Planning Authority.

Reason: In order to allow an opportunity for investigations to be made in an area where remains of archaeological interest are understood to exist in accordance with the following policies of the Unitary Development Plan: ARC2, ARC3

Condition 12 No works except demolition to basement slab level shall take place before details of the foundations and piling configuration, to include a detailed design and method statement, have been submitted to and approved in writing by the Local Planning Authority, such details to show the preservation of surviving archaeological remains which are to remain in situ.

Reason: To ensure the preservation of archaeological remains following archaeological investigation in accordance with the following policies of the Unitary Development Plan: ARC2, ARC3.

3.4.2 The implementation of the programme of archaeological works was preceded by the preparation of a Written Scheme of Investigation (WSI) covering the initial trial which was submitted by PCA and approved by Ms Kathryn Stubbs, the Assistant Director, Historic Environment, for the City of London (Hawkins 2012). A second WSI was submitted, and subsequently approved, prior to the commencement of full excavation in April 2013 (Hawkins 2013).

3.4.3 The site does not contain, nor is adjacent to, any Scheduled Ancient Monuments.

3.4.4 The results of all phases of the archaeological works are reported upon here.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 The underlying solid geology of the area, as shown on the British Geological Survey map Sheet 256 North London, consists of London Clay overlain by sands and gravels that are themselves capped by brickearth. In places the brickearth capping has been eroded to expose the gravels and in some areas, particularly those close to the former river frontages, the sands and gravels have also been eroded which has exposed the natural clay. The exposed surface of the London Clay in this area has been weathered and is often a yellowish brown colour rather than the bluish grey usually associated with these deposits.

4.1.2 London Clay with a brown weathered surface was exposed at the Whitefriars site (WFT 99) which was located to the south of Tudor Street between Temple Avenue and Carmelite Street. The clay was recorded at a maximum height of 0.01m OD *c*.10m to the south of Tudor Street. A few metres to the south the surface of the clay survived to a height of -0.98m OD clearly indicating that it shelved off steeply in this area (Killock 2001).

4.1.3 These results were consistent with those recorded on the only other large scale excavation which covered the waterfront west of the Fleet on the site of the old City of London Boy's School (BOY86) lies to the south and west of Dorset Rise. The highest recorded level taken on the clay was –1.10m OD, a reading taken from the central area of the site. The clay may originally have been higher further to the north but had been scoured by the Fleet (Spence 1990).

4.2 Topography

4.2.1 A cursory glance at the modern ground level around Tudor Street could hardly reveal a more stark contrast than the steep escarpment that rises to the north of the road toward Fleet Street and the very gentle gradient leading down to the Thames. The almost imperceptible slope to the south of Tudor Street is the result of all of this area being reclaimed land. Modern ground level descents from *c*.5.80m OD around Tudor Street to 5.20m OD toward the river.

4.2.2 The southern limit of the site is situated approximately 200m north of the Thames, within the modern confines of the Victoria Embankment. The Fleet River is today confined in a massive Victorian sewer located below New Bridge Street, to the east of the site. However, the site lies only slightly to the north and west of the historic confluence of the Thames and the Fleet. The natural bank marking the confluence of the two rivers may have been recorded on the old City of London Boys School excavation (BOY86) (Spence 1990). Further to the east the Roman and Saxon bank is assumed to lie beneath the line of Tudor Street, directly to the south of the site. The earliest known waterfront in the area to the east was recorded during excavations at Whitefriars (WFT 99) where the late 13th- or early 14th-century timber revetment lay between *c*.6m and 15m to the south of Tudor Street (Killock 2001).

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Introduction

5.1.1 Most of the archaeological and historical background reproduced below was originally written for the archaeological Historic Environmental Assessment of the site (Howe Malcolm 2012). Additional material has been added by the author.

5.2 Prehistoric

5.2.1 There has been relatively little evidence for prehistoric activity recorded in the City of London but the Fleet Valley area must be considered as having a greater potential for the survival of prehistoric remains given its topography. The site at Dorset Rise is above the main valley of the River Fleet where deposits likely to preserve prehistoric evidence (both anthropogenic and environmental) may survive. There is evidence for Pleistocene deposits from a watching brief at 1-3 Tudor Street (TUD78,) which indicate that the area to the south of Tudor Street was probably a marshy area which had been reclaimed during the medieval period. The excavations undertaken at Whitefriars (WFT 99) to the west of the site demonstrated that prior to the construction of the medieval river wall the site had developed into relatively gently sloping mudflats extending from the north bank located around the line of Tudor Street southward into the main channel of the Thames (Killock 2001).

5.2.2 A watching brief on some test pits at 2-4 Tudor Street (TOR96) revealed only gravel which had been truncated.

5.2.3 The results from these various observations are fairly consistent and suggest that to the south of Tudor Street the natural ground surface must drop away and has been subject to reclamation since the medieval period. A similar pattern is indicated for the zone east of 2-4 Tudor Place with the exact boundary currently uncertain. The area where 1 Dorset Rise is situated seems to have been on the firmer, higher ground and while this area might be considered as being attractive for prehistoric settlement, the absence of any notable finds suggests that even if present in the past, any evidence for it has almost certainly been removed by more recent activity.

5.3 Roman

5.3.1 There is very little evidence of Roman occupation close to the Thames on the west side of the River Fleet. The Roman city of *Londinium* was located to the east of the smaller river and the Thames waterfront within the city was extensively embanked and used for sea-going and riverine trade. However, no attempt seems to have been made to manage the Thames embankment west of the Fleet. The Roman road which ran out of Ludgate is presumed to have continued along the line of modern Fleet Street and The Strand although no modern excavation has confirmed this hypothesis (Margary 1955, 51). With the exception of the site of St Bride's church (Milne 1997) evidence for a sustained Roman presence along the roadside is sparse. Sporadic Roman burials have been found in the area, such as the eight cremations

found at the junction of Shoe Lane and Fleet Street (RCHM 1928, 165-166) and the three inhumations found at King's Bench Walk in the Temple (Askew and Keily 1993-4). A large scale cemetery has not yet been uncovered. Roman pottery and building materials do occur as residual finds in later deposits but their frequency is low and there is no evidence for extensive frequentation of the riverbank or its environs in this period (Bowsher 1999, 82-9; Butler 2005).

5.3.2 The site at 1 Dorset Rise lies to the south of St Bride's and probably outside the extent of the Roman building and cemetery area.

5.4 Saxon

5.4.1 Following the collapse of the Roman Empire in the west the walled Roman city fell in to ruins and by the mid to late seventh century the focus of Saxon occupation had shifted westwards to the Strand and Covent Garden (Cowie and Whytehead 1989). A new system of beach markets was adopted where trading was conducted directly from boats pulled up on the foreshore rather than goods being landed at a quay or wharf. Even when these markets relocated eastward in to the old Roman city trading was still initially carried out from the beach itself, rather than from the quayside (Milne and Goodburn 1990).

5.4.2 There is also the possibility that St Bride's church itself was in use during this period since it is dedicated to an Irish saint who was a contemporary of St Patrick, and Grimes recorded clear evidence for a building pre-dating the 11th-century work.

5.4.3 Until recently evidence of middle Saxon occupation between the Aldwych and the Fleet was sparse. A notable exception was a coin hoard found at Hare Court in the 19th century, buried in AD 841-2 (Dolley 1960). This find might only have been indicative of a safe hiding place sought as economic conditions worsened due to the pressure of Viking raids. Recent work in the Temple has, however, shown that Saxon activity in this area may have been more widespread than previously thought. A probable Saxon burial was quite recently excavated at Hare Court (Butler 2005, 15-17). More concrete evidence was recovered from a well also located in Hare Court. The finds suggested that a relatively high status settlement had existed here in the eighth and ninth centuries (Butler 2005, 20-21).

5.4.4 The settlement around the Strand was almost certainly abandoned by the middle of the ninth century as the pressure of Viking raids increased. Direct attacks upon London were recorded for AD 842, 851 and 872. It is also probable that the trading networks which had helped *Lundenwic* flourish were themselves declining by the middle of the ninth century, partially at least as a result of the disruption to sea borne trade caused by piracy (Hodges and Whitehouse 1983, 163). From the late ninth century onwards Saxon settlement shifted to the old walled Roman city. A small ecclesiastical community had probably existed following the establishment of St Paul's in AD 604 and documentary evidence points to the existence of a Mercian palace within the City. The wholesale relocation of the Saxon settlement could have formed part of the planned Alfredian re-occupation and reorganisation of the old Roman city.

The first market and harbour to be developed in the City was at Queenhithe, as mentioned in charters of AD 889 and 899. A large paved open area, possibly a market, was already developed at No 1 Poultry by the end of the ninth century and continued in use throughout the late Saxon and early Norman period (Treveil and Burch 1999). Thus within the space of half a century *Lundenwic* had become *Lundenburh*.

5.4.5 Throughout these centuries of dramatic change the mouth of the Fleet seems to have remained a commercial backwater. Despite the name of the river, Fleot being derived from the Old English referring to 'a place where vessels float' there is very limited archaeological evidence for middle or late Saxon management of the banks (Ashton 1889). Some evidence for middle or late Saxon revetting and land reclamation dumps were supposedly found to the south of Ludgate Hill on the east side of the Fleet (VAL88).

5.4.6 It is probable that the mouth of the Fleet and its environs were deemed unsuitable for shipping in this period because they largely consisted of mud flats that were not suited to the beach markets that were in use from the seventh century to mid twelfth centuries. The topography of the area is alluded to in Edgar's charter of AD 950 which granted the whole area to Westminster Abbey, up to 'London Fen' on the west bank of the Fleet (Honeybourne 1947).

5.5 Medieval

5.5.1 During the medieval period there was a gradual expansion of the City of London to fill the walled area, east of the River Fleet. There was also some expansion along Fleet Street towards the expanding government centre based at Westminster which was extending eastwards along the Strand. The area to the south of Fleet Street started the period as an area of waste ground prone to flooding from both the Thames and the Fleet.

5.5.2 There was a gradual process of reclamation through the medieval period which has been documented by a number of archaeological investigations. The watching brief at 1-3 Tudor Street (TUD78) recorded a number of medieval piles dated by dendrochronology to the 13th/14th centuries and also noted their replacement by what was interpreted as a stone revetment structure indicating that reclamation was well underway by this date. More extensive evidence was found at the former City of London Boys School site (BOY86) where there was reclamation infill and revetment construction from the mid 14th century continuing into the post-medieval period. Further to the west timber revetments were constructed on the Whitefriars site (WFT 99) during the late 13th century and replaced on a similar alignment by a stone river wall in 1349. The waterfront was then moved some 50m further southward in 1396 when a new stone river wall and dock were constructed. The Whitefriars almost certainly carried out the works for the dock in conjunction with the Bishop of Salisbury who owned the waterfront immediately to the east, an area covered by the excavations at the City of London Boys School (BOY86) (Killock 2001).

5.5.3 By the 13th century the Bishop of St David's had established an Inn or townhouse next to St Bride's. The monitoring of demolition work at 15 St Bride's Lane (GLHER no. 041209/00/00)

observed the presence of an undercroft of this date and some associated finds. More extensive work at St Bride's has established the presence of a church dating from before the medieval period but with evidence for significant building work at the site during the 11th century (Grimes 1968*,* 186*).*

5.5.4 The area immediately to the south of St Bride's encompassing the location of 1 Dorset Rise, was acquired by the Knights Hospitaller probably during the 14th century when they received a number of properties in the Fleet Street area which had formerly been held by the Templars prior to their suppression. There is no direct evidence for its use during this period but since the White Friars established themselves in 1241 to the west of the site, the area had undoubtedly become more valuable and it might be expected that the pace of reclamation would have increased.

5.5.5 There is a small possibility that there had been a Norman castle at or close to the site built around 1087 to protect the western approaches to the City. Stow makes reference to it being next to St Bride's on the site where Bridewell Palace was later built, however, it is usually assumed that he is actually referring to Baynard's Castle located on the east bank of the River Fleet. Certainly no evidence for a substantial structure such as this has been recorded in any of the archaeological interventions that have taken place. Mylne suggests that the tower was dismantled and the stone used to repair St Paul's after a fire there in 1087, possibly indicating the tower was short-lived (Mylne 1910).

5.6 Post-Medieval

5.6.1 By 1500 the area had been brought within the built-up area of the City and the land was acquired from the Hospitallers first by one of Henry VII's minister's and then after his execution by the Crown (Thurley 1993). It was then granted to Thomas Wolsey whose star was on the rise at the time and by 1515 he had started to erect what became known as Bridewell Palace.

5.6.2 Wolsey was reaching the peak of his power at this time and already had the use of York Place and had started work at Hampton Court so he returned the lease to the King who was in need of a London residence after fire had recently destroyed parts of Whitehall Palace.

5.6.3 The principal buildings had been completed by 1523 and comprised three ranges of buildings (Thurley 1993, 41). The Inner Court was located astride what is now Bridewell Place with the west range including a Privy Chamber, a closet and a covered entry to the gardens further west. This range was located where 2 Dorset Rise is now built. The south range of the Inner Court included the king's lodgings and a presence chamber both at the second floor level and approached by stairs. The Queen's chambers were along the north range. The Outer Court was to the east and included the ancillary and service rooms such as kitchens and the main gatehouse block.

5.6.4 The south part of the east range of the Inner Court including the foundations for the chapel and a stair were excavated at 9-11 Bridewell Place in 1978 (BRI78). This enabled the main outline of the palace to be reconstructed with some certainty once combined with a later

survey of 1791 and some additional evidence of medieval wall foundations at 1-3 Tudor Street (TUD78).

5.6.5 Extending south from the corner of the west range was a Long Gallery which linked the main palace complex to a Watergate on the Thames. This crossed Tudor Street from under 2 Dorset Rise and had a garden to the east.

5.6.6 From the southern end of the Long Gallery, on the west side, was a yard extending north to roughly the south side of Tudor Street. To the north of this and including the whole of 1 Dorset Rise and the courtyard were gardens, however, from the documentary evidence it is not clear if these were considered a part of Bridewell Palace or of the Bishop of Salisbury's inn, to the north. The arrangement of the ornamental beds and subsequent ownership suggests that the garden was probably a part of Bridewell Palace and included an access lane to the Inner Court along the northern edge of the formal beds, i.e. across either the northern part of the modern courtyard or where Kildare House now stands.

5.6.7 During the reign of Edward VI the palace was given to the City as a reception centre for vagrants and prison for the punishment of petty offenders. Much of the former palace was destroyed by the Great Fire in 1666 and subsequently rebuilt. The southern part of the palace, consisting of the western range and the watergate that looked over the Thames, were never rebuilt (Gadd and Dyson 1981, 5). It is the rebuilt complex which was surveyed in detail in 1791 prior to another phase of building work in 1797 when a new wing was added (Gadd and Dyson 1981). At this time there were a number of fairly large although apparently insubstantial rooms added to the outside wall of the Inner Court in the vicinity of the site. These are noted on the 1791 survey as being stables and storerooms and at least some were probably lean-to structures

5.6.8 Horwood's map of *c*.1799 shows that the western part of Tudor Street which runs past 1 Dorset Rise was then called Crown Court and that there was a series of unnumbered tenements along its north side, probably indicating that they had a close connection with Bridewell Hospital, as it was called by this date. Dorset Street (sic) was present and there was a courtyard roughly where the current courtyard is located. To the north a series of small lanes was flanked by tenements where Kildare House now stands.

5.6.9 The area now forming the courtyard to 1 and 2 Dorset Rise is probably the area used as the main burial ground for Bridewell prison in the 18th and 19th centuries (GLHER number 044650/00/00). Isabella (Mrs Basil) Holmes states (Holmes 1896): *This is about 900 square yards in size; and is at the corner of Tudor and Dorset Streets. It was the burial-ground of the hospital, which has been removed. It is now a very untidy yard, boarded up with a rough advertisement hoarding, in the occupation of H. S. Foster, builder, 7, Tudor Street. It would make a good public playground.*

5.6.10 The burial ground remained in use until the mid 19th century. It was the subject of a debate in the House of Commons in 1903 when a private Bill was brought forward to attempt to exempt

Lord de la Warr, the then owner, from the restrictions of the 1884 and 1887 Burial Acts. After some argument the Bill was voted down at the second reading by 118 to 71 and the space was retained in roughly its present form. The debate in parliament makes clear that it had not been an 'official' burial ground and had not been consecrated but that it fell within the provisions of the two Acts since it had clearly been used as a burial ground.

5.6.11 More recent maps from the 19th century reflect the closure of the prison in 1855 and its subsequent demolition in 1863. The Ordnance Survey map of 1873 shows a hospital building remaining fronting onto New Bridge Street immediately to the south of the Rudley's Hotel. A series of other buildings with frontages on New Bridge Street is shown to the south of the hospital building but the area to the west of these is a blank area ready for redevelopment. The tenements where 1 Dorset Rise is located remained, as did the courtyard to the north. Tudor Street had been extended to the west to meet Temple Street, the narrow alleyways which had previously occupied this area had been widened during wholesale redevelopment of the area which had included the building of a gas works and the infilling of Whitefriars dock on the south side of Tudor Street. This major reorganisation of the area followed the construction of the Embankment and railway to the south.

5.6.12 A number of the tenements backing on to what became a part of Tudor Street were damaged by bombing in WWII leading to the redevelopment of the site in 1951.

5.6.13 The building erected at this time still stands although it was refurbished in the 1980s and works were also undertaken in the courtyard.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The initial phase of work consisted of an evaluation that comprised four test pits which were designed to inform on the archaeological and geotechnical questions that relate to the proposed redevelopment of the site. The details of the results of the evaluation work have already been reported on (Killock 2013). The test pits located in the courtyard were designed to measure 2m by 2m at the top and those located in the basement measured 1m by 1m. The trial work was recorded as Trenches 1-4.

6.2 Once the evaluation had established the archaeological potential for the site a series of further interventions was planned as mitigation against the impact of the proposed construction. Essentially these consisted of three separate elements.

- The largest intervention covered the area of the new light well that has been created on the north side of the basement of 1 Dorset Rise. The area impacted did not form a single trench; excavations in this area were recorded as Trenches 5 and 6 and even these were not effected as single interventions. Trench 5 measured a maximum of 12.10m east-west by 2.25m north-south. Trench 6 measured 10.25m east-west by 2m north-south though in practice the eastern part of this trench, *c.*1.5m, was occupied solely by modern foundations (Fig. 2). The excavations in this area were designed to reach the project depth of 2.40m below local ground level though in practice this depth was not attained in the west as the natural clay sloped upwards out of the Fleet valley.
- The conversion of 1 Dorset Rise into part of the Premier Inn also entailed the complete refurbishment of the courtyard area. These works included the building of a substantial landscape wall which followed a serpentine path from the statue of St George and the dragon located to the north toward the southeast corner of the courtyard. The foundation for this wall impacted areas where archaeological remains were extant and limited excavation took place to the proposed project level. The excavations in this area were recorded as Trench 7 (Fig. 2).
- Some very limited excavation was undertaken in the basement to facilitate the construction of an improved drainage system. Though this essentially consisted of the excavation of a trench *c.*0.60m wide by 18.75m east-west this could not be effected as a single intervention, the drainage run was excavated as a series of contiguous trenches designated B1-B6 with one feeder trench B7 (Fig. 2). Other areas of the drainage system were not monitored or excavated as they were located within areas where total truncation of the archaeological horizons had been demonstrated by prior excavations or they were cut through the mass concrete foundations of the standing building.

6.3 Specialist contractors were employed to break out the differing forms of hard standing encountered in the various interventions. Where necessary further obstructions were removed by the contractors, before hand excavation of the archaeological horizons commenced.

6.4 The fieldwork was carried out according to the relevant methodologies, as follows:

- Archaeology in the City of London: Archaeology Guidance: Planning Advice Note 3 (City of London 2004);
- GLAAS Standards for Archaeological Work 2009 Paper 2 Written Schemes of Investigation
- Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork In London (GLAAS 1998);
- Archaeological Guidance Paper 4: Reporting, dissemination and publication (GLAAS 1998);
- Archaeological Guidance Paper 5: Evaluations (GLAAS 1998);

6.5 All recording systems adopted during the investigations were fully compatible with those most widely used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, now published by Museum of London Archaeology (MoLAS 1994). Individual descriptions of all archaeological and geological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being at scale of 1:20 and the sections at 1:10. The OD heights of all principal strata were calculated and indicated on the appropriate plans and sections.

6.6 All of the levels recorded during the evaluation and subsequent excavation were calculated from a series of Temporary Bench Marks. The values of these were calculated by transferring the level from the Bench Mark located on the eastern side of Temple Avenue, a few metres south of Tudor Street, which has a value of 6.53m OD. Levels for works undertaken in the basement were calculated by transferring a value to the top of the slab which was calculated to be 2.71m OD.

6.7 A photographic record of the investigations was made using digital, colour slide and black and white film formats.

6.8 The archaeological works were regularly visited and monitored by Ms Kathryn Stubbs, Assistant Director, Historic Environment, City of London.

6.9 The complete site archive including site records, photographs and finds will be deposited at the London Archaeological Archive Research Centre, (LAARC) under the site code DOR13.

7 ARCHAEOLOGICAL SEQUENCE

7.1 Phase 1 Natural Deposits

7.1.1 Natural yellowish brown clay was exposed in both Trenches 3 and 4 during the evaluation and larger areas were seen in Trenches 5 and 7 during the mitigation phase. The surface of the clay had clearly sloped quite sharply from north to south but also noticeably from west to east. The former obviously reflects the formation of the Thames whilst the latter is the western side of the Fleet valley.

7.1.2 The clay had been truncated in the northern part of Trench 7 by the excavation which had taken place to lower the courtyard to its present height. The clay was recorded at a maximum of 4.00m OD in this area. The highest level recorded on the clay in the western part of Trench 5 was 3.56m OD; it sloped down to 2.21m OD at the east end of the trench.

7.1.3 Natural deposits were not reached in Trench 6, which was excavated locally to a depth of 1.49m OD in the east, or in the majority of the trenches excavated in the basement. Trench 1 was excavated to a depth of 1.56m OD without exposing the natural clay. The clay was not reached in Trench 2 which was excavated to 1.61m OD. Medieval land reclamation and levelling dumps formed the base of the sequence in both of these trenches and the vast majority of the trenches subsequently excavated for the new drainage scheme. Truncated natural deposits were evident in the west end of the basement in Trenches B1 and B7 where the clay was recorded at 2.43m OD and 2.58m OD respectively. The presence of natural clay deposits, though truncated, in the western part of the basement and their absence to the east reflected the natural slope from west to east in to the Fleet valley.

7.2 Phase 2 Medieval Features and Deposits (Fig. 3)

7.2.1 This phase is composed predominantly of features that had been cut into the natural yellowish brown clay. These cuts invariably formed the earliest elements of the archaeological sequence; they were all sealed by the medieval land reclamation and levelling deposits. It is difficult to accurately date the lower parts of the dumping sequence as the pottery and building material assemblages recovered from them were all small. Some contained artefacts that might date from as early as the late 10th century but the majority of the layers contained pottery dated to the 12th or 13th centuries. Many of the cut features sealed by these deposits are not closely dated but all of them are clearly earlier than the reclamation dumps which sealed them.

7.2.2 The earliest feature recorded during the evaluation consisted of a northeast to southwest aligned linear cut [15] which measured 1.00m wide at the top and extended 1.74m east-west, the maximum depth of the feature was 0.79m. The top of the cut was recorded at 3.10m OD. This feature had clearly once extended further to the west but had been truncated by a later construction cut [6] for the 16th-century brick-lined drain [16].

7.2.3 Further excavation in Trench 5 exposed more of the linear cut to the east where it was recorded as cuts [54], [74] and [94]. The feature was evident over a distance of *c*.5m east-west. The eastern half of the ditch again demonstrated a flat-bottomed central slot similar to that first noted in the evaluation.

7.2.4 The purpose of the linear cut [15] was unclear but the flat base suggested that a timber or possibly stone structure had originally been located in this area before it was demolished, in the case of a putative stone structure presumably to recover and reuse the stone. The topographical location of this feature also suggested that it was not simply a ditch. The base of the feature was recorded at 2.31m OD which would have been very close to the reach of higher tides in the medieval period. Excavations at both Whitefriars (WFT 99) and the City of London Boys School (BOY 86) have demonstrated that the ground surface established by dumping and levelling behind the 13th- and 14th-century river walls stood at *c*.2m OD (Killock 2001; Spence 1990).

7.2.5 The direction followed by the linear cut also suggested it was an early feature as it appears to reflect the northeast to southwest alignment of the early river bank where the mouth of the Fleet splayed out to meet the main Thames channel. This feature might represent the robbing out of a stone structure that had been erected on top of or immediately to the north of the natural river bank.

7.2.6 The date of the original structure, if one existed, is unknown though the presence of medieval peg tile in two of the excavated fills demonstrates that if this feature is a robber trench the demolition took place after AD 1180. A possible Roman construction date for a wall might be inferred from the material recovered from the fills of this linear cut. Fills [14] and [73] both contained small Roman pottery assemblages and the buildings material recovered from fills [53] and [73] was exclusively Roman. Whilst there is no doubt that the Roman material is residual within this feature it might simply have been disturbed whilst the original structure was being robbed. It is possible that a Roman structure made of stone or brick and tile once traversed this area and was subsequently robbed out in the late 12th century or soon after. However, it should also be noted that a large proportion of the reclamation and levelling dumps recorded during the fieldwork contained Roman pottery and building material. It is thus equally as likely that the presence of the Roman pottery and building materials within the fills of the linear cut feature was purely coincidental.

7.2.7 The top of the cut was recorded at 3.10m OD in the west and 2.93m OD in the east. The base of the cut sloped gently from east to west; it was recorded between 2.40m and 2.31m OD. The diameter of the cut measured *c*.1.00m.

7.2.8 A group of five pits of varying sizes was recorded in the western part of Trench 5. Three of the five pits, recorded as cuts [48], [76], [78], [80] and [82], contained pottery and ceramic building materials dated to the mid-late 12th century. Pit [82] contained a single sherd of Roman pottery dated AD 50-150, though this may be residual and, as the pit was very heavily truncated, very possibly unrepresentative of the date of deposition.

7.2.9 The pits discussed above were located both on the west to east slope toward the Fleet (though on the higher part of it) and on the north-south slope toward the Thames. The true level from which these features were cut is unknown; many were truncated by modern intrusions and the later medieval ditch [71]. They survived as shallow bases cut into the clay; the most substantial pit was [48] which was 1.74m in diameter and 0.50m deep. The tops of the cuts were recorded between 3.41m OD and 2.84m OD.

7.2.10 An irregularly shaped cut feature [90] was recorded in the western end of Trench 6. Only the northern/western side of this feature fell within the limits of excavation, as seen the feature measured 2.00m east-west by 1.40m north-south by 0.80m deep, the top of the cut was recorded at 2.19m OD. The fill of this feature [83] was quite different in colour and composition from the land reclamation dumps recorded in this area; it consisted of a clean light brown mix of sand and gravel with few inclusions and was devoid of the concentrations of charcoal, bone and building materials which characterised the deposits excavated in this area.

7.2.11 Interpreting this feature was clearly made more difficult because only part of it was located within the excavated area but the nature of the fill and the irregularity of the sides suggested that it might have been formed by a natural flooding event that had scoured out the land reclamation dumps previously deposited in this area. The fill contained ceramic building materials dated 1180-1500 and pottery dated 1080-1150. Feature [90] might represent a flooding event caused by the failure of an early river wall in the late 12th or 13th centuries; it was sealed by a land reclamation dump containing pottery dated 1270-1350.

7.2.12 A possible Roman pit [126] was recorded in the central part of Trench 7. The feature measured 1.00m north-south by 0.67m east-west, the highest level recorded on the cut was 3.65m OD. The pit as seen was a remnant of a larger feature which had been truncated by a modern drainage run. The pit could not be excavated as it extended below project level in this area but surface cleaning allowed the recovery of four sherds of pottery dated AD 50-100. No medieval or later finds were evident at this level.

7.3 Phase 3 Medieval Reclamation and Levelling (Fig. 4)

7.3.1 The deposits placed into Phase 3 nearly all relate to material used primarily for land reclamation and levelling prior to the establishment of Bridewell Palace. The confluence of the Fleet and the Thames was a difficult environment to manage but land reclamation in the medieval period is historically attested from the twelfth century, at the latest, following the granting of land on both banks of the Fleet to the Knights Templar in 1159. The area was certainly used in a number of different ways by different owners prior to the establishment of the palace and there can be little doubt that the considerable slopes evident within the natural topography, and the waterfront itself, would have required considerable management before the location could have been considered a useful asset.

7.3.2 The archaeological sequence was recorded in numerous interventions and it is not proposed to describe every detail of every trench. Deposits dating to this period were evident in Trench 4 which formed part of the evaluation. Subsequent excavation in Trenches 5 and 6 and the Basement revealed more deposits dated to this phase.

7.3.3 The pottery and ceramic building materials recovered from these deposits had a wide date range but it is difficult to establish when the first attempts at land management were made as many of the archaeological interventions were carried out in extremely limited areas, most of the pottery assemblages are very small as a result. The date ranges of the pottery recovered from these deposits ran from 970-1100 to 1350-1500 but the archaeological sequence demonstrates that the earliest elements of the assemblage were all residual and found in later deposits. This is also true of the majority of the pottery dated between 1050 and 1200. One notable exception to this general pattern was evident in the east end of Trench 5 where two fragmentary dump layers, [193] and [194] were extant on either side of a large post-medieval pit. These deposits contained pottery assemblages dated 1080-1200 and 1080-1170. This may indicate some late 11th or 12th century dumping in this area though the tiny pottery assemblages may themselves be residual.

7.3.4 Some of the examples of early medieval tile possibly dated to as early as 1135 but 21 of the 25 ceramic building materials assemblages dated to 1180 or after. Although a substantial proportion of the pottery assemblages might belong to a slightly earlier period many could still be contemporary with the building material. The combined pottery and building material assemblages suggest that the majority of the deposits placed into this phase were deposited from the later 12th century onwards. Some of the dumping sequences began after the mid 13th century

7.3.5 Although it was far from clear whether or not a uniform level had been reached by this dumping it might be noted that all of the later dump/reclamation/levelling layers were all found above 2.50m OD. No clear picture has emerged from this phase of work largely because the archaeological interventions were limited in scope and the impacts of previous construction had already removed a large quantity of the stratigraphy which had once been present. Reconstructing the man-made topography of the area is virtually impossible without viewing some of the larger elements such as terrace walls or waterfront structures which might help to explain why material was being dumped and levelled and what this activity related to.

7.3.6 Apart from the levelling deposits discussed above very few features dated to this period. One exception was part of a steep sided terrace cut found on the western side of the basement in Trench B1. The surface of the natural yellow clay, truncated by the modern concrete slab, was evident over most of the length of this trench at a level of *c.*2.43m OD. The clay fell away sharply in the east; the terrace cut [156] was evident in the extreme eastern end of the trench. In the adjoining Trench B4 levelling layers were recorded continuing below the project level of 2.21m OD. It appeared that a terrace cut had been excavated in this area, though the extremely narrow trench made this difficult to demonstrate or map. The ceramic building

material recovered from the fill of the terrace cut [155] has been dated 1135-1220 as has the roof tile found within deposit [229], the lowest layer recorded in the adjoining trench B4. The terrace cut appears to date to the twelfth century or later.

Plate 1: Chalk surface/floor [162], scale 0.50m, looking east

7.3.7 One of the more interesting discoveries made during the fieldwork consisted of a rammed chalk surface which extended over a distance of *c*.8.5m east-west and was recorded in Trenches B2, B4 and B5 as layers [162], [225] [220] respectively (See Plate 1 above). The surface had originally been seen during the evaluation in Trench 2 when it was recorded as part of layer [20] though its full significance was not realised at the time, This was principally because it was much less substantial in the northern part of the trial trench and the chalk and mortar appeared to be little more than a concretion or working surface associated with the

dump of loose stone ragstone fragments and mortar [19] which lay directly above it. Subsequent excavation in the basement revealed a far more extensive and consolidated surface up to 0.10m thick which was recorded at 2.10m OD in the west and 2.01m OD in the east.

7.3.8 It is extremely difficult to formulate a convincing interpretation regarding the function of this surface. The limited scope of the excavation in the basement meant that the rammed chalk and mortar surface could not be associated with other features, such as walls, which might have elucidated its function. A number of possibilities present themselves. If this surface functioned as a floor then it ought to be associated with walls. None were evident though the surface appeared to have been truncated on both its eastern and western limits which allows for the possibility that it had once been delimited by walls that have since been robbed out. The surface could have been used as a floor within a partially interred basement room. Cellars might be regarded as unlikely given the proximity of the site to the waterfronts but the surface lay within a terrace cut into the natural clay which sloped up to the west. The maximum height recorded on the clay in the basement close to the chalk surface was 2.58m OD in Trench B7 and even this was clearly truncated by the formation of the modern slab, as described above the chalk surface lay between 2.10m OD and 2.01m.

7.3.9 The initial interpretation of the surface, when seen at the evaluation stage, was that it might have been a working surface formed during the construction or robbing of a substantial stone wall. Walls of this nature were built in the area during waterfront reclamation projects from at least the mid 14th century onwards and similar structures could have been utilised as retaining walls on the steeply sloping areas that ran south from Fleet Street and westward from the line of modern Dorset Rise and Salisbury Court. The chalk surface was sealed by a deposit *c*.0.20m thick of discarded building material consisting of loose mortar and chippings of ragstone and green sandstone along with some fragments of roofing slate. This material might be viewed as typical of construction or robbing material but if it did derive from one of these activities the location of the wall was not apparent. Neither the chalk surface nor the dump of building material above it was evident in Trench 1 which lay only 0.50m south of the line of the drainage trenches where these deposits were found.

7.3.10 The function of this floor or surface is unlikely to become evident without further excavation in the area. It is probable that the construction of this feature dates to the 13th century as peg tile dated to after 1240 was recovered from layer [164] in Trench B2. Most of the dateable artefacts recovered from the deposits sealed by the floor date to the 11th or 12th centuries but as these are almost certainly residual, the solidity and integrity of the floor should have eliminated any possibility of intrusive finds being recovered from the layers found below the chalk. Two other layers, [28] and [228], that form part of the early archaeological sequence excavated in the basement also contained fragments of medieval roof tile dated to after 1240, which suggests that the layers and features recorded in this area date to the 13th century or later. One layer found above the chalk surface [18] contained pottery dated 1350-1500, this

was the only occurrence of a 14th century fabric found within the sequence of deposits and features which pre-dated the establishment or preparation for the building of Bridewell Palace. This might suggest that the landscape in the area excavated remained relatively unaltered after a relatively frenetic period of early development which began in the mid-late 12th century. Pottery dated to the 14th century was rare even in the later levelling sequence and activity dated to this period appears to have been limited.

7.3.11 Whatever the function of the chalk surface may have been there can be no doubt that its construction preceded that of the Palace, probably by a considerable amount of time. Excavation of Trench B5 in the basement recorded a fragmentary linear structure composed of brick [209]. This feature is almost certainly a remnant of the brick drain [16] which was extant to the north in Trench 5. The construction of the brick drain has been dated to after 1450 using the brick fabric; the materials used in the construction of the drain are identical to those employed in the arched foundations which undoubtedly formed parts of the Palace. The drain is therefore likely to date to the early-mid 16th century. The drain was recorded cutting into the sequence of dump/levelling layers which sealed the chalk surface and must therefore be later than them and the floor.

7.3.12 Ground level had also been altered quite drastically by the time the Palace was built. The chalk floor lay a little above 2m OD whilst the levels taken on the top of the arched foundation [30] recorded in Trench 5 demonstrate that the ground level associated with the Palace must have been at *c*.4m.

7.4 Phase 4 The Preparation for Bridewell:- Late Medieval Landscaping (Fig. 5)

7.4.1 The results of a very extensive landscaping project which was almost certainly related to the development of Bridewell Palace were evident in the archaeological sequence recorded in Trenches 5, 6 and 7. Essentially the alterations to the pre-existing ground plan consisted of a series of levelling layers that raised ground level to *c*.4m OD. The ground surface which had existed before this was not well defined and there was no evidence for either floor levels within buildings or external hard standing which pre-dated the construction of the Palace.

7.4.2 It should be stressed that the area excavated formed a minute fraction of the area covered by the Palace precinct which stretched from almost immediately south of St Bride's church to the Thames waterfront. It is most unlikely that a single ground level was achieved for this extensive project; the natural slope of the ground from the Fleet Street area southward would have been too great. However, the evidence obtained from the excavation (principally the transition of the foundation to a finished upstanding wall) suggested that a ground surface must have existed at *c*.4m OD or a little higher, though no external hard standing was seen. This tallies with the height of the principal courtyard floor, a brick surface recorded at 9-11 Bridewell Street, which was recorded at 4.05m OD (Gadd and Dyson 1981, 45). The excavations at 9-11 Bridewell Place lie to the east of Dorset Rise but quite crucially on an

analogous position on the north-south slope from Fleet Street to the Thames. Ground levels to the south were likely to have been considerably lower.

7.4.3 The sequence of levelling layers found in Trenches 5, 6 and 7 contained pottery assemblages with a wide date range though much of the material was clearly residual. Twenty-eight deposits produced assemblages of medieval pottery, 19 of which date to after 1480 and are almost certainly indicative of the landscaping project associated with the building of the Palace. Three layers contained pottery dated to the mid-late 16th century, this material is likely to have been intrusive as it would date to the period when the Palace was already in use rather than when it was being constructed.

7.4.4 Nine of the medieval pottery assemblages recovered from the dumping sequence dated to the period before the construction of the Palace. Although it might be argued that this material was being introduced to the site from elsewhere it is unlikely that the material ever travelled far. It can therefore be argued that the dates of the pottery assemblages reflect the general levels of activity in the area and it is perhaps no surprise that, as with the material grouped into Phase 3, there is a preponderance of pottery dating to the late 12th and 13th centuries. Only one deposit contained pottery dated to the 14th century.

7.4.5 A few cut features dated to this period were evident, mainly in Trench 7 where three small pits were recorded that cut into the natural yellow clay. Pit [114] consisted of a shallow truncated fragment of a circular pit which as seen measured a maximum of 0.55m in diameter. The fill of this feature [113] contained a small pottery assemblage dated 1480-1650. To the north of this lay the amorphously shaped cut feature [109] which was devoid of dating evidence and the truncated fragment of a small square pit [106]. The latter contained pottery dated 1250-1500 meaning that the cut could belong in Phase 3 but this very small assemblage could easily be residual and does not conclusively place this feature in an earlier time bracket.

7.4.6 A fragment of a shallow ditch [71] was recorded in the western part of Trench 5. The feature was aligned roughly east-west and extended over a distance of 3.52m, it was 0.64m wide and 0.22m deep, the highest level recorded on the cut was 3.06m OD. The feature extended beyond the limit of excavation to the west and had been truncated by later cut features, notably the construction cut [34] for the brick drain [16] to the east. The feature was not evident further to the east beyond this. The fill of this shallow linear cut [70] contained pottery dated 1480-1610.

7.4.7 A small fragment of a circular pit [39] was recorded in the eastern half of Trench 5. This feature might have been associated with the construction of the sunken brick feature [86] which formed part of the Palace complex (see Phase 6 below), the pit fill contained pottery dated 1480-1525 which places it in the period when the Palace was being built.

7.4.8 Only one feature dated to this period was recorded in the basement and pit [215] was only evident as a remnant within the western end of Trench B6, principally because the area immediately to the east in Trench B3 had been truncated by a modern concrete intrusion. The

fills of pit [215], [206] and [219], both contained assemblages of ceramic building material dated to after 1450. Given the level of truncation there is no possibility of formulating a valid interpretation for the form or function of this feature but given the depth attained it must once have been quite substantial.

7.5 Phase 5 The Late Medieval Palace of Bridewell (Fig. 6)

7.5.1 Prior to the commencement of the fieldwork project in January 2013 it had been assumed that the area under investigation had always lain outside of the footprint of the Palace. The reconstruction of the ground plan based on the excavations carried out in 1978 and the detailed survey of 1791 had suggested that the western range of buildings which enclosed the Principal Courtyard passed north-south below what is at present 1 Dorset Rise and that the western extent of this modern building essentially preserves an ancient property boundary. The area to the west was later shown on maps and topographical engravings as first a garden and later a burial ground associated with the Poor House and Hospital which the Palace became. However, a north-south aligned brick drain [16] recorded during the evaluation appeared to have been constructed from building materials that were consistent with the period in which the palace was built, the backfill of the construction cut also contained pottery dated to 1480-1610 with a likely spot date given as mid 16th century. The latter is a little late for the construction of the Palace but certainly not totally inconsistent with the possibility that the drain was associated with the Bridewell complex.

7.5.2 The drain was more fully exposed during the excavation of Trench 5. Essentially it consisted of two parallel walls of bricks laid as stretchers which were capped by bricks laid on their side to form a roof (See Plate 2 below). Each wall comprised five courses of brickwork which measured *c.*0.32m high; neither brick nor tile had been used in the base. The side walls had been built directly on to the natural yellow clay into which the drain had been cut. The top of the brick capping was recorded between 2.56m and 2.50m OD. The backfill of the construction cut excavated during the excavation phase, deposit [33], contained pottery dated 1480-1550.

7.5.3 A damaged fragment of the same drain was later recorded in the basement Trench B5. The masonry [209] had been impacted by later activity but the alignment of this feature and the level at which it was found leave little doubt that it was originally part of the drain [16] which was much better preserved to the north. The base of the construction cut for the drain, context [207], was recorded at 2.18m OD in Trench B5. To the north in Trench 5 the base of the construction cut [34] was recorded at 2.06m OD.

7.5.4 The presence of the brick drain suggested that the area under investigation might have been more closely associated with the Palace than had been imagined. The extension of the area of excavation to encompass Trench 5 immediately revealed a substantial north-south aligned wall [30] which ran parallel to the drain [16] and was located slightly to the east of it. The foundation measured 1.10m wide, a small section of what had been the upstanding wall was evident on the western side of the masonry, this measured 0.60m wide (*c.*2ft). The level on the

top of the foundation, which presumably would once have supported floor joists, was recorded between 4.05m and 4.11m OD.

Plate 2: Brick drain [16], scale 1.00m, looking south

7.5.5 The brick fabric and mortar employed in the building of the foundation were identical to those used in the brick drain [16], the materials used in both structures were consistent with the known dates of the Palace building project. Further excavation of the dump/levelling deposits around the foundation [30] revealed that it consisted of solid wall above a brick arch (See Plate 3 below). This building technique is unusual and is very closely associated with Bridewell Palace; foundations identical to that recorded at Dorset Rise were seen during the excavations at 9-11 Bridewell Place (Gadd and Dyson 1981, figs. 31-32).

7.5.6 A further section of the foundation was later found to the north in Trench 7 where it was recorded as wall [104]. The combined length of the masonry elements was 7.50m, the masonry continued to the north beyond the limits of excavation in Trench 7 and had clearly once continued to the south beyond the limit of Trench 5.

Plate 3: Arched foundation [30]
Scale 1.00m

7.5.7 The original southern extent of the building is unknown. A fragment of masonry was recorded as structures [24] and [22] in Trench 1, located in the basement, during the evaluation. This feature was originally thought to be a sunken brick lined pit but it might have been the base of a foundation pier. The fragment of the structure seen in Trench 1 appeared to consist of a narrow retaining wall [24] which was formed of bricks laid as stretchers on a north-south alignment. The area to the east of the retaining wall was occupied by a rough brick infill [22] which consisted of an area of bricks laid on bed above a timber base. Unfortunately this structure lay directly below the basement slab and the modern levelling under it and the brickwork had been impacted by modern construction. The original structure may have had more regular and coherent coursing. It is possible that this structure had once formed the base of a pier which supported a brick built arch. The decayed timber base of the structure was recorded at *c.*2.30m OD whereas the base of the brick pier which supported wall [30] was recorded at 2.67m OD.

7.5.8 Brick piers which utilised timber baseplates were employed in parts of the foundations of Bridewell Palace (Gadd and Dyson 1981, 47) but it should be noted that the foundations recorded during the 1978 excavations all appear to have been cut into or sprung from natural

deposits. This was not the case with the structure recorded in Trench 1 as [22] and [24], the timber baseplate, if this was the function of the decayed wood, had been laid above a series of levelling layers. The building materials used in the construction of the brick retaining wall [24] have been dated 1500-1750 and those used in the brick infill [22] 1450-1650. Both dates are consistent with this structure being part of the original built of the Palace.

7.5.9 The construction technique used in the building of wall [30], more particularly the arch and pier below it, was analogous to those previously recorded for the Palace though it appeared to be a slight variation on those previously reported. The brick piers recorded at 9-11 Bridewell Street consisted of rammed chalk that had been packed into a caisson type cut; this masonry was itself supported by timber piles. A quite distinct pointed brick arch sprang from the squared rammed chalk pier. The foundations seen to the south of Tudor Street were founded on more extended rectangular chalk piers which had a flat base laid on timber planks. The brick arches which sprang from the piers were flat as opposed to the curved but pointed, almost Gothic, arches recorded further to the north. The small area of the masonry pier which lay within the limit of Trench 5 consisted of heavily rendered rough brick courses with a flat base laid directly on to the natural yellow clay. No timber piles or baseplates were evident below the masonry pier. In this respect the technique used resembled that seen at 1-3 Tudor Street more closely than that reported for 9-11 Bridewell Place but the form of the brick arch which supported wall [30] was far more similar to that seen at Bridewell Place.

7.5.10 Fragments of semi-interred brick features were evident to the east of the major brick wall recorded as contexts [30] and [104]. In Trench 5 parts of a relatively narrow sunken feature were recorded as contexts [37] and [86]. The full extent of this feature was not recorded as it had been impacted by modern intrusions to the south but essentially it consisted of a small north-south aligned brick wall 0.30m wide which was evident on the west side and a brick floor to the east of this. As seen the feature was 0.90m wide though it had clearly once extended further to the east, the surface of the brick base was recorded at 3.93m OD.

7.5.11 The remnants of a similar feature were located in Trench 7 *c.*1.5m to the north of those described above. The brickwork recorded as walls [118] and [120] had also been heavily impacted by modern groundwork but the full east-west extent of the structure was extant, it measured 1.40m east-west (Plate 4 below). The highest level recorded on the brickwork was 4.04m OD. The top of the floor surface, which was only evident in the section forming the edge of the trench, was recorded at 3.92m OD. The similarity in the levels on the two floor fragments recorded in Trenches 5 and 7 might suggest that they originally formed parts of the same structure, possibly a kitchen drain or similar semi-interred feature.

7.5.12 The structural remains uncovered during the excavations raise major questions regarding the ground plan of the original palace and the history of the buildings which comprised the overall complex. There can be no doubt whatsoever that the structures documented during the 2013 excavations formed part of the Palace complex. The materials and techniques used are identical to those previously recorded at 9-11 Bridewell Place and 1-3 Tudor Street. The

ground level indicated by the transition from foundation to upstanding wall was also consistent with the paved level of the courtyard recorded in the earlier excavations. Though no external surfaces survived at Dorset Rise it seemed clear that the floor level of 4.05m OD would have extended across the northern part of the Palace. As always new evidence presents new problems regarding interpretation. Wall [30] clearly consisted of an arched foundation which transitioned into an upstanding wall. The latter was considerably thinner than the foundation itself and its position demonstrated that the internal floor would have been to the east whilst the western external face was almost flush with the foundation. It therefore appeared that the wall recorded as [30] in Trench 5 and [104] in Trench 7 formed the western limit of a building or range of buildings that stood *c.*12m to the west of the presumed limit of Bridewell. However, as yet no eastern wall for this putative range of buildings has been found. Even more surprisingly, perhaps, a series of shallow linear cut features interpreted as horticultural trenches was recorded a few metres to the east of the wall. These are described in detail below but the importance of their position is clearly that they could not have existed in the mid 16th century if the area in which they were discovered had been covered by a building. This subject is discussed further in Section 8 Conclusions.

Plate 4: Possible brick drain Trench 7, scale 1.00m, looking north

7.5.13 The shallow cut features interpreted as bedding trenches referred to above were mainly recorded in Trench 6 though one was also documented in the southeastern limit of Trench 7. These areas overlapped and the same feature may well have been recorded in different trenches during separate phases of the archaeological project.

7.5.14 The western end of a shallow cut feature was documented as context [122] in Trench 7 and was probably the same feature that was later recorded in the northwest corner of Trench 6 as cut [166]. The part recorded in Trench 7 measured 1.80m east-west by 1.03m north-south and was 0.29m deep. It contained pottery dated 1550-1660 and ceramic building materials which post-dated 1480-1700. The fill of feature [166], which may represent the eastern end of cut [122], produced pottery dated 1550-1580 and building materials with an identical date to those mentioned above. If the two fragments represent parts of the same feature it would have measured *c*.3.50m east-west.

7.5.15 The features originally recorded in Trench 6 and interpreted as bedding trenches were linear cuts [58], [60] and [64]. None of these features fell entirely within the bounds of the trench; the most complete was probably cut [58] which extended 2.55m east-west and was 0.75m wide and 0.30m deep. Although not complete the size and shape of this feature was comparable to the bedding trenches recorded as cuts [122] and [166]. Feature [60] also had a very similar profile and was located immediately to the north of cut [58] with the longest axis arranged on the same alignment. This gave the impression of a regularly laid out row of shallow linear cuts. A fragment of another bedding trench [64] was recorded in the northwest corner of Trench 6 before it was later extended. These three features contained pottery assemblages dated 1550-1600, 1580-1600 and the mid 16th century and all three contained buildings materials that fall into the 1480-1700 time bracket. These features clearly date to a time when Bridewell Palace had not only been built but was occupied and used.

7.5.16 One of the most striking characteristic of these features and the layers found immediately below them was the vast quantity of high status food waste which had been discarded and was mixed into the soil matrix. Even before taking environmental samples it was clear that the excavated deposits contained very high quantities of animal bone some of which, apart from the normal domesticates, clearly derived from larger birds, fish and marine molluscs such as oysters. A large quantity of charcoal, much of it barely consumed, was also mixed with these deposits which in all probability came from the Palace kitchens and was used as compost for horticultural trenches; in effect this was market gardening within the Palace grounds (see Appendix 9 for a full discussion of the charcoal and its significance). Layers [65], [66] and [67] which lay below the bedding trenches all contained pottery dated to the mid 16th century. It thus appeared likely that the kitchen waste found in this area derived from the period when the Palace was in use.

7.5.17 Initial analysis of the bone assemblage has demonstrated that it represents the remains of a high status diet. This included a notable quantity and wide range of fish most of which could have been caught in the Thames estuary or North Sea. Freshwater fish were almost entirely absent with the exception of a considerable quantity of eels. Birds were also well represented; the vast majority of the bones were not surprisingly those of chickens but ducks and geese were also prominent. Smaller quantities of game birds are represented by snipe and woodcock bones; the remains of small song birds, a magpie and a cormorant were also

present in the assemblage. The major domesticated mammals occur in numbers that might be expected with sheep and cattle dominating the assemblage with smaller quantities of pig also present. Rabbit occurred in relative abundance and the numbers increased markedly once the Palace came in to use. An element of the marine diet that was of particular note consisted of a vertebra that derives from either a porpoise or dolphin, a find indicative of high status dining (See Appendix 8).

7.6 Phase 6 Post-Medieval Landuse (Fig. 7)

7.6.1 Before any discussion of this phase takes place a note concerning the dating evidence and designation of periods should be made. Recent discussion has led to the end of the medieval period, previously held to be *c*.1480, being pushed back to 1540 by English Heritage and many other official bodies that deal with English archaeology. It is not the purpose of this document to debate the merits of this change in denomination but the construction of the Palace at Bridewell exactly within this 60 year period presents some difficulties The main body of this document follows the current guidelines in defining the end of the medieval period at 1540. However, the previous system has been adhered to by some specialists and the discussion of the post-Roman pottery in particular (Appendix 2) defines 1480 as the beginning of the post-medieval period. This could obviously cause some confusion. The small number of deposits and features placed in this phase relate to the period after the initial use the Palace as a royal residence or lodgings for the aristocracy and foreign dignitaries.

7.6.2 Phase 6 consists principally of a very large cut, pit [189], which was excavated in an extension of the original Trench 5 at its eastern end. Only the southern side of this feature was extant, as seen it measured 1.60m north-south by 1.54m east-west by 1.15m deep. It probably measured over 3m in diameter originally; the full depth of the feature was not reached as it continued below project level into the yellowish brown weathered London clay that is the natural deposit in this area.

7.6.3 Numerous fills were recorded in this feature some of which contained pottery dated to the mid 16th century. One of the lower fills also contained an example of a Spanish floor tile dated after 1525; this import is almost certainly associated with the Palace. Though smoking was not taken up by all members of society the absence of clay tobacco pipe is notable in this feature, as elsewhere on the site, and suggests a deposition dated before *c*.1570/1580 after which clay pipe becomes increasingly common.

7.6.4 The dating and position of this feature are important as it is probable that this very large pit was excavated to rob out building materials from a structure which had been founded on the natural London clay which provides as solid a base as can be found in this area. A large masonry element associated with the Palace would be a prime candidate for robbing after it had gone out of use, a well would represent another plausible target.

Plate 5: Medieval statuette of St Barbara

7.6.5 The significance of this feature beyond its possible function and date lies in its position. A pit of this size must have been excavated outdoors which again brings into question the status of the major wall to the west. Cut [189] does lie close to the area occupied by the bedding trenches recorded in Trenches 6 and 7 but the absence of an east wall to accompany the principal structural element found to the west is very noticeable, as is the fact that the area to the east of cut [189] was clearly open ground in the mid 16th century. The development of this area of the Palace is very poorly understood at present.

7.6.6 One of the fills of this large pit contained a figurine or statuette made of pipe-clay. This remarkable object was once a depiction a woman holding a tower in her left hand which identifies her as St Barbara; though an act of Protestant iconoclasm had removed the head (Plate 5 above). St Barbara is the patron saint of armourers and artillerymen and is venerated

by Catholics who face the danger of sudden and violent death (such as firemen). In line with other examples of pre-Reformation devotional figurines found in London, the head of the figurine has been intentionally removed at the shoulders in a deliberate attempt to deface the statue. This act would clearly place the deposition of the object in the period after the English reformation, such as it was. The pottery recovered from this pit fill dated to the mid 16th century.

7.6.7 A large number of the fills excavated in pit [189] contained fragments of building materials such as early post-medieval brick that were identical to those used in the construction of the Palace buildings. This demonstrated that the feature had been excavated after the Palace had been erected and tallied with the pottery dating which placed the backfilling of the pit in the mid 16th century.

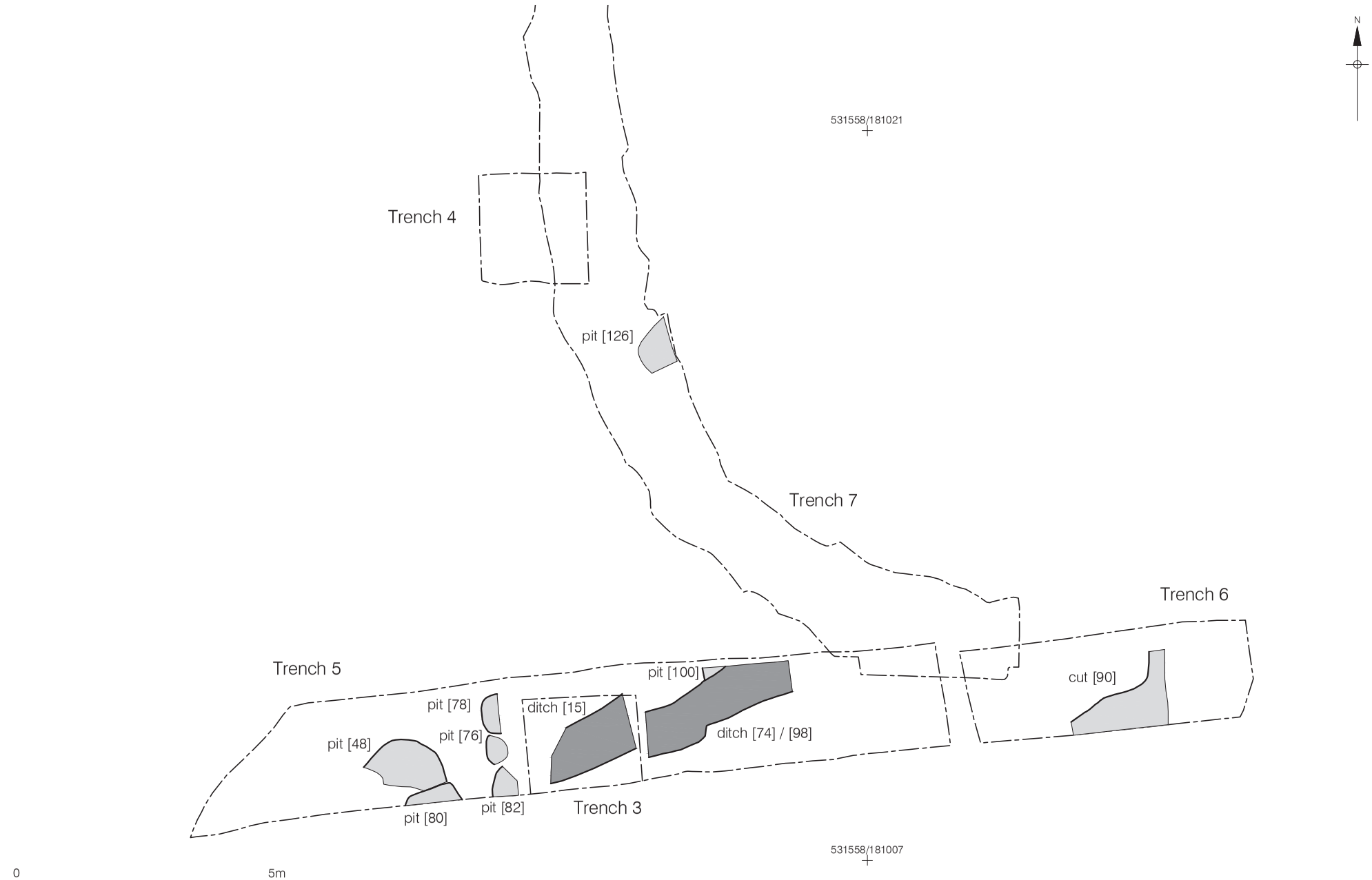


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Figure 3
Phase 2: Early Medieval
1:100 at A4

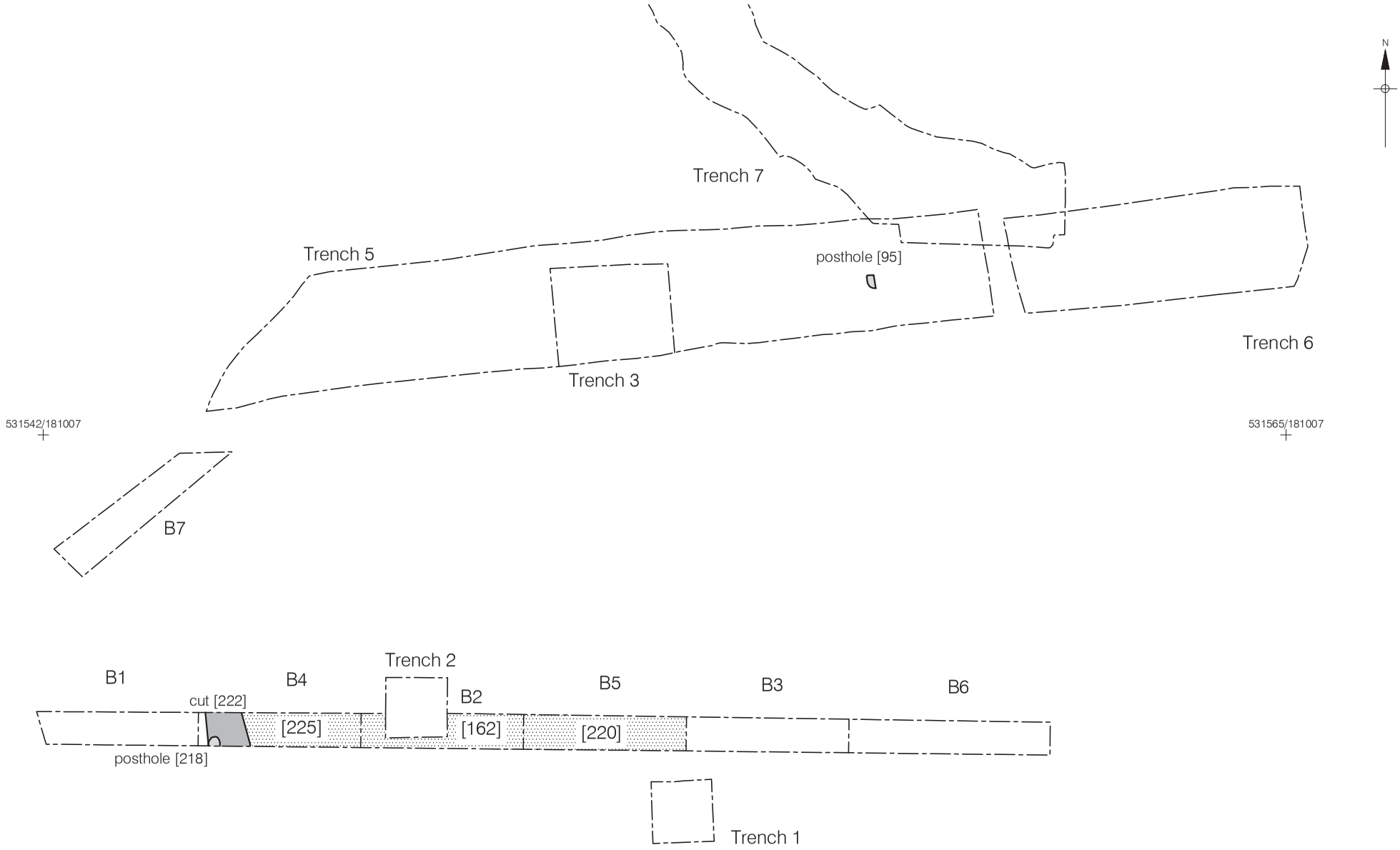

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Figure 4
Phase 3: Medieval
1:100 at A4

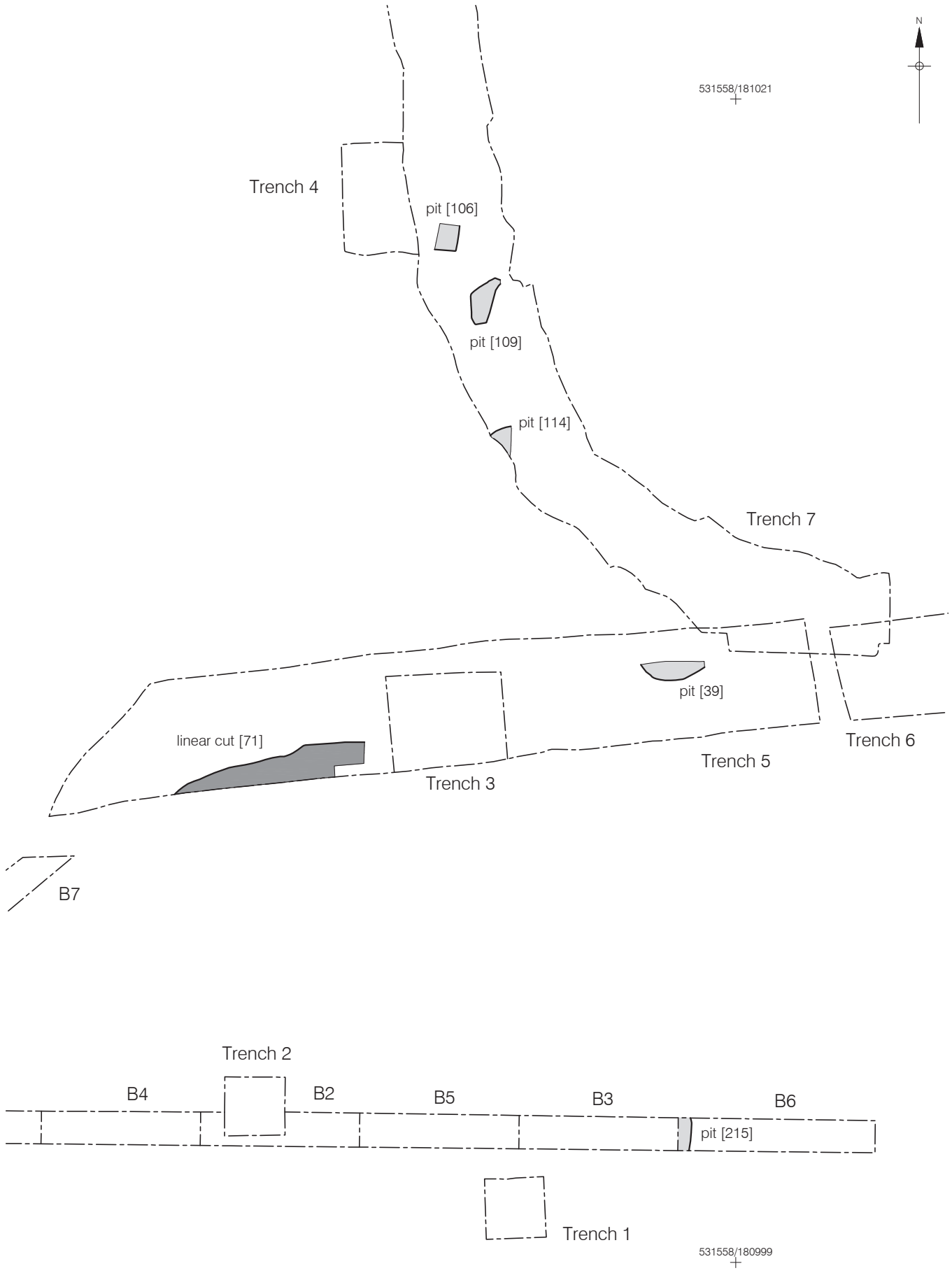

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Figure 5
Phase 4: Very Late Medieval (Landscaping)
1:100 at A4

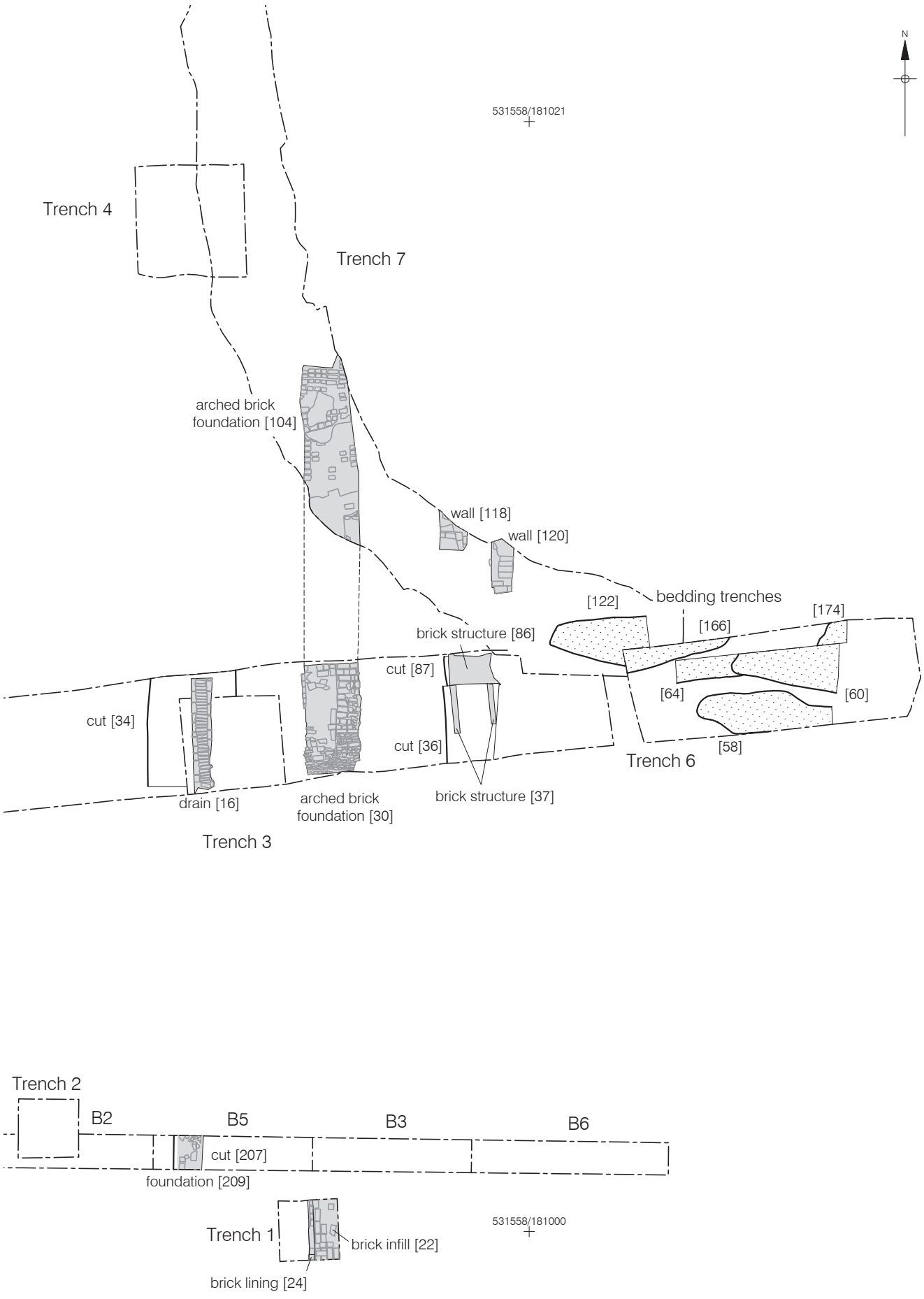

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Figure 6
Phase 5: Very Late Medieval (Bridewell Palace)
1:100 at A4

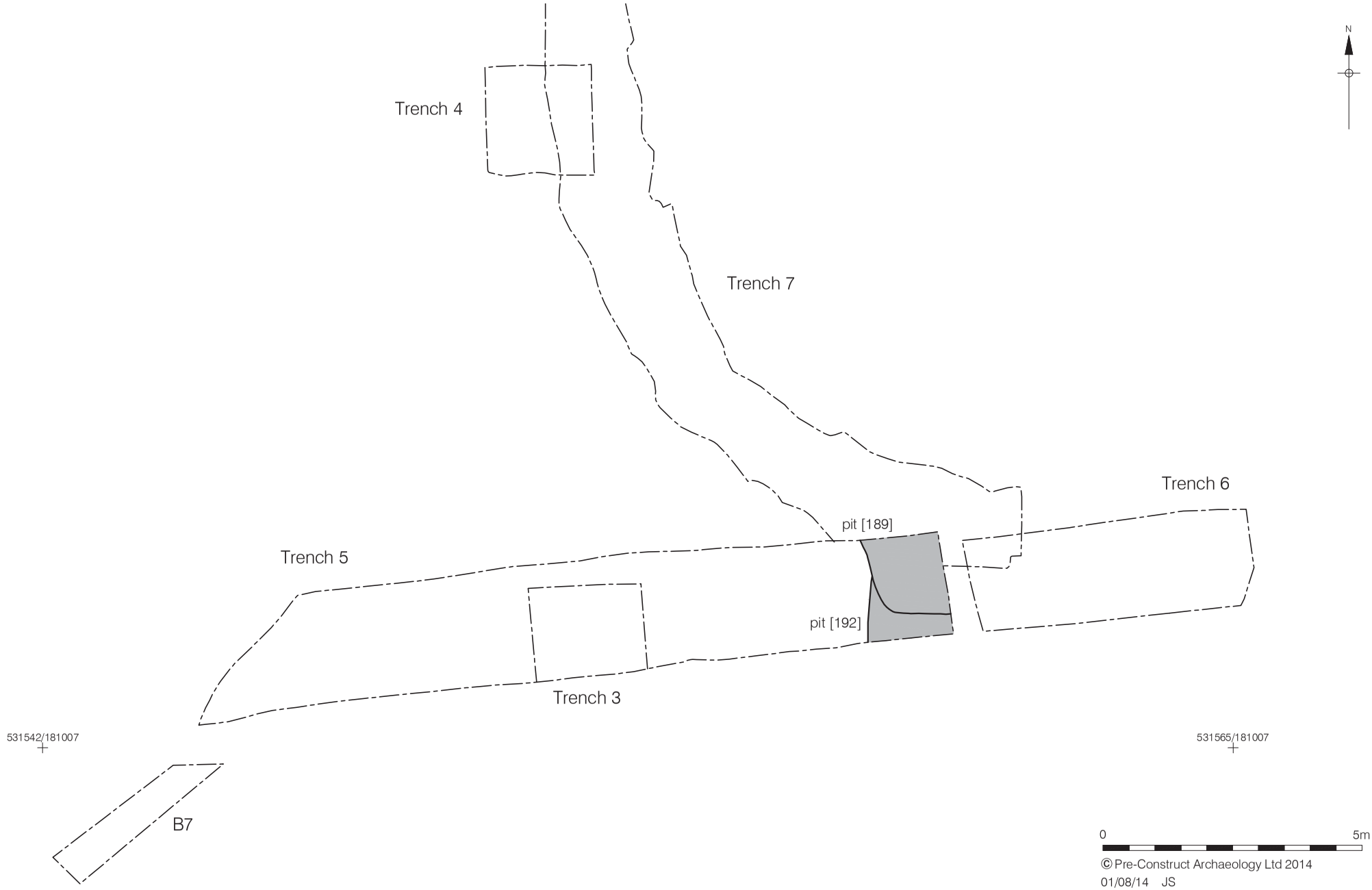

Figure 7
Phase 6: Post-Medieval
1:100 at A4

8 PHASED DISCUSSION

8.1 The archaeological investigations undertaken at 1 Dorset Rise and the adjacent courtyard to the north proved to be remarkably successful given the scale of previous impacts on the site. The latter consisted principally of the construction of the buildings which surround the courtyard in the early 1950s but also the massive ground reduction that took place to form the courtyard itself which now lies 2-3 metres below the adjacent street level on Dorset Rise. Although the clearance of the post-medieval graveyard and ground reduction had removed all of the archaeological stratigraphy, and truncated the natural clay in the northern and central parts of the courtyard, the natural slope of the ground meant that over 2m of stratigraphy was preserved in the south. Archaeological survival was also evident below the basement of 1 Dorset Rise itself.

8.2 Although natural deposits were not reached in the bases of all of the trenches, due to the constraints of project levels, the exposure of the natural weathered yellowish brown clay will provide a modest contribution to the topographic modelling of the confluence of the Fleet and the Thames. This is particularly true of the east-west profile of the Fleet valley which was abundantly clear and the slope perhaps more pronounced than might have been expected.

8.3 A surprisingly strong Roman presence was evident though this occurred principally in the form of residual finds. A small pit that might date to the Roman period was recorded but could not be excavated due to the constraints of project level. A trench or ditch that might represent the robbing of a Roman structure was also recorded in Trench 5.

8.4 The limited excavations which were undertaken in the basement demonstrated that the natural slope of the ground had been altered by terracing and though no structures were exposed construction waste that probably derives from the building of a stone wall was evident as was a rammed chalk surface. The majority of the dating evidence suggests that the widespread deposition of land reclamation and levelling layers began in the 12th century. Terrace walls were probably built to retain these earthen dumps. A ground level of around 2.50m OD was probable though no external surfaces or floors were evident. These events might be connected with the granting of the land to the Knights Templar and their subsequent development of the waterfront. Thereafter the landscape appears to have remained largely unaltered before the construction of Bridewell Palace began; there is a notable absence of pottery dated to the 14th century or early 15th centuries. This absence of redevelopment can be connected to the passing of the riverside plot previously owned by the Templars to the order of the Hospital of St John of Jerusalem in 1338. Once the riverside plot on the west of the Fleet had passed to the Hospitallers little more was heard of it. It was variously described as waste, vacant or gardens which would obviously suggest that development was extremely limited.

8.5 During the late 15th or early 16th centuries the landscape was radically remodelled. Pottery and ceramic building material dating is not precise enough to demonstrate exactly when these events began to take place but in all probability they were a direct preparation for the

construction of Bridewell Palace. Ground level was raised to *c*.4.00m OD which is consistent with the height of the floors and courtyards recorded during the 1978 excavations at Bridewell Place (Gadd and Dyson 1981).

8.6 The walls, drains and other semi-interred brick features recorded during the excavation were entirely unexpected. The style of construction, particularly the employment of the pointed arch foundation, and the materials used left no doubt that the unearthed structural remains had formed parts of Bridewell Palace. This raised considerable difficulties regarding their interpretation as the reconstructed footprint of the main Palace buildings as shown by Gadd and Dyson suggested that the western limit of the structures lay *c*.12m to the east of the structural elements recorded at 1 Dorset Rise (See Fig. 8). The transition from foundation to upstanding wall evident on wall [30] demonstrated that had floor joists ever been present they would have been supported on the east side of the wall; the internal area of any putative building would therefore have been on the eastern side of the major wall recorded as [30] and [104]. This interpretation is supported by the position of the brick drain [16] which lay to the west of the major wall. This feature was deeply interred and should it ever have become blocked substantial excavation would have been required to clear it. This could hardly have been effected if the drain had passed below internal floors.

8.7 However, no wall was found further to the east that corresponded to wall [30]/[104] and would thus have formed the eastern side of a building. This again presents considerable difficulties regarding interpretation. It is scarcely possible that the distance of *c*.12m between the major walls recorded during the excavation and the proposed western limit of the Palace could have been spanned by a single roof or ceiling. It therefore follows that the proposed western limit of the range enclosing the inner courtyard did not form the east wall of a building that included the excavated walls. The position of the bedding trenches recorded in Trench 6 must also influence and inform this discussion. If the interpretation of these features is correct they were obviously located in an external area, the dating evidence shows that they were in use in the mid 16th century after the Palace had been completed and was occupied. Any eastern wall to a building should therefore lie to the west of the bedding trenches, but none was evident.

8.8 The answer to this problem might lie with the very large and deep robber cut excavated in the eastern end of Trench 5. This post-medieval feature was probably excavated to remove a large structural element, possibly a base for an arch. This would not explain why no wall was evident further to the north in Trench 7 though excavation in this area was very limited by the project level.

8.9 A further possibility when seeking to reconcile the apparently contradictory pieces of evidence presented by the excavation is that the design and construction of this area of the palace was radically altered and elements of it abandoned before the palace ever came in to use. Analysis of the accounts relating to the construction of Bridewell combined with the evidence of excavation suggest that considerable delays and changes occurred during the construction project not least because the land used to accommodate the outer courtyard needed to be

acquired from the Abbot of Faversham, this transaction did not take place until 1521 some six years after the commencement of the project (Gadd and Dyson 1981, 16-17). Some of the smaller brick elements recorded during the excavation appeared to represent sunken internal features, possibly open drainage channels for kitchens or other ancillary buildings though their function is uncertain. The need for these buildings may have been superseded by subsequent events.

8.10 The answers to these questions may only be revealed by further excavation and research. However, one cartographic detail may be of particular relevance to this discussion. The reconstructed footprint of the principal palace buildings shows the limit of the western range of the inner courtyard passing through the area of the modern Premier Inn building (2 Dorset Rise) which lies to the east of the area investigated. This reconstruction is based on the detailed survey of the Palace made in 1791 (Gadd and Dyson 1981, fig. 6). However, enclosed areas bounded by walls, possibly gardens, are shown to the west of the western range on this plan. A single wall running north-south may mark the actual limit of the Palace precinct. Regarded purely from the point of view of security a perimeter wall enclosing the Palace buildings and demarcating the boundary would make perfect sense and kitchen or ornamental gardens might have been located within the walls. This wall is labelled as the boundary of St Bride's Parish on the 1791 survey and indeed the same line appears to be marked on Ogilby and Morgan's map of 1677. Open ground is shown to the west of this line on the map and is later marked as the burial ground and labelled as 'rented of the Duke of Dorset'. The latter had presumably acquired some or all of the estate previously owned by the Bishop of Salisbury.

8.11 Several possibilities thus present themselves regarding the principal walls recorded during the excavations. It is possible that an upstanding wall was never built on the foundation before the design of the Palace was changed. The basal courses of the wall were evident in Trench 5 but later truncations mean that this question cannot be answered from the evidence available.

8.12 The excavated walls might have been employed simply as a perimeter wall though the sunken brick features seen to the east might suggest that this was not originally envisaged. The employment of the arched foundation in wall [30] also suggested that this structure had been envisaged as a load-bearing wall capable of sustaining several stories. The narrowing of the width of the structure from the foundation to the upstanding wall apparently demonstrated that floor joists had been envisaged in this area and that the wall was initially designed to be part of a building.

8.13 Finally it should be borne in mind that the detailed survey of 1791 recorded the buildings that were extant at that time and not necessarily the original plan of the Palace. An earlier 18th-century engraving entitled *The Prospect of Bridewell* illustrates the principal or inner courtyard and part of the outer courtyard as seen from the east. Analysis of the architectural detail evident in the engraving suggests that the building that surrounded the inner courtyard were not original Tudor structures but later rebuilds. This could raise the possibility that the extent of the Palace had altered somewhat during the rebuilding process. Conversely it could be argued with some

justification that even if extensive rebuilding work had been required, for example as a result of the Great Fire, this would have reused the existing foundations which been built at considerable cost.

8.14 One notable detail of the engraving dated to *c*.1720 is the walled garden shown to the west of the principal courtyard. This could either represent an enclosed area associated with the Palace or more probably be a depiction of the garden formerly owned by the Bishop of Salisbury which later became the burial ground associated with the Hospital and prison which was owned by the Duke of Dorset. However, whilst both of these possibilities exist it should also be noted that the engraving is a stylised view of the Palace, the ground plan shown does not actually correspond to that of the later survey and the engraving cannot be relied upon for details of the Palace layout or construction.

8.15 The assemblage of kitchen waste dated to the mid 16th century recovered from the bedding trenches located in Trench 6 is particularly notable. The abundance and sheer variety of food waste is almost certainly linked to the Palace kitchens. The detailed analysis of this material should provide an excellent insight into high status dining associated with a royal household.

8.16 Virtually none of the stratigraphy excavated represented the later use of the Palace. The truncation caused by modern development had removed all of the later stratigraphy associated with this period.

Bridewell Palace reproduced from Gadd, D. & Thompson, A. (1979). Bridewell Palace. *London Archaeologist* 3 (10), Figure 2

01/08/14 JS

Figure 8
Location of Trenches and Walls in Proximity to Bridewell Palace
1:400 at A4

9 RESEARCH QUESTIONS

9.1 Original Research Questions

9.1.1 The broad research aims posed in the Written Scheme of Investigation were (Hawkins 2013):

- The aim of the forthcoming archaeological work is to preserve 'by record' the extent of any surviving archaeological features and deposits within the site, in accordance with the NPPF.
- Insofar as possible within the methodological constraints, the aims and objectives will be to explain any chronological, spatial or functional relationships between the structures/remains identified, and to link the archaeological results with the data already recovered in the wider area.

9.1.2 Specific research objectives include the following:

- What evidence is there for the Bridewell burial ground?
- What is the nature and date of the ditch/robbed out feature found in TP3?
- What further evidence is there for features associated with the external parts of the Bridewell Palace and prison?
- What evidence is there for riverfront activity?
- Is there any evidence for Roman or Saxon activity on the site?

9.2 Answers to Research Questions:- Excavation Results

9.2.1 The excavations preserved 'by record' the surviving archaeological features and deposits within the site, in accordance with the NPPF.

9.2.2 The chronological, spatial and functional relationships between the structures and remains identified are discussed in detail in this report; the archaeological results are already provisionally linked to the data already recovered in the wider area through further research and detailed study will of course be carried out at the publication stage of the project.

9.2.3 No evidence was found for the presence of burials. If burials were still extant when the current standing buildings which surround the courtyard were constructed in the early 1950s it is probable that the formation of the courtyard took ground level below that of the graveyard and only left remains dating to the 16th century or earlier. A single large skull fragment was found within the modern levelling deposits located below the hard standing in the courtyard during the breaking out of Trench 7. This presumably resulted from the clearance of the cemetery.

9.2.4 The course of the linear feature first recorded as cut [15] in Trench 3 was traced further to the east during the excavation of Trench 5. As seen during the evaluation this linear feature had been truncated to the west by the construction of the 16th-century brick drain [16], the line of the ditch or robber cut could not be traced further to the west beyond the limits of the construction cut excavated during the building of the drain. The original interpretation of this feature as a possible robber cut for a masonry structure which might date to the Roman period is still valid but equally still unproven. No remnant of a structure was apparent though Roman pottery and building materials were recovered from the fills of the linear cut. However, as

noted above, many of the levelling deposits found in this area also contained assemblages of Roman brick, tile and pottery though there is no doubt that these layers were medieval in date. Medieval peg tile dated to after 1180 was recovered from the fills of the linear cut and though no date can realistically be ascribed to a putative masonry structure which may once have been present there is no doubt that the linear cut was backfilled in the very late 12th century or later. The alignment and profile of this feature suggest that it was more likely to have been associated with a structure than have functioned as a ditch.

9.2.5 The excavation results have radically altered the interpretation of this area of the Bridewell precinct, so much so that the research question posed which essentially regarded the brick drain [16] is now largely redundant. The structural remains were not merely ancillary external features such as drains but the major wall recorded as [30] and [104] demonstrated that a previously unrecorded north-south aligned range may have stood to the west of the accepted western limits of the Palace. Some sunken brick features which would have been located within the new range of buildings were also evident.

9.2.6 A series of shallow linear cuts recorded in Trenches 6 and 7 are very probably the remnants of bedding trenches which once formed parts of the gardens that are known from cartographic and documentary sources to have occupied this area. Clearly the presence of these features, which date to the 16th century and contained a very high incidence of upper class kitchen waste, would not be compatible with a range of buildings that had a western limit defined by wall [30]/[104]. At present the most likely interpretation of events was that the range of buildings discovered during the recent excavations was abandoned almost as soon as the Palace was finished and began to be occupied, or that this range of buildings was never completed.

9.2.7 No direct evidence was found of riverfront activity though the profile of the Fleet valley descending from west to east was a defining feature of the landscape. The levelling and landscaping layers recorded in the southern and particularly the eastern peripheries of the site were more reminiscent of waterfront reclamation than those encountered elsewhere, particularly the deposits found toward the base of the archaeological sequence. Elevated quantities of sand and gravel and well defined tip lines were the diagnostic features of these deposits that marked them out as potential waterfront reclamation deposits. Layers of this nature were first encountered in Trench 1 during the evaluation where they were recorded as contexts [26]-[29]. These deposits sloped markedly from north to south apparently following the natural slope from Fleet Street to the Thames. These deposits were recorded between 2.31m and 1.61m OD. Analogous sequences of levelling layers were recorded in the basement Trenches B3 and B6 though these appeared to slope more markedly from west to east toward the Fleet. However, the differences in the orientation of the bedding planes between the layers recorded in Trench 1 and those recorded in Trenches B3 and B6 may have been more apparent than real as the later trenches were so narrow that any north-south slope would have been almost impossible to record or quantify.

9.2.8 The most convincing evidence of the site's proximity to a riverine environment came from Trench 6 which was the most easterly location investigated and therefore lay deeper within the Fleet valley than the other trenches. An irregularly shaped cut, [90], was recorded in the eastern end of the trench, the fill of this feature consisted of very clean sand and gravel which might have been deposited by fast moving water. The 'cut' could in reality have been the product of riverine erosion that resulted from a fast water flooding event, possibly a local failure of a river wall. Although not excavated or recorded the deposits into which the cut had been excavated also consisted principally of sand and gravel which might again be indicative of a waterfront environment. The top of the irregularly shaped cut [90] was recorded at 2.19m OD and though it's upper part truncated material that was clearly part of a land reclamation and levelling sequence the deposits seen in the side of the cut were more characteristic of waterfront dumps or foreshore deposits. These extended to the base of the cut which was recorded at 1.49m OD.

9.2.9 No evidence was recovered for Saxon occupation of the site though some of the pottery fabrics, such as those dated 970-1100, are conceivably late Saxon in origin. However, as discussed above virtually all of the earlier medieval pottery fabrics are demonstrably residual and there were certainly no structures that date to the Saxon period present on the site.

9.2.10 Considerable evidence was accumulated for a strong Roman presence in the locality though only a single feature, a small unexcavated pit recorded in Trench 7, can possibly be dated to this period. The pit was cut into the natural clay and surface cleaning led to the recovery of Roman pottery dated AD 50-100. Although the pit could not be excavated as it was located below project level no medieval or later artefacts were visible in the fill at surface level. The pit might therefore be Roman but it is impossible to demonstrate this without further excavation, the Roman pottery assemblage consisted of a few sherds. A Roman masonry structure may also have been present in Trench 5, this is discussed above (Para 9.2.5).

9.2.11 The high frequency of Roman pottery and building materials within the medieval dump deposits indicated that there must have been a considerable Roman presence in the area. The soils used as land reclamation and levelling were clearly brought to the site from elsewhere but given the high costs and difficulty of transporting bulk materials by road in this period it is unlikely that the material dumped for levelling had travelled over long distances. The Roman pottery and building material is therefore likely to be of local origin. An illustration of how common the Roman material was can be provided by the artefacts recovered from Phase 3 deposits which are medieval. Thirty-six of the deposits placed in this phase contained datable artefacts; of these 11 contained Roman pottery and four contained Roman building materials.

9.3 New Research Questions

9.3.1 Research questions regarding the animal bone assemblage are:

- Are there particular groups of food bones or significant bone elements of certain species within the late medieval and post-medieval assemblages that are characteristic of high status dining and can these be directly shown to be associated with the occupants of local households or Bridewell Palace?
- Similarly, is there any evidence of a restricted or basic dietary regime that may be linked to the site at the time of the "poor house" and prison?
- What do the bones from the sieved residues reveal about the variety of fish and small wild birds exploited as food sources?
- What do the bones from the sieved residues tell us about the natural small wild fauna at the site?
- Does the cattle metrical data provide evidence of stock improvements earlier than the so-called "Agricultural Revolution" of the late 18th & early 19th centuries? This aspect is of more than local/regional interest (see Kerridge 1967).
- Does the metrical data obtained from the quantities of domestic fowl bones indicate significant progress in poultry breeding in the later medieval and post-medieval periods? This aspect is of more than local/regional interest.

9.3.2 Research questions regarding the pottery assemblage are:

- Can ICP-AES analysis determine which country the sherd of archaic maiolica was derived from?
- What proportion of the late medieval/early post-medieval assemblage can be ascribed to activity associated with Bridewell Palace?

9.3.3 More general research questions might include:

- Can further documentary and cartographic research demonstrate whether or not the major wall discovered during the excavation formed part of a perimeter wall to the Palace or part of a building, or both?
- Did the wall erected during the construction of Bridewell replace the historically attested stone wall which defined the Bishop of Salisbury's house and garden in 1507 (Gadd and Dyson 1981, 13)? Does the new wall define the parish boundary as shown on Ogilby and Morgan's map of 1677?

10 CONTENTS OF THE ARCHIVE

10.1 The site archive consists of:

10.1.1 Paper archive

210 context sheets

128 plans on 178 individual planning sheets

21 Sections on 33 individual sheets

10 Environmental sample sheets

10.1.2 Photographs

Digital photographs:

114 digital photographs taken by site staff

27 digital photographs taken by the unit photographer

35mm film photographs:

70 colour slides

61 black and white contact prints/negatives

Medium format photograph:

23 black and white negatives/contact prints

6 colour negatives/contact prints

10.1.3 Finds

Bone 29 boxes

Ceramic building material 8 crates

Stone 2 boxes

Roman pottery 1 box

Post Roman pottery 10 boxes

Glass 2 boxes

Slag 1 box

A total of 101 small finds were collected

10.1.4 Environmental Samples

12 bulk soil samples were taken

11 IMPORTANCE OF RESULTS, FURTHER WORK AND PUBLICATION OUTLINE

11.1 Importance of the Results

11.1.1 The excavation unearthed previously unknown elements of Bridewell Palace which should help to refine the reconstructed ground plan of the complex. The discovery of parts of a Tudor Royal Palace should be viewed at a minimum as of regional importance. The dietary information recovered from the food waste which was effectively used as compost in the Palace gardens also has notable potential when considering the dietary requirements of a Royal household and their diplomatic guests.

11.2 Further Work

General

11.2.1 Further documentary research might help to elucidate the original indented function of the major wall discovered during the excavation. In particular H.M. Colvin 1982 The History of the King's Works: Vol 4 1485-1660, published a year after the most comprehensive archaeological study of the Palace, might contain relevant details relating to the construction project. This volume should be consulted as part of the publication project.

11.2.2 As yet the detailed survey of 1791 has not been compared to the excavated results. This cartographic and plan work might help to establish whether or not the large foundation documented during the excavation was part of a building or a perimeter wall, or both.

Roman pottery

11.2.3 All of the Roman pottery has been fully recorded, however, it is recommended that the BB1 sherd with graffiti is analysed by an appropriate specialist.

Post Roman pottery

11.2.4 The pottery assemblage from this excavation should be published and eighteen pottery illustrations are required to supplement the text. The medieval pottery requires a brief summary and further research into the sherd of archaic maiolica should be undertaken to determine the production centre where it was manufactured. The report should concentrate on the late medieval/early post-medieval ceramics and determine which groups of material date to before Bridewell Palace, were derived from the Palace itself and its subsequent use as a ‘poor house’ and prison.

Glass

11.2.5 The assemblage consists almost entirely of window glass except for the blue glass handle of a vessel which may indicate a luxury item made in Venice or Germany and possibly used in the Palace. The main potential of the glass is to date the contexts it was recovered from. There are few recommendations for further work, except that some research should be undertaken

on the blue glass handle. Otherwise information from this report should be used for a publication text on the excavation.

Building material

11.2.6 Other than using building material as a dating tool, the value of the sizeable assemblage of ceramic building material and worked stone from Dorset Rise lies with the high-status flooring materials (Tin-Glazed Cuenca, Antwerp and glazed Flemish floor tile), small items of intricately carved stone (Caen; Reigate; Headington) and Tudor brick associated with the construction of 1515-1523 Bridewell Palace. This is the first time that a sizeable assemblage has been collated, although it would be worth comparing this material from earlier excavations (Gadd and Dyson 1981) to see if similar high status stones and tile have been used. Comparison should also be made with the building material assemblages from adjoining sites especially Whitefriars (WFT99) to see if any Tudor type material can be identified.

11.2.7 Comparison especially in the use of the rare Spanish and Antwerp wall and floor tile in other Tudor palaces would be useful to see how much of the embryonic early 16th-century tin-glazed wall tile industry was being imported to meet Royal demand. Research will also be conducted to determine how typical are the steep arched foundations in other Tudor palaces in London.

11.2.8 Some of the more ornate items such as the decorative Spanish wall tile require photography, whilst the stone cornice fragments require illustration at publication.

Metal and small finds

11.2.9 The metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. For the Dorset Rise assemblage, particularly significant finds include the ceramic figurine of St Barbara (sf 61), the double-socketed candlestick (sf 1) and the hooked tag and dagger plate, both cast with double rose motifs (sf 54 and 64); however, also the elements of copper-alloy working on or near site is important. While sheet waste, offcuts and wire are frequent finds on sites dating from the late 15th and 16th centuries, the presence of roughs or blanks, providing an indication of the products manufactured, is a rare element. For the purpose of publication, a number of objects require further x-ray to aid identification. A small unstratified silver coin (sf 50) and the three possible jetons (sf 26, 47 and 70) will require cleaning. Following x-ray and publication, incomplete iron nails and undiagnostic and fragmented metal may be discarded.

Metal waste

11.2.10 The non-ferrous waste and debris should be examined in conjunction with the other copper-alloy working evidence and finds found at the site.

Animal bone

11.2.11 The animal bone assemblage has considerable potential. As yet only a small proportion of the material recovered from the environmental samples taken on site has been analysed. Full analysis of this material should add further detail regarding animals being consumed for food,

particularly fish and birds, and also provide background information for the presence of small mammals and possibly amphibians in the area.

Environmental samples

11.2.12 Further analysis of the environmental samples from this site could identify woods not represented in the samples assessed so far. The distinct possibility that specific woods were harvested from managed woodland, some of which included coppice, is of some interest and could be further investigated through more detailed analysis of the size/age range pattern(s) of the woods represented in various samples and, where feasible, through study of the growth ring patterns of individual wood elements. For these reasons further work on samples from this site is recommended should they be deemed of sufficient archaeological interest. All twelve samples contain charcoal suitable for radiocarbon dating.

11.3 Publication Outline

11.3.1 The excavation results are of some importance and though the size of the project does not merit publication as a monograph it would warrant an article in a peer reviewed journal such as the *Transactions of the London and Middlesex Archaeological Society*.

11.3.2 The article might consist of:

- Introduction and background to the project
- Archaeological and historical background
- Phased archaeological discussion
- Significance of the results
- Specialist reports
- Conclusions and potential for future research

11.3.3 Any article produced should aim for a holistic integrated text in which aspects of the finds and environmental assemblage are discussed within the main body of the text. Specialist reports containing detailed studies will also be required. Discussions of the finds and animal bone might attempt to contrast the composition and status of the assemblages before and after the Palace becomes established. Unfortunately there is little scope for discussing how these assemblages might decline once the Palace becomes a poor house or hospital as this period is barely represented in the archaeological record

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APPENDIX 1: CONTEXT INDEX

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
1		1	Tr 4	Layer	Mixed levelling layer	V late med	4
2		1	Tr 4	Layer	Clay levelling layer	V late med	4
3		1	Tr 4	Layer	Mixed levelling layer	V late med	4
4		1	Tr 4	Layer	Natural weathered clay	Natural	1
5		2	Tr 3	Fill	Fill of construction cut [6]	V late med	5
6		2	Tr 3	Cut	Construction cut for brick drain [16]	V late med	5
7		2	Tr 3	Layer	Medieval levelling layer	V late med	4
8		2	Tr 3	Layer	Medieval levelling layer	V late med	4
9		2	Tr 3	Layer	Medieval levelling layer	V late med	4
10		2	Tr 3	Layer	Medieval levelling layer	V late med	4
11		2	Tr 3	Layer	Medieval levelling layer	V late med	4
12		2	Tr 3	Layer	Medieval levelling layer	V late med	4
13	13	2	Tr 3	Layer	Medieval levelling layer	Medieval	3
14	14	2	Tr 3	Fill	Fill of robber cut? [15]	Early med	2
15	15	2	Tr 3	Cut	Robber cut or ditch	Early med	2
16	16	2, 9, 10	Tr 3, Tr5	Masonry	Brick drain	V late med	5
17		2	Tr 3	Layer	Natural yellow clay	Natural	1
18		4	Tr 2	Layer	Medieval reclamation dump	Medieval	3
19		4	Tr 2	Layer	Medieval reclamation dump	Medieval	3
20		4	Tr 2	Layer	Medieval reclamation dump/demolition debris	Medieval	3
21		4	Tr 2	Layer	Medieval dump/levelling layer	Medieval	3
22	22	3	Tr 1	Masonry	Brick floor or infill	V late med	5
23	24	3	Tr 1	Layer	Decayed timber floor	V late med	5
24	24	3	Tr 1	Masonry	Brick lining	V late med	5
25	25	3	Tr 1	Cut	Construction cut for brick lining [24]	V late med	5
26	25	3	Tr 1	Layer	Medieval reclamation dump	V late med	5
27		3	Tr 1	Layer	Medieval reclamation dump	Medieval	3
28		3	Tr 1	Layer	Medieval reclamation dump	Medieval	3

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
29		3	Tr 1	Layer	Medieval reclamation dump or possibly a foreshore deposit	Medieval	3
30	30	6, 10	Tr 5	Masonry	Arched brick foundation and base of upstanding wall	V late med	5
31	31	7	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
32	32	10	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
33		10	Tr 5	Fill	Backfill of construction cut [34] for brick drain [16]	V late med	5
34	34	10	Tr 5	Cut	Construction cut for brick drain [16]. Same as [6]	V late med	5
35	35	10	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
36	36	7	Tr 5	Cut	Construction cut for sunken brick feature [37].	V late med	5
37	37	7	Tr 5	Masonry	Shallow sunken brick structure	V late med	5
38		7	Tr 5	Fill	Backfill of construction cut [36]	V late med	5
39	39	7	Tr 5	Cut	Small pit	V late med	4
40		7	Tr 5	Fill	Fill of pit [39]	V late med	4
41	41	6, 7	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
42	42		Tr 5	Layer	Medieval dump/levelling layer	Post-medieval	6
43	43	7, 10	Tr 5	Layer	Medieval dump/levelling layer?	V late med	4
44		6 , 7, 10	Tr 5	Cut	Construction cut for brick structure [30]	V late med	5
45	45		Tr 6	Layer	Medieval dump/levelling layer?	V late med	5
46	46	8	Tr 6	Layer	Medieval dump/levelling layer?	V late med	5
47			Tr 5	Fill	Fill of pit [48]	Early med	2
48	48		Tr 5	Cut	Truncated pit	Early med	2
49		5, 10	Tr 5	Layer	Medieval dump/levelling layer, possibly the same as [32]	V late med	4
50		5, 10	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
51		5	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
52		5	Tr 5	Fill	Fill of linear cut [54]	Early med	2

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
53		5	Tr 5	Fill	Primary fill of linear cut [54]	Early med	2
54		5	Tr 5	Cut	Linear cut. Same as 15 and 74	Early med	2
55	55	5, 6, 10	Tr 5	Layer	Natural London clay	Natural	1
56		5, 10	Tr 5	Layer	Medieval dump/levelling layer	Medieval	3
57			Tr 6	Fill	Fill of bedding trench cut [58]	V late med	5
58	58		Tr 6	Cut	Bedding trench	V late med	5
59		8	Tr 6	Fill	Fill of bedding trench cut [60]	V late med	5
60	60	8	Tr 6	Cut	Bedding trench	V late med	5
61	61	8	Tr 6	Layer	Garden soil horizon	V late med	5
62	62	6, 7	Tr 5	Layer	Medieval dump/levelling layer	V late med	4
63	64	8	Tr 6	Fill	Fill of bedding trench [64]	V late med	5
64	64	8	Tr 6	Cut	Bedding trench	V late med	5
65	65		Tr 6	Layer	Medieval dump/levelling layer. Possibly kitchen/oven waste	V late med	5
66	66	8	Tr 6	Layer	Medieval dump/levelling layer. Possibly kitchen/oven waste	V late med	5
67	67	8	Tr 6	Layer	Medieval dump/levelling layer	V late med	4
68	68	6, 7	Tr 5	Layer	Medieval dump/levelling layer	Medieval	3
69	69	6, 7	Tr 5	Layer	Possibly a layer deposited by foreshore dumping/alluvial action	Medieval	3
70			Tr 5	Fill	Primary fill of linear cut [71]	V late med	4
71	71		Tr 5	Cut	Linear cut	V late med	4
72	72	8	Tr 6	Layer	Medieval dump/levelling layer	Medieval	3
73		6, 7	Tr 5	Fill	Fill of linear cut [74]	Early med	2
74	74	6, 7	Tr 5	Cut	Linear cut	Early med	2
75			Tr 5	Fill	Fill of small pit [76]	Early med	2
76	76		Tr 5	Cut	Small pit	Early med	2
77			Tr 5	Fill	Fill of pit [78]	Early med	2
78	78		Tr 5	Cut	Small pit	Early med	2
79			Tr 5	Fill	Fill of pit [80]	Early med	2
80	80		Tr 5	Cut	Shallow pit	Early med	2

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
81			Tr 5	Fill	Fill of pit [82]	Early med	2
82	82		Tr 5	Cut	Small truncated pit fragment	Early med	2
83			Tr 6	Fill	Primary fill of irregularly shaped linear cut [90]	Early med	2
84	84		Tr 5	Fill	Fill of sunken brick-structure [86]		5
85	85		Tr 5	Layer	Medieval dump/levelling layer	V late med	4
86	86		Tr 5	Masonry	Sunken brick structure. Same as [37]	V late med	5
87	87		Tr 5	Cut	Construction cut for brick-built feature [86]	V late med	5
88	88		Tr 5	Fill	Rectangular patch of mortar below [86], within [87]. Bedding for brick floor	V late med	5
89			Tr 5	Fill	Primary fill of construction cut [87]	V late med	5
90	90		Tr 6	Cut	Irregularly shaped linear cut, possibly alluvial in origin	Early med	2
91	91		Tr 5	Layer	Medieval dump/levelling layer	V late med	4
92	92	7, 10	Tr 5	Layer	Medieval dump/levelling layer. Same as [62]	V late med	4
93	92	7, 10	Tr 5	Layer	Medieval dump/levelling layer	Medieval	3
94		10	Tr 5	Fill	Fill of posthole [95]	Medieval	3
95	95	10	Tr 5	Cut	Posthole	Medieval	3
96	96	7, 10	Tr 5	Layer	Medieval dump/levelling layer. Same as [67]	Medieval	3
97		10	Tr 5	Fill	Fill of linear cut [98], same as [73]	Early med	2
98	98	10	Tr 5	Cut	Ditch. Same as [74]	Early med	2
99		10	Tr 5	Fill	Fill of pit [100]	Early med	2
100	100	10	Tr 5	Cut	Truncated pit fragment	Early med	2
101	101	6, 10	Tr 5	Layer	Levelling layer. Possibly Roman	Early med	2
102	102	6, 10	Tr 5	Layer	Levelling layer. Possibly Roman	Early med	2
103		9	Tr 5	Fill	Fill within brick drain [16]	V late med	5
104	104		Tr 7	Masonry	Foundations identical to [30] which lay to the south	V late med	5

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
105			Tr 7	Fill	Fill of pit [106]	V late med	4
106	106		Tr 7	Cut	Small pit	V late med	4
107	107		Tr 7	Layer	Natural orange brown clay	Natural	1
108			Tr 7	Fill	Fill of pit [109]	V late med	4
109	109		Tr 7	Cut	Small pit	V late med	4
110	110		Tr 7	Layer	Medieval dump/levelling layer	V late med	4
111	111		Tr 7	Layer	Medieval dump/levelling layer	V late med	4
112	Not planned		Tr 7	Cut	Construction cut for wall [104]	V late med	5
113			Tr 7	Fill	Fill of pit [114]	V late med	4
114	114		Tr 7	Cut	Small pit	V late med	4
115	115		Tr 7	Layer	Dump/levelling layer? Redeposited natural	Medieval	3
116	Pre-ex		Tr 7	Layer	Medieval dump/levelling layer	Medieval	3
117	117		Tr 7	Layer	Medieval dump/levelling layer	V late med	5
118	118		Tr 7	Masonry	Fragment of small N-S aligned wall	V late med	5
119	119		Tr 7	Layer	Medieval dump/levelling layer	V late med	5
120	118		Tr 7	Masonry	Fragment of small N-S aligned wall	V late med	5
121			Tr 7	Fill	Fill of pit [122]	V late med	5
122	122		Tr 7	Cut	Small pit	V late med	5
123	123		Tr 7	Layer	Medieval dump/levelling layer	V late med	4
124	118		Tr 7	Masonry	Fragment of floor associated with walls 118, 120	V late med	5
125			Tr 7	Fill	Fill of pit [122]	Early med	2
126	126		Tr 7	Cut	Small pit	Early med	2
127	Post-ex		Tr 7	Layer	Medieval dump/levelling layer	V late med	4
128-149					VOID		
150	150	12	B3	Layer	Medieval dump/levelling layer	Medieval	3
151	151	13	B2	Layer	Medieval dump/levelling layer	Medieval	3
152	152	12	B3	Layer	Lense of dumped material	Medieval	3
153	153	13	B2	Layer	Construction debris	Medieval	3
154	154	12	B3	Layer	Medieval dump/levelling layer	Medieval	3

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
155		11	B1	Fill	Fill of cut [156]	Medieval	3
156		11	B1	Cut	Possible terrace cut	Medieval	3
157	157	12	B3	Layer	Medieval dump/levelling layer	Medieval	3
158	156	11	B1	Layer	Natural yellow clay	Natural	1
159		11	B1	Layer	Stony mortar layer	Medieval	3
160	160	12	B3	Layer	Medieval dump/levelling layer	Medieval	3
161		11	B1	Fill	Fill of cut [156]	Medieval	3
162	162	13	B2	Layer	Rammed chalk floor layer	Medieval	3
163	163	12	B3	Layer	Medieval dump/levelling layer	Medieval	3
164	164	13	B2	Layer	Medieval dump/levelling layer	Medieval	3
165		14, 15	Tr 6 ex	Fill	Fill of cut [166]	V late med	5
166	166	14, 15	Tr 6 ex	Cut	Linear cut	V late med	5
167	167	14, 15	Tr 6 ex	Layer	Late Medieval dump/levelling layer	V late med	5
168	168	14, 15	Tr 6 ex	Layer	Late Medieval dump/levelling layer	V late med	5
169	169	14, 15	Tr 6 ex	Layer	Medieval dump/levelling layer	Medieval	3
170	170	14, 15	Tr 6 ex	Layer	Medieval dump/levelling layer	V late med	4
171	171	14, 15	Tr 6 ex	Layer	Medieval dump/levelling layer	V late med	4
172		14, 15	Tr 6 ex	Layer	Possible riverine clay and silt	Medieval	3
173		16	Tr 6 ex	Fill	Fill of cut [174]	V late med	5
174	174	16	Tr 6 ex	Cut	Linear cut	V late med	5
175	175	16	Tr 6 ex	Layer	Late Medieval dump/levelling layer	V late med	5
176	176	16	Tr 6 ex	Layer	Medieval dump/levelling layer	V late med	4
177	177	16	Tr 6 ex	Layer	Medieval dump/levelling layer	V late med	4
178	178	16	Tr 6 ex	Layer	Medieval dump/levelling layer	V late med	4
179	179	16	Tr 6 ex	Layer	Medieval dump/levelling layer	Medieval	3
180	180	16	Tr 6 ex	Layer	Medieval dump/levelling layer	Medieval	3
181	181	17, 18	Tr 5 ex	Layer	Post-Medieval dump/levelling layer	Post-Medieval	6
182	182	17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
183	183	17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
184	184	17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
185		17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
186		17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
187		17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
188		17, 18	Tr 5 ex	Fill	Fill of pit [189]	Post-Medieval	6
189	189	17, 18	Tr 5 ex	Cut	Very large pit, probably a robber cut	Post-Medieval	6
190	190	17, 18	Tr 5 ex	Fill	Fill of pit [192]	Post-Medieval	6
191	191	17, 18	Tr 5 ex	Fill	Fill of pit [192]	Post-Medieval	6
192	192	17, 18	Tr 5 ex	Cut	Very large pit, probably a robber cut	Post-Medieval	6
193	193		Tr 5 ex	Layer	Medieval dump/levelling layer	Medieval	3
194	194		Tr 5 ex	Layer	Medieval dump/levelling layer	Medieval	3
195	195	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
196	196	21	B5	Layer	Medieval dump/levelling layer	V late med	5
197					VOID		
198	198	19	B6	Layer	Medieval dump/levelling layer	V late med	4
199		20	B4	Fill	Fill of linear cut [199]	Medieval	3
200	200	20	B4	Cut	Linear cut	Medieval	3
201	201	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
202	202	21	B5	Layer	Medieval dump/levelling layer	V late med	5
203	203	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
204		19	B6	Layer	Medieval dump/levelling layer	Medieval	3
205		19	B6	Layer	Medieval dump/levelling layer	Medieval	3
206		19	B6	Fill	Fill of pit [215]	V late med	4
207	207	21	B5	Cut	Linear cut for masonry [209]	V late med	5
208		21	B5	Fill	Fill of [209]	V late med	5
209	209	21	B5	Masonry	Foundation, or remnant thereof	V late med	5
210	210	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
211	211	20	B4	Layer	Construction debris	Medieval	3
212	212	21	B5	Layer	Medieval dump/levelling layer	Medieval	3
213	213	21	B5	Layer	Medieval dump/levelling layer	Medieval	3
214	214	20	B4	Cut	Linear cut	Medieval	3
215	215	19	B6	Cut	Pit	V late med	4
216	216	21	B5	Layer	Construction debris	Medieval	3
217		20	B4	Fill	Fill of [218]	Medieval	3
218	218	20	B4	Cut	Posthole	Medieval	3

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
219		19	B6	Fill	Fill of [215]	V late med	4
220	220	20	B4	Layer	Chalk floor	Medieval	3
221		20	B4	Fill	Fill of [222]	Medieval	3
222	222	20	B4	Cut	Linear cut	Medieval	3
223	223	21	B5	Layer	Medieval dump/levelling layer	Medieval	3
224	224	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
225	225	20	B4	Layer	Chalk floor	Medieval	3
226		19	B6	Layer	Medieval dump/levelling layer	Medieval	3
227		19	B6	Layer	Medieval dump/levelling layer	Medieval	3
228		19	B6	Layer	Medieval dump/levelling layer	Medieval	3
229	229	20	B4	Layer	Medieval dump/levelling layer	Medieval	3
230	230	20	B4	Layer	Natural yellow clay	Natural	1
231	231	21	B5	Layer	Medieval dump/levelling layer	Medieval	3
232	232	21	B5	Fill	Fill of [223]	V late med	5
233		21	B5	Cut	Pit	V late med	5

APPENDIX 2: ROMAN POTTERY ASSESSMENT

By Katie Anderson

Introduction

A small assemblage of Roman pottery totalling 90 sherds weighing 1,153g and representing 1.82 EVEs was recovered from the excavations. All of the pottery was examined and recorded in accordance with the guidelines laid out by the Study Group for Roman Pottery (Darling 1994) and using the standard terminology and codes advocated by the Museum of London Archaeology Service (Symonds 2002).

Assemblage Composition

The Roman pottery ranged in date from the early to the late Roman period, with an apparent peak in activity in the later 1st-2nd century AD. The pottery was small to medium sized, with a mean weight of 12.8g. All of the pottery was residual, occurring in later dating features. A range of fabrics were identified (Table 1). Unsourced SAND fabrics were the most commonly occurring group, totalling 24 sherds (201g). Unsurprisingly Romano-British coarsewares represented the largest category, totalling 67% of the assemblage, with imported wares accounting for 25% and the remaining 8% comprising Romano-British fineware fabrics. Samian from all three production centres (totalling 16.6% of the assemblage) was recovered as well as two KOLN wares, and one TN sherd. Three unsourced AMPH sherds were also identified, although these comprised very small body sherds (48g).

Fabric	No.	Wt(g)
AHFA	2	105
AMPH	3	48
BB1	1	31
BB2	1	21
BBS	4	59
BUFF	1	3
FMIC	2	32
GAUL	1	35
HOO	5	45
HWC	2	18
KOLN	2	24
LOXI	2	37
NVCC	1	23
OXFRS	4	40
OXIS	2	14

Fabric	No.	Wt(g)
RS	2	15
SAM	3	63
SAMCG	1	4
SAMEG	2	10
SAMSG	9	56
SAND	24	201
TN	1	11
VRW	1	5
WS	11	134
WW	3	119

Table 1: Roman pottery by fabric

A minimum of 19 different vessels were identified, based on the number of unique rim and bases. This comprised seven dishes, five jars, two cups, two flagons, two cups and single examples of a bowl and mortaria.

The pottery was collected from 25 different contexts, all of which contained small assemblages of pottery (fewer than 30 sherds). The earliest dating contexts dated mid-late 1st century AD [19], [28], [73], [123], [125] and [204]. Context [21], [155] and [170] were the latest dating contexts, with a mid-3rd-4th century AD date. Context (14) contained two sherds (34g), comprising a BB1 body sherd with partial graffiti on the exterior, dating AD120-400

Discussion

Overall the relatively small quantity of pottery recovered from the site limits any detailed discussion on the nature of Roman activity. That said, it does demonstrate that the site was occupied in the early, mid and late Roman period, although it is uncertain as to whether occupation was continuous – the size of the assemblage suggesting this was unlikely to have been the case. The pottery forms is indicative of a domestic assemblage, with vessel used for the storage, preparation and serving of foodstuffs.

All of the pottery has been fully recorded, however, it is recommended that the BB1 sherd with graffiti is analysed by an appropriate specialist.

Bibliography

Symonds, R., 2002. *Recording Roman pottery: a description of the methodology used at Museum of London Specialist Services (MoLSS) and Museum of London Archaeology Service (MoLAS)* (Unpublished document available from MoLSS)

Context	No.	Wt(g)	Context Spot date
13	3	60	AD150-400
14	2	34	AD120-400
18	4	81	AD90-150
19	2	20	AD50-100
21	4	158	AD270-400
28	1	1	AD50-100
51	4	28	AD100-250
62	6	78	AD100-140
68	7	79	AD100-160
69	8	46	AD120-300
70	1	21	AD150-300
72	4	46	AD70-200
73	8	84	AD50-100
81	1	20	AD50-150
110	9	128	AD50-150
111	6	20	AD50-200
117	1	35	AD50-250
123	2	17	AD50-80
125	4	32	AD50-100
155	7	48	AD240-400
164	1	6	AD100-140
170	1	8	AD240-400
177	2	23	AD100-300
190	1	71	AD100-300
204	1	9	AD50-100

Table 2: Context Spot Dates

APPENDIX 3: POST-ROMAN POTTERY ASSESSMENT

By Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the site (ten boxes). The post-Roman pottery dates from the medieval and post-medieval periods. Only one sherd shows evidence for abrasion and so the assemblage was probably deposited fairly rapidly after breakage. Residual material is as 16.2% by sherd count and only 0.2% of the sherds are intrusive. The state of fragmentation of the assemblage is mainly as sherd material, although most of the vessel forms could be identified and one vessel has a complete profile. The pottery was quantified by sherd count (SC) and estimated number of vessels (ENV's), besides weight. Pottery was recovered from 87 contexts. The sizes of the groups of pottery are mostly small (fewer than 30 sherds) although ten medium (less than 100 sherds) sized groups of pottery are also present.

In total there are 969 sherds, 779 ENV, 21.140kg, of which five sherds, 5 ENV/337g are unstratified. The assemblages were examined macroscopically and microscopically using a binocular microscope (x20), and recorded in an ACCESS database, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology. The pottery is discussed by types and its distribution.

The Pottery Types and Their Forms

The pottery occurs as medieval and post-medieval dated wares and chronologically the pottery can be quantified as follows:

Medieval: 383 sherds, 354 ENV, 4.673kg

Post-medieval: 586 sherds, 425 ENV, 16.467kg

Medieval

The medieval pottery types present and the forms recorded in those wares are shown in Table 1.

Pottery type	Code	L date	E date	SC	ENV	Wt (g)	Forms
Late Saxon (Vince and Jenner 1991)							
Late Saxon shelly ware	LSS	1050	900	1	1	78	
Early medieval (Vince and Jenner 1991)							
Early medieval sandy ware with calcareous inclusions	EMCALC	1150	1000	3	3	30	Jar/cooking pot
Early medieval chalk-tempered ware	EMCH	1150	1050	1	1	26	
Early medieval flint-tempered ware	EMFL	1100	970	5	5	51	
Early medieval grog-tempered ware	EMGR	1150	1050	2	2	12	
Early medieval Surrey iron-rich sandy ware	EMIS	1150	1050	1	1	52	Jar
Early medieval sandy ware	EMS	1100	970	7	7	61	
Early medieval shell-tempered ware	EMSH	1150	1050	7	7	148	Jar
Early medieval sand- and shell-tempered ware	EMSS	1150	1000	11	11	136	Jar
Early south Hertfordshire-type coarseware	ESHER	1200	1050	2	2	37	Jar
Early Surrey ware	ESUR	1150	1050	3	3	70	Jar/cp

Pottery type	Code	L date	E date	SC	ENV	Wt (g)	Forms
London-area greyware	LOGR	1170	1050	7	7	94	Jar; rounded, cp
Medieval whiteware crucible fabric	MWCR	1000	1150	1	1	13	
London area glazed wares (Pearce et al 1985)							
Coarse London-type ware	LCOAR	1200	1080	27	27	613	Jar/cp, jug; rounded
Coarse London-type ware with gritty inclusions	LCOAR GRIT	1200	1080	8	5	199	Jar
Coarse London-type ware with shell inclusions	LCOAR SHEL	1200	1080	1	1	15	Jug
Late London-type ware	LLON	1500	1400	17	15	190	bowl
London-type ware	LOND	1350	1080	50	47	334	Jug
London-type ware baluster jug	LOND BAL	1350	1180	5	3	62	
London-type ware in the highly decorated style	LOND HD	1350	1240	9	7	128	Jug
Miscellaneous							
Miscellaneous unsourced medieval pottery	MISC	1900	900	2	2	3	
Non-local glazed wares (Jenner and Vince 1983; Pearce et al 1982)							
Late medieval Hertfordshire glazed ware	LMHG	1450	1340	1	1	19	Jug
Mill Green ware	MG	1350	1270	10	10	36	Jug
Mill Green ware with polychrome decoration	MG POLY	1350	1290	1	1	2	Jug
Wheel-thrown coarse wares (Blackmore and Pearce 2011)							
Limspfield-type ware	LIMP	1300	1150	1	1	12	
Coarse medieval sandy wares	MCS	1300	1140	1	1	9	Jar/cp
South Hertfordshire-type greyware	SHER	1350	1170	27	26	316	Jar/cp
Coarse south Hertfordshire-type greyware	SHER COAR	1350	1170	1	1	16	
Fine south Hertfordshire-type greyware	SHER FINE	1350	1170	1	1	5	
Shelly-sandy ware	SSW	1220	1140	6	5	123	
Imported wares (Hurst et al 1986)							
Archaic maiolica	ARCH	1350	1270	1	1	23	Jug
Dutch red earthenware	DUTR	1650	1300	7	7	76	Bowl or dish
Dutch slipped red earthenware	DUTSL	1650	1300	1	1	24	Bowl or dish
Rhenish Tiel-type greyware	RHGR	1100	900	1	1	10	
Early Rouen ware	ROUE	1300	1170	1	1	3	Jug
Siegburg stoneware	SIEG	1630	1300	1	1	9	Drinking jug
Siegburg stoneware Jakobakanne	SIEG JAKO	1500	1370	1	1	17	Drinking jug: *Jakobakanne*
Surrey whitewares (Pearce and Vince 1988)							
Coarse Surrey-Hampshire border ware	CBW	1500	1270	74	69	581	jar
Coarse Surrey-Hampshire border ware cooking pot with flat-topped rim	CBW FT	1500	1340	2	2	46	
Coarse Surrey-Hampshire border ware in the highly decorated style	CBW HD	1350	1270	1	1	5	Jug
Cheam whiteware	CHEA	1500	1350	21	20	160	Cup, jug
Kingston-type ware	KING	1400	1240	28	24	339	Jar
Kingston-type ware in the highly decorated style	KING HD	1300	1240	2	2	5	Jug
'Tudor green' ware	TUDG	1500	1350	6	6	37	Cup: lobed, jug

Table 1: DOR12 medieval pottery types and their quantification by sherd count (SC), estimated number of vessels and weight (g) and the forms present in each ware. Cp: cooking pot

Amongst the medieval pottery, one of the most important finds recorded is a sherd of a Mediterranean archaic maiolica jug (context [67]). It survives as a shoulder sherd decorated with a white band with a banded chevron in turquoise coloured glaze and the edge of a possible triangle in purple brown glaze. This pottery type is a rare occurrence on excavations in London, although a cache of fragmentary jugs was recovered from the north bank of the Millennium Bridge, while other find spots include the Tower of London (Ayre and Wroe-Brown 2002, 30-31).

Post-medieval

Pot expansion	Code	L date	E date	SC	ENV	Wt (g)	Forms
Surrey-Hampshire border wares (Pearce 1992; Pearce 1999)							
Surrey-Hampshire border whiteware with green glaze	BORDG	1700	1550	5	5	315	Tripod pipkin
Surrey-Hampshire border whiteware with olive glaze	BORDO	1700	1550	2	1	56	Tripod pipkin
Surrey-Hampshire border whiteware with yellow glaze	BORDY	1700	1550	17	6	497	Stove tile, tripod pipkin
Early Surrey-Hampshire border whiteware	EBORD	1550	1480	44	39	225	Cup, drinking jug, jar: small rounded
Early Surrey-Hampshire border whiteware with yellow-glaze	EBORDY	1550	1480	4	4	81	Tripod pipkin
London area coarse red earthenwares (Nenk and Hughes 1999)							
London-area post-medieval bichrome redware	PMBR	1600	1480	46	9	1506	Cauldron, jar,
London-area early post-medieval redware	PMRE	1600	1480	267	201	7867	Bowl; carinated, flared, rounded, cauldron, chafing dish, dish, jar: rounded, jug, rounded, lid: conical, pipkin, pitcher, watering pot
London-area early post-medieval calcareous redware	PMREC	1600	1480	3	2	45	Jar: small rounded
London-area post-medieval slip-decorated redware	PMSL	1600	1480	7	6	60	Jar
London-area post-medieval slipped redware with green glaze	PMSRG	1650	1480	7	7	90	Jug
London-area post-medieval slipped redware with clear (yellow) glaze	PMSRY	1650	1480	52	42	3169	Bowl or dish: carinated, cauldron, chafing dish, dish: carinated, drinking jug, jug: rounded,
London area tin-glazed wares (Orton 1988)							
Tin-glazed ware with plain white glaze (Orton style C)	TGW C	1846	1630	1	1	33	Chamber pot
Essex fine red earthenwares (Nenk and Hughes 1999)							
Post-medieval Essex black-glazed redware	PMBL	1700	1580	1	1	5	
Post-medieval fine redware	PMFR	1700	1580	1	1	4	
Non-local							
Cistercian ware	CSTN	1600	1480	48	33	440	Cup: necked , rounded
Late medieval/transitional sandy redware	LMSR	1600	1480	1	1	15	
Slipped redware	PMR SLIP	1900	1800	2	1	64	Baking dish
Wealden buff ware	WEAL	1900	1480	6	5	203	Jar: shouldered, jug
Miscellaneous							
Miscellaneous unsourced post-medieval pottery	MISC	1900	900	1	1	3	
Post-medieval crucible	PMCR	1900	1480	3	3	56	Crucible
Industrial finewares (Lewis 1992)							
Plain refined white earthenware	REFW	1900	1805	1	1	1	
Imported wares (Hurst et al 1986)							
Central Italian tin-glazed ware	CITG	1550	1450	6	6	33	Jug; rounded, vase
Dutch red earthenware	DUTR	1650	1300	11	11	355	Cauldron, dish: oval
Dutch slip-decorated red earthenware (Utrecht-type)	DUTSD	1500	1400	1	1	9	
Dutch slipped red earthenware	DUTSL	1650	1300	5	4	139	Bowl or dish, porringer
Frechen stoneware	FREC	1700	1550	5	5	147	Jug; rounded
Unsourced German stoneware	GERST	1900	1480	1	1	4	Jug
German whiteware	GERW	1630	1550	6	3	256	Skillet, tripod pipkin
Cologne or Frechen stoneware	KOLFREC	1580	1550	2	2	87	Jug
Martincamp-type ware	MART	1650	1480	1	1	12	Flask; globular
Martincamp-type ware type I flask (buff earthenware)	MART1	1550	1480	1	1	12	Flask; globular
Montelupo polychrome maiolica	MLTG	1700	1500	2	2	23	Bowl
Raeren stoneware	RAER	1610	1480	28	22	827	Drinking jug; rounded, jug: small rounded

Pot expansion	Code	L date	E date	SC	ENV	Wt (g)	Forms
Saintonge ware with mottled green glaze	SAIM	1650	1250	1	1	9	Jug
Siegburg stoneware Jakobakanne	SIEG JAKO	1500	1370	4	2	74	
Siegburg salt-glazed stoneware	SIEGS	1630	1500	3	3	20	Drinking jug
Merida-type micaceous ware	SPAM	1650	1270	5	1	156	Jar: cylindrical
Miscellaneous imported tin-glazed ware	TGW MISC	1900	1450	1	1	6	

Table 2: DOR12 post-medieval pottery types and their quantification by sherd count (SC), estimated

The post-medieval component of the assemblage is important for containing a small but significant quantity of imported wares which include Italian tin-glazed wares: CITG and early Montelupo wares with decoration styles possibly in the late 15th-century *bleu robbiano* and 16th-century *fascia con 'ovali e rombi'* styles (Berti 1998) both recovered from context [184]. There is also present a notable quantity of German stoneware drinking forms from Cologne, Frechen, Raeren and Siegburg, besides slipwares from the Low Countries. Fine whitewares are from both English (EBORD/BORD) and German sources (GERW, notably as a skillet and tripod pipkin, recovered from contexts [61] and [116]). Additionally good quality redwares are sourced from the Low Countries as Dutch redware and from an English source Cistercian ware drinking forms. Also present are fragments of a whiteware stove tile from the Surrey-Hampshire border industry. All of these wares strongly reflect the influence of the ceramic material culture of the Renaissance in North West Europe and certainly some items, such as the Central Italian tin-glazed ware rounded jug or vase fragments indicate conspicuous consumption.

Distribution

Post-Roman Pottery was recovered from Phases 2-6. Table 3 shows the contexts containing pottery, the trench and phase they occur in, the size/number of sherds, ENV and weight, the earliest and latest date of the most recent pottery type (Context ED/LD), the pottery types present and a considered (spot) date for the group. A summary of the phases the pottery occurred is presented.

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
2	Tr 4	4	S	2	2	32	1480	1600	DUTSL, PMRE	1480-1600
5	Tr 3	5	S	1	1	106	1480	1600	PMRE	Mid 16th century
13	Tr 3	3	S	2	2	33	970	1100	EMS	970-1100
18	Tr 2	3	S	2	2	25	1350	1500	CHEA, LOGR	1350-1500
19	Tr 2	3	S	1	1	16	1080	1200	LCOAR	1080-1200
22	Tr 1	5	S	2	1	64	1800	1900	PMR SLIP	1800-1900
27	Tr 1	3	S	1	1	8	970	1100	EMFL	970-1100
28	Tr 1	3	S	1	1	26	1050	1150	EMCH	1050-1150
31	Tr 5	4	M	32	26	653	1480	1550	CHEA, CSTN, DUTR, EBORD, PMRE, PMREC, PMSRY,	1480-1550

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
32	Tr 5	4	M	45	24	1781	1480	1550	RAER, SAIM, SHER, TUDG CITG, CSTN, KING, LLON, MG, PMBR, PMRE, PMSRY, RAER, SPAM, TUDG	1480-1550
33	Tr 5	5	M	24	21	340	1480	1600	CBW, CITG, CSTN, GERST, MG, PMRE, PMSRY, RAER	1480-1550
35	Tr 5	4	S	24	24	209	1480	1600	CBW, CHEA, CSTN, LCOAR, LOND, LOND HD, PMRE, SHER, SHER COAR, TUDG	1480-1500
38	Tr 5	5	M	4	4	122	1480	1600	PMRE, PMSRY	1480-1600
40	Tr 5	4	M	3	3	277	1480	1600	PMRE, RAER, WEAL	1480-1525
41	Tr 5	4	M	52	40	717	1480	1550	CBW, CBW HD, CHEA, CSTN, EBORD, EMGR, EMS, KING, LCOAR, LIMP, LLON, LOGR, LOND, LOND BAL, LOND HD, PMRE, PMSL, PMSRY, RAER, SHER	1480-1550
42	Tr 5	6	S	3	3	176	1480	1550	KING, PMSRY, RAER	1480-1550
43	Tr 5	4	S	24	23	382	1480	1550	CHEA, EBORD, EMFL, EMSS, LCOAR, LOND, MISC, PMBL, PMRE, PMSRY, SHER	1480-1550
45	Tr 6	5	S	7	7	132	1550	1550	CHEA, EBORDY, LMSR, PMRE, PMSRY	1550-1600
46	Tr 6	5	S	25	14	1336	1550	1600	BORDG, BORDY, CHEA, FREC, PMRE, PMSRG, PMSRY	1550-1600
47	Tr 5	2	S	3	3	31	1170	1530	LCOAR GRIT, LOND BAL, SHER	1170-1350
49	Tr 5	4	S	9	7	91	1480	1500	CBW, DUTR, EBORD, LOND, PMRE, SHER	1480-1500
50	Tr 5	4	S	16	14	205	1270	1350	CBW, KING, LCOAR, LOND, MG POLY, PMRE, TUDG	1270-1370*

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
51	Tr 5	4	S	1	1	6	1080	1200	LCOAR	1080-1200
56	Tr 5	3	S	2	2	22	1170	1350	LOND, SHER	1170-1350
57	Tr 6	5	S	16	9	1037	1630	1846	, BORDY, PMRE, PMSRY, TGW C, WEAL	1550-1600
59	Tr 6	5	S	13	11	767	1580	1700	BORDG, BORDO, FREC, PMFR, PMRE	1580-1600
60	Tr 6	5	S	22	16	434	1480	1550	CSTN, EBORD, PMRE, SIEG JAKO	mid 16th century
61	Tr 6	5	M	83	54	2032	1480	1550	CBW, CHEA, CSTN, DUTR, EBORD, EBORDY, GERW, MART, MART1, PMBR, PMRE, PMSL, PMSRY, RAER, REFW	1480-1550
62	Tr 5	4	S	8	8	106	1480	1600	EMSH, EMSS, LCOAR, PMRE	1480-1600
63	Tr 6	5	S	11	8	375	1480	1550	EBORD, PMRE, PMREC	mid 16th century
65	Tr 6	5	M	35	14	916	1480	1550	CHEA, CSTN, DUTSL, EBORD, PMBR, PMRE, RAER, SIEG JAKO, WEAL	mid 16th century
66	Tr 6	5	M	34	12	908	1480	1550	CSTN, DUTSL, EBORD, PMBR, PMRE, PMSRY, SIEGS	mid 16th century
67	Tr 6	4	M	38	32	482	1480	1550	ARCH, CBW, CHEA, EBORD, KING, LLON, LMHG, LOND, MCS, MG, PMCR, PMRE, PMSRG, ROUE, SHER, SIEG JAKO, SSW, TUDG	mid 16th century
68	Tr 5	3	S	2	2	10	1240	1350	LOND HD, SHER FINE	1240-1350
70	Tr 5	4	S	6	6	54	1480	1610	CBW, EMFL, LOND, RAER, SHER, SSW	1480-1610
72	Tr 6	3	S	14	12	232	1270	1350	LCOAR, LCOAR GRIT, LOND, LOND HD, MG, SHER, SSW	1270-1350
75	Tr 5	2	S	1	1	13	1080	1200	LCOAR	mid-late 12th century
83	Tr 6	2	S	3	3	99	1080	1200	EMCALC, EMIS, LCOAR	1080-1150
85	Tr 5	4	S	19	10	404	1480	1550	CITG, DUTR, EBORD, PMBR, PMRE	1480-1550

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
89	Tr 5	5	S	1	1	131	1480	1600	PMRE	1480-1600
91	Tr 5	4	S	13	11	318	1480	1550	EBORD, KING, LCOAR, LOND, PMRE, PMSRY, RAER	1480-1550
92	Tr 5	4	S	2	2	14	1240	1400	KING, MWCR	1240-1400
93	Tr 5	3	S	2	2	48	1170	1350	MISC, SHER	1170-1350
97	Tr 5	2	S	1	1	1	1050	1150	EMGR	1050-1150
105	Tr 7	4	S	1	1	2	900	1500	MISC	1250-1500
113	Tr 7	4	S	1	1	14	1580	1650	PMSRY	1480-1650
116	Tr 7	3	M	51	45	1369	1480	1550	CBW, CHEA, CSTN, EBORD, EMSS, GERW, LOND, MG, MISC, PMRE, PMSRG, PMSRY, RAER, SHER, TUDG	1480-1550
117	Tr 7	5	S	10	8	38	1480	1550	CBW, CSTN, EBORD, EMSS, PMRE, PMSRY, RAER	1480-1550
119	Tr 7	5	S	22	22	414	1500	1550	CITG, CSTN, DUTSL, EBORD, EBORDY, EMS, KOLFREC, PMRE, PMSRG, PMSRY	1500-1550
121	Tr 7	5	S	5	5	38	1550	1700	BORDY, CSTN, KING, PMRE, PMSRG	1550-1600
123	Tr 7	4	S	4	4	79	1550	1580	CBW, KING HD, KOLFREC, PMSRG	1550-1580
127	Tr 7	4	S	1	1	27	1080	1350	LOND	1170-1350
152	B3	3	S	4	4	135	1080	1200	ESHER, LCOAR, LCOAR SHEL	1080-1200
154	B3	3	S	2	2	14	1000	1150	EMSS	1000-1150
164	B2	3	S	1	1	25	1080	1200	LCOAR	1080-1200
165	Tr 6 ex	5	S	12	11	182	1550	1700	BORDG, CSTN, DUTSD, FREC, LLON, PMBR, PMRE, TGW MISC	1550-1580
167	Tr 6 ex	5	S	9	9	110	1480	1550	CBW, CSTN, DUTR, EBORD, PMRE	1480-1550
168	Tr 6 ex	5	S	9	9	74	1350	1500	CBW, CHEA, DUTR, EMSH, LCOAR, LOND, TUDG	1350-1500
169	Tr 6 ex	3	M	35	30	190	1340	1500	CBW, CBW FT, DUTR, KING, LLON,	1340-1500

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
171	Tr 6 ex	4	S	5	5	219	1550	1700	LOND, LOND HD, MG BORDG, EMSS, LCOAR, LCOAR GRIT, PMRE	1550-1600
172	Tr 6 ex	3	S	15	12	411	1080	1200	EMSH, EMSS, ESUR, LCOAR, LCOAR GRIT, LOND, LSS	mid 12th century
173	Tr 6 ex	5	S	2	2	6	1480	1550	EBORD	1480-1550
174	Tr 6 ex	5	S	13	12	92	1240	1350	EMCALC, KING, KING HD, LCOAR, LOND, LOND HD, SHER	1240-1350
175	Tr 6 ex	5	S	6	6	271	1480	1600	CSTN, DUTR, PMRE, PMSRY, RAER	1480-1550
176	Tr 6 ex	4	S	17	14	116	1480	1600	CBW, CHEA, DUTR, EMS, KING, LLON, PMRE, SIEG	1480-1500
177	Tr 6 ex	4	S	2	2	12	1170	1350	LOND, SHER	1170-1350
178	Tr 6 ex	4	S	3	3	28	1170	1350	LOND, SHER	1170-1350
179	Tr 6 ex	3	S	2	2	28	1140	1220	LCOAR, SSW	1140-1200
181	Tr 5 ex	6	S	7	7	119	1480	1600	DUTR, PMCR, PMRE, PMSRY	1480-1600
182	Tr 5 ex	6	S	1	1	4	970	1100	EMS	970-1100
184	Tr 5 ex	6	S	23	23	383	1500	1700	CBW, EBORD, KING, LLON, MLTG, PMRE, PMSRY, RAER	mid 16th century
185	Tr 5 ex	6	S	10	9	165	1480	1600	CHEA, LCOAR, PMRE, PMSRY, RAER	mid 16th century
186	Tr 5 ex	6	M	31	31	403	1480	1550	CBW, CBW FT, CHEA, CSTN, DUTR, EBORD, KING, LLON, LOGR, LOND, MG, PMRE, PMSL, PMSRY, SHER, WEAL	1480-1550
187	Tr 5 ex	6	S	12	12	152	1480	1550	CHEA, DUTR, DUTSL, EBORD, PMRE, SIEGS	1500-1550
188	Tr 5 ex	6	S	3	3	35	1480	1500	LLON, LOND, PMRE	1480-1500
190	Tr 5 ex	6	S	5	5	27	1480	1600	LLON, LOND, MG, PMRE, PMSRY	1480-1600
191	Tr 5 ex	6	S	12	12	159	1480	1600	DUTR, DUTSL, EMCALC, LCOAR, LOND, LOND HD, PMBR, RHGR, SHER,	1480-1600

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Potter types	Spot date
									SSW	
193	Tr 5 ex	3	S	1	1	29	1080	1200	LCOAR	1080-1200
194	Tr 5 ex	3	S	2	2	26	1080	1200	LCOAR, LOGR	1080-1170
196	B5	5	S	1	1	25	1080	1200	LCOAR	1080-1200
201	B4	3	S	1	1	13	970	1100	EMS	970-1100
202	B5	5	S	4	4	44	1480	1550	PMRE, PMSRY, RAER	1480-1550
204	B6	3	S	2	2	27	1170	1200	LCOAR, SHER	1170-1200
212	B5	3	S	2	2	40	1080	1350	ESUR, LOND	1080-1350
219	B6	4	S	1	1	26	1080	1200	LCOAR	1080-1200
223	B5	3	S	3	3	49	1050	1170	ESUR, LOGR	1050-1150
229	B4	3	S	1	1	12	1050	1170	LOGR	1050-1170

Table 3: DOR13: Distribution of pottery types showing individual contexts containing pottery, what trench and phase the context occurs in, the number of sherds (SC), ENV and weight (Wt g), the date range of the latest pottery type (Context ED/LD), the pottery types present and a suggested deposition (spot) date.

Phase 2: Medieval features and deposits

A small quantity of pottery was recovered from this phase and recorded as 8 sherds/8 ENV/144g and derived from four contexts: [47], [75], [83] and [97]. The pottery is in a fragmentary condition. The main origin of the pottery is as local glazed wares (four sherds/4 ENV/72g) in the form of coarse London-type ware (LCOAR/GRIT) in the form of jars and a jug and a London-type ware baluster jug. There is a small quantity of early medieval wares (three sherds/3 ENV/61g) as EMGR and EMCALC, besides a jar rim in EMIS. Additionally there is a single sherd of wheel-thrown coarse ware recorded as SHER.

Phase 3: Medieval reclamation and levelling

Compared to the previous phase, there is an increase in the quantity of pottery with 149 sherds/133 ENV/2.788kg of material recorded in Phase 3 and found in 23 contexts: [13], [18], [19], [27], [28], [56], [68], [72], [93], [116], [152], [154], [164], [169], [172], [179], [193], [194], [201], [204], [212], [223] and [229]. The main origin of the pottery in this phase were the local London glazed wares (35 sherds/30 ENV/586g) with similar quantities of LCOAR (in the form of jars and jugs) and LOND/HD (present as jugs). A small quantity of LCOAR GRIT occurs and a jug neck made in LCOAR SHEL was present in context [152]. A similar quantity of Surrey whitewares (34 sherds/30 ENV/208g) are recorded as the London area industries. These whitewares occur mostly as coarse Surrey-Hampshire border ware (CBW) jug sherds and a 1340-1500 dated flat-rimmed cooking pot (CBW FT: dump [169]). There are also present small quantities of jug sherds present in CHEA, KING and TUDG. Early medieval wares are also more frequent in this phase (23 sherds/23 ENV/412g) compared to the previous one, although they were mostly recovered from medieval dump layers and are residual. From the same type of deposits were also excavated the medieval wheel-thrown coarse wares (11 sherds/10

ENV/177g) found in the form of jars and cooking pots and mainly made in SHER, except for three sherds of SSW.

Post-medieval wares are also fairly well represented in this phase and the local coarse redwares are noted as 21 sherds/20 ENV/1.023kg. These occur as mostly PMRE and a small quantity of the slipwares (PMSRG/Y) and present in the form of mostly bowls or dishes, besides a jug. Imported pottery is also present in this phase and includes a sherd of medieval Dutch redware (context [169]), while other imports were all found in context [116] and found as Raeren stoneware drinking jugs and in uncommonly found German whiteware in the form of a skillet and tripod pipkin. Six or less sherds occur each as early border ware (drinking jugs), Cistercian ware as cups and miscellaneous redwares.

Phase 4: the preparation for Bridewell - late medieval landscaping

More pottery was found in this phase (329 sherds/265 ENV/6.254kg) compared to the previous one. The pottery was recovered from 24 contexts: [2], [31], [32], [35], [40], [41], [43], [49], [50], [51], [62], [67], [70], [85], [91], [92], [105], [113], [123], [127], [171], [176], [177], [178] and [219]. These deposits mostly consisted of dump layers. The main origin of the pottery was as London coarse post-medieval redwares 114/sherds/75 ENV/3.320kg and mostly as PMRE, followed by the bichrome ware (PMBR), slipware PMSRY and smaller quantities of PMSL, PMSRG and PMREC. The Surrey whitewares account for the second largest quantity of pottery (62 sherds/59 ENV/589g) and were found mostly as CBW, followed by Kingston ware (residual), Cheam ware and 'Tudor Green' ware, while residual medieval London-type wares are also recorded as a notable quantity (53 sherds/47 ENV/589g). Imported pottery occurred as 30 sherds/22 ENV/812g and mostly consisted of Raeren stoneware with smaller quantities of Spanish micaceous ware, Dutch redware, Siegberg stoneware, Central Italian tin-glazed ware and residual sherds of archaic maiolica and Early Rouen ware. Of note is part of an Aachen stoneware piper jug recovered from fill [40] of pit [39]. Small, but notable quantities of post-medieval Surrey-Hampshire border wares are noted as are its counterpart Cistercian (red) ware, which occur mostly as sherds from drinking forms. The complete profile of a CSTN rounded cup with contrasting white clay disc decoration was found in dump layer [32]. Single sherds of crucibles were noted in dump layers [43] and [67].

Phase 5: the late medieval Palace of Bridewell

From this phase was recovered 371 sherds/262 ENV/9.994kg of pottery and this was found in 25 contexts: [5], [22], [33], [38], [45], [46], [57], [59], [60], [61], [63], [65], [66], [89], [117], [119], [121], [165], [167], [168], [173], [174], [175], [196] and [202]. These deposits largely consisted of dump layers, although fills are also noted from bedding trenches, cuts and pits ([122], [166] and [174]) besides garden soil [61]. The main origin of the pottery continued in this phase to be the post-medieval coarse red earthenwares (197 sherds/123 ENV/7.398kg) with PMRE, PMSRY, PMBR, PMSRG, PMSL and PMREC present in that order of frequency. In these pottery types the forms of bowls, cauldrons and jugs are well represented. The Surrey-Hampshire border wares provide the second

largest quantity of pottery by origin (44 sherds/32 ENV/856g) and as the early wares they occur mostly as EBORD drinking jug sherds, although of note is a tripod pipkin (context [119]) and parts of a stove tile (contexts [57] and [61]) recorded in the clear glazed ware (EBORDY). The later, post 1550 whitewares are present as tripod pipkins in BORDG/O and Y. Imported wares are also in a notable quantity in this period and found as 42 sherds/35 ENV/1.002kg. These occur as mostly German stonewares and as drinking forms particularly in Raeren stoneware, although other wares are from Frechen and Siegburg. In German whiteware a tripod pipkin is noted and found in the garden soil [61]. Dutch redwares occur notably as an oval dish, while fragments of a green-glazed slipware porringer were noted from contexts [65] and [66]. French wares include two fragments of Martincamp flasks (MART/1) recovered from garden soil [61]. There are also four sherds of prestigious Central Italian tin-glazed ware in the form of rounded jugs and a vase recovered from contexts [33] and [119].

The non-local wares occur as 39 sherds/27 ENV/370g and these were found as mostly Cistercian ware drinking cups of rounded and necked types and recovered from a number of deposits. There are also a few sherds of Kentish Wealden wares in the form of a jug and jar found in contexts [57] and [65] respectively. Other contemporary pottery includes two sherds of Essex made Post-medieval fine redware (PMFR) found in context [59]. The residual medieval pottery (48 sherds/44 ENV/358g) occurs as mostly Surrey whitewares and London glazed wares are the main types, while intrusive sherds include a sherd of tin-glazed ware (TGW C) (context [57] and a sherd of 19th-century refined whiteware (REFW), context [61].

Phase 6: Post-medieval

A smaller quantity of pottery was noted in this phase and recorded as 107 sherds/106 ENV/1.623kg compared to the previous one. In Phase 6, pottery was recovered from ten contexts: [42], [181], [182], [184], [185], [186], [187], [188], [190] and [191]: these consisted of dump layers and the fills of pits [189] and [192]. The majority of the pottery consisted of the local redwares 48 sherds/47 ENV/833g and this were found mostly as PMRE and in the form of mainly cauldrons, besides PMSRY in the shape of bowls or dishes. Imported wares are mostly found as Dutch redwares (DUTR and DUTSL) and present as 8 sherds/8 ENV/135g) although the material is fragmentary with only single bowls or dishes present in both pottery types. There are smaller quantities of Raeren and salt-glazed Siegburg stoneware, while a fragment of Italian Montelupo tin-glazed ware (MLTG) is decorated possibly in the bleu robbiano style, and dated to the second half of the 15th century and noted in fill [184] of pit[189]. A sherd of residual medieval Rhenish greyware is also of note (fill [191] from pit [192]). Imported wares accounted for 16 sherds/16 ENV/292g. Other post-medieval pottery present in this phase include a small quantity of Early Border ware as six sherds/6 ENV/34g recovered from fills [184], [186] and [187] of pit [189] in the form of a drinking jug and a cup and single sherd of non-local Cistercian ware, while Wealden ware was found in fill [186]. A sherd of a post-medieval crucible (PMCR) was noted in layer [181]. The rest of the pottery in this phase consisted of residual medieval sherds, found as 38 sherds/38 ENV/496g, of which Surrey whitewares were most frequent as twelve sherds.

Significance of the collection

The pottery has significance at a local level. The stratified assemblage reflects activity on the site probably from the late 12th century onwards. The pottery is in keeping with the ceramic profile for the London area. The range of imports is quite diverse for both the medieval and early post-medieval period and reflects the site's location on or close to earlier Thames river fronts. There are a small number of crucibles recorded, although they may be associated with industrial activity from offsite sources and therefore not relevant to the site.

Medieval

The medieval pottery types recovered from the excavation are is as types expected for the London area. Much of the pottery from this period probably represents dumping of material behind river front walls. This assemblage is similar to that recovered from the nearby site of Whitefriars, which produced large quantities of pottery and a sequence associated with late medieval Thames riverfront wall constructions (Jarrett 2002). Of particular interest is the small quantity of imported pottery recovered from Phase 4, which includes sherds of jugs in archaic maiolica and Rouen ware, although both sherds are residual.

Post-medieval

The early post-medieval pottery reflects both activity predating the building of Bridewell Palace in *c.*1515, namely Phase 4, the palace's construction (Phase 5) and its subsequent use (Phase 6). All of these phases produced a notable range of imported pottery and conform to a model of conspicuous consumption and the influence of the Renaissance on high status material culture in North West Europe (Gaimster 1999). Therefore the pottery indicates that it was derived from earlier high status households predating Bridewell Palace as well as that structure. A small number of deposits are present that date to the period the Palace changed its function and become a reception centre for vagrants and a prison for the punishment of petty offenders. This event happened during the reign of Edward VI. These deposits contain pottery with far less imported wares than those associated with the palace or earlier.

The material culture of London's post-medieval royal palaces is poorly understood (Nixon *et al.* 2002, 69-70, 81). Indeed, a previous publication on Bridewell Palace only included a summary of the finds and the pottery dating to the 16th century very briefly reported upon the presence of sherds of Raeren and Cologne stoneware and part of a Saintonge chafing dish reported from that excavation (Vince 1981, 74). Therefore, the assemblage from DOR13 greatly improves upon an understanding of the use of ceramics in Bridewell Palace and the period that predates it. Other comparable assemblages in the vicinity are from Whitehall and Whitefriars (Stephenson and Pearce 2006; Jarrett 2002).

Potential

The pottery has the potential to date the features in which it was found and to provide a sequence for them. Some of the pottery merits illustration.

Medieval

The medieval pottery is largely fragmentary and except for a small quantity of early medieval forms, such as an LCOAR GRIT jar rim and notable imported sherds, such as that of the archaic maiolica, it has little potential for further study. However, chemical analysis of the sherd of archaic maiolica by ICP-AES may provide a better understanding of what country the DOR13 sherd came from. Possible sources for the sherd are Southern France, Spain and Italy as well as other locations in the Mediterranean.

Post-medieval

The post-medieval pottery has the potential to demonstrate how ceramics were used in Bridewell Palace and the households pre-dating its building in 1515 and completion in 1523. For the 16th century the pottery demonstrates a wide range of functions for use in different parts of the Palace, such as the kitchens and other higher status areas of the palace. The imported pottery, as well as English fine earthenwares and the stove tile demonstrate that the material culture associated with the Renaissance period in North West Europe was in place at the palace and its environs.

Research questions

A small number of questions are suggested as avenues of further research for the pottery:

Can the sherd of archaic maiolica through ICP-AES analysis determine which country it was derived from?

What proportion of the post-medieval assemblage can be ascribed to activity associated with Bridewell Palace?

Recommendations for further work

The assemblage from this excavation should be published and eighteen pottery illustrations are required to supplement the text. The medieval pottery requires a brief summary, and further research into the sherd of archaic maiolica should be undertaken to determine the production centre where it was manufactured. The report should concentrate on the post-medieval ceramics and determine which groups of material date to before Bridewell Palace, were derived from the Palace itself and its subsequent use as a 'poor house' and prison.

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APPENDIX 4: GLASS ASSESSMENT

By Chris Jarrett

Introduction

A small sized assemblage of glass was recovered from the site (one box). The glass dates almost entirely to the post-medieval period. The fragments show no evidence for abrasion, except for the presence of naturally weathered items. At least two fragments of glass are intrusive. The assemblage is in a fragmentary state and consists mostly of window glass. The glass was quantified by the number of fragments and was recovered from eight contexts and individual deposits produced small (fewer than 30 fragments) groups.

All of the glass (23 fragments, of which none are unstratified) was recorded in an ACCESS database, by type colour and form. The assemblage is discussed by the vessel shapes, *etc*. and its distribution and this consists of broadly dated post-medieval and late 19th-early 20th-century dated material. One sherd of window glass may be medieval or early post-medieval in date according to its condition. While a fragment of a blue glass handle may represent a late 15th- or 16th-century import.

The forms

All of the forms are dated to the post-medieval period and are mainly discussed according to their functions and by the number of fragments. A breakdown of the basic shapes is as follows:

Vessel glass: 1 fragment
Window glass: 23 fragments

Vessel glass

Dark blue, iridescent glass consisting of a rod handle, oval in section and measuring 7mm by 5mm, post-medieval. Context [188].

Window glass

Clear soda glass, mechanically drawn, late 19th-20th century, one fragment. Context [42].
Clear soda glass, mechanically drawn/moulded with a floral pattern, 20th century, two fragments, Context [42].
Clear, natural glass, cylinder made, heavily weathered surfaces, post-medieval, one fragment. Context [46].
Clear natural glass with a pale yellow tint, cylinder made, thin walled with a crystalline core and black, weathered surfaces, four fragments, medieval/early post-medieval. Context [59].
Clear soda glass, mechanically drawn, very thick walled (7mm thick), late 19th-20th century, two fragments. Context [59].
Window quarry. Clear natural glass with a pale green tint, cylinder made, one fragment, post-medieval. Triangular fragment with one rounded side and another ‘nibbled’ edge: 42mm x 41mm x 1.5mm thick. Context [61].

Clear natural glass with a pale yellow tint, cylinder made, one fragment, post-medieval. The item has a rounded, slightly 'nibbled' edge. Context [61].
Clear natural glass, cylinder made, one fragment, thin walled with weathered surfaces, post-medieval. Context [185].
Clear natural glass, two very small thin walled fragments, post-medieval. Context [186].
Clear natural glass with a pale green tint, one fragment, post-medieval. Context [186].
Natural glass, cylinder made, post-medieval, one fragment, post-medieval. Context [188].
Clear soda glass, mechanically drawn, one fragment, 3mm thick, very slightly weathered, late 19th-20th century. Context [190].
Clear soda glass, mechanically drawn with a fine corrugated moulded surface, one fragment, 4mm thick, 20th century. Context [190].

Distribution

The glass was recovered from Phases 5 and 6. Its distribution is shown in Table 1.

Context	Trench	Phase	No. of fragments	Size	Forms	Spot date
42	Tr 5	6	3	S	Window glass	20th century
46	Tr 6	5	1	S	Window glass	Post-medieval
59	Tr 6	5	6	S	Window glass	Post-medieval
61	Tr 6	5	2	S	Window glass and a quarry	Post-medieval
185	Tr 5	6	1	S	Window glass	Post-medieval
186	Tr 5	6	3	S	Window glass	Post-medieval
188	Tr 5	6	3	S	Vessel glass	Post-medieval
190	Tr 5	6	4	S	Window glass	20th century

Table 1: DOR13: distribution of the glass showing each context it occurred in, the phase and quantification by number of fragments, assemblage size, the forms present and a considered deposition date is shown.

Phase 5

Nine fragments of glass were recovered from three contexts ([46], [59] and [61]) in this phase. All of the material consists of window glass fragments dated generally to the post-medieval period. Of note are four fragment of window glass possibly of a medieval/early post-medieval date and recovered from context [59] while a post-medieval window quarry was noted in context [61].

Phase 6

Fourteen fragments of glass were recovered from five contexts ([42], [185], [186], [188] and [190]). Each of these contexts produced window glass (except for context [188]), broadly dated to the post-medieval period, except for contexts [42] and [190] which had recorded intrusive machine made window glass dated to the late 19th century and 20th century. Additionally from context [188] is recorded the fragment of vessel glass consisting of a handle made in blue glass. This occurs with

pottery dated *c.*1480-1500 and may represent a Venetian import, or possibly a later 16th century German import.

Significance, potential and recommendations for further work

The glass has little significance at a local level. The assemblage is rather disappointing considering the location of the archaeological excavation on the site of the former Bridewell Palace with deposits dating to the 16th century present. The assemblage consists almost entirely of window glass except for the blue glass handle of a vessel which may indicate a luxury item made in Venice or Germany and possibly used in the Palace. The main potential of the glass is to date the contexts it was recovered from. There are few recommendations for further work, except that some research should be undertaken on the blue glass handle. Otherwise information from this report should be used for a publication text on the excavation.

APPENDIX 5: BUILDING MATERIALS ASSESSMENT

By Kevin Hayward

Introduction and Aims

Eight crates of ceramic building material, mortar and stone were retained from the excavations at Dorset Rise. This large sized assemblage (1554 examples 196.4kg) was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman, medieval, post-medieval ceramic building material recovered from DOR13.
- Identify the fabric and form of whole bricks and mortar used in the post-medieval structures from DOR13 especially relating any of these to the outer courtyards of Bridewell Palace.
- Identify the fabric of the unworked and worked stone in order to determine what the material was made of and from where it was coming from.
- Made recommendations for further study.

Methodology

A site visit conducted on 25th April 2013 was undertaken to examine the date and form of the Tudor brick and mortar foundation [30] at Bridewell Palace. Two whole brick samples were taken from each structure in accordance with the Pre-Construct Archaeology Ltd building material sampling guidelines.

The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10).

Ceramic Building Material

1,482 examples 179.3kg

Roman (excluding daub and opus signinum) 148 examples 16.5kg

Condition and distribution

Only a handful of contexts [53] [69] [73] [102] [151] [199] [203] of this sizeable building material assemblage contain solely Roman ceramic building materials. Most of the Roman material recovered is intermixed with medieval and occasionally early post-medieval peg tile from the numerous consolidation dumps that pre-date the construction of Bridewell Palace. Some contexts such as the Phase 3 medieval reclamation chalk floor [20] and associated deposits [21] contain appreciable amounts of tile.

That their condition is largely fragmentary is shown by a scarcity of tegulae (see below) with a definable flange profile as well as the preponderance of pieces of flat tile and brick. High-status bath-house materials (e.g. water pipe; box flue tile; tegulae mammata; tesserae) are entirely absent. In summary, this is a largely unremarkable broken-up assemblage, probably salvaged from dumps from the nearby Roman provincial capital, to the east of the Fleet for medieval land reclamation

Fabric review

The usual groups of Roman tile and brick fabrics for London are represented (Table 1). As expected the common first century to early second century red sandy group 2815 dominates (85% by weight) with small quantities of other early fabric groups. Later Roman fabrics are poorly represented (0.3%).

MoL fabric group Name	Quantity	Codes	Description
Early London sandy fabric group 2815 (AD 50-160)	121 examples 13.8kg	2452; 2459a; 3004; 3006	Fine and coarse local sandy fabric coarse moulding sand
Eccles fabric group (AD50-80)	6 examples 0.5kg	2454; 3022	Fine cream-yellow-pink sandy fabric with occasional rose quartz
Radlett group (AD 50-120)	8 examples 0.5kg	3023; 3060	Black and red iron oxide clay pellets
Red Silty Group (AD50-200)	1 example <0.1kg	3500	Very fine red silt cavernous texture
Hartfield (AD100-120)	1 example <0.1kg	3009	Cream Silt lumps set within a fine yellow silty matrix
Hampshire Grog (AD70-140)	4 examples 1kg	3057	Cavernous red sandy texture with red and yellow grog inclusions
Late sandy group	1 example <0.1kg	2459b	Fine red micaceous fabric very fine moulding sand
Late Radlett Group (AD170-230)	1 example <0.1kg	3060b	Red iron oxide with coarse quartz inclusions
Late Calcareous Group (AD140-350)	4 examples 0.3kg	2453; 3013	Pale cream-yellow-grey calcareous fabric with shell and clay inclusions

Table 1: Summary of the main Roman brick and tile fabrics from DOR13, their quantity and use.

Brick 33 examples 7.6kg

All the Roman brick recovered was found to be in a fragmentary condition, none of which identified was recycled into the masonry foundations and drainage of Bridewell Palace. The fairly rare Hampshire Grog fabric 3057 (AD 70-140) is well represented in bricks from medieval reclamation layers [41] [72] [83] and [205]. Just one signatory mark a double circle was identified in the largest brick a 1.9kg chunk made from a reclamation layer [223].

Tegulae 9 examples 1.2kg

The small number of tegulae identified (7%) contain examples of the early undercut flange profile 7 made from the early sandy fabric in a medieval reclamation deposit [69] and the cream Eccles fabric

3022 from a Phase 2 ditch fill [97] the fabric with which it is more commonly associated (Hayward 2012a). The common early profiles 1 and 2 also have examples in the 2815 fabric from reclamation levels [21] [155] [219]. Part of a tegulae from [62] had a nail hole.

Imbrex 17 examples 1.7kg

Curved imbrex including an example with a nail hole from a Phase 3 reclamation level [18] are fairly common (10%). It is possible that these curved elements were recycled from an earlier Roman dump in the City where the flat straight sided brick had been salvaged as building rubble.

Undiagnostic tile 89 examples 6.1kg

Perhaps not surprisingly broken up tile is very common, forming upwards of 35% of the total.

Medieval 846 examples 59.6kg

Roofing Tile 837 examples 58.4kg

Very large quantities of medieval roofing tile defined by fabric type, form, glaze and the presence of coarse moulding sand attest to dumping episodes to reclaim, level and consolidate the land beneath Bridewell Palace. Furthermore, many of the tiles can be assigned an earlier medieval (12th to 13th century) date on the basis of fabric and form, indicating derivation from the demolition of building(s) of this date.

Flange Tile 5 examples 0.5kg

2273 (1135-1220)

The earliest form of roofing tile in medieval London is the rare upturned or flanged “Roman-style” group. Glazed examples are represented at Dorset Rise in the coarse sandy fabric *2273* (1135-1220) from [83] [127] [170] [191]. The example from [83] is typical of the crude manufacture of these tiles; the flange profile is finger pressed and uneven. This example also had a possible nail hole.

Bat Tile/Curved Tile 48 examples 5.1kg

2272; 2273 (1135-1220) 47 examples 5kg *2271* (1180-1450) 1 example 0.1kg

Another early group are very well represented. These are the very robust (19-26mm) black glazed bat or shoulder tile, again dominated by the 12th-century coarse sandy *2273* but also shelly *2272* groups. Some of the tile described as curved may in fact also belong to this group. These can be made from both the coarse sandy *2273* and slightly later finer sandier *2271* group [184]. Accumulations of these early forms were identified along with early peg tile fabrics from [72] [164] [170] [186].

Ridge Tile

2273 1 example 0.2kg

One of the tiles from [83] is of a thickness (23mm) and tapering form typical of a decorative ridge tile, embellishing the apex of a 12th-century roof. Unlike smaller medieval towns in south-central England e.g. Oxford (Hayward in prep.), the use of ridge tiles is a rare phenomenon.

Peg tile 783 examples 52.6kg

Coarse early sandy and shelly fabrics *2272; 2273; 2271nr2272* (1135-1220) 37 examples 3.5kg

Fine sandy fabrics *2271;* (1180-1500); *2816* (1200-1500) 590 examples 41kg

Iron Oxide fabrics *2586* (1180-1500); *2587* (1240-1450) 120 examples 7.5kg

Local Organic fabric *2274* (1080-1350) 41 examples 2.2kg

Wealden silty fabrics *3205* (1200-1500) 2 examples <0.1kg

Overlapping, flat rectangular peg tiles attached to roofing by two nails (as represented by two nail holes) form numerically the most common medieval roofing form. A great range of fabrics (10) have been identified suggesting derivation from many different buildings. Many are thin, have coarse-moulding sand, glazed or have a fabric that is typical of medieval roofing tile from as early as 1080 (fabric *2274*). Indeed *2274* and other early fabrics, 12th-century *2272*; 2273 fabrics constitute 5.7kg (over 10%) of the entire peg tile assemblage, e.g. [72]. These proportions far exceed what would normally be expected from a medieval peg tile assemblage and point to (like the flange and bat tile) derivation from a substantial, probable 12th-13th-century bankside structure.

The dominant fabrics are the finer sandy groups, consisting of the thin-reduced core *2271* and slightly later coarser busier *2816* (75%), with iron oxide fabrics (15%) also frequent. It is possible that at least some of the thicker, unglazed *2816* and *2271* could relate to early post-medieval roofing from Bridewell Palace. Significant accumulations are represented in [41] 3.7kg, [72] 2.5kg, [169] 1.5kg, [184] 5kg, [186] 9kg, [191] 1.5kg and [204] 1.5kg. Occasional yellow Wealden tile would have been manufactured from estuarine clays in Kent.

Medieval brick 1 example 0.1kg

3031nr3042 (1350-1450)

A shallow (40mm) late medieval brick fragment with sunken margins was recovered from [35]. The fabric a pale cream fine texture with distinct pinkish-red lumps are typical of the bricks imported into the Essex region from the Low Countries (Ryan 1996)

Floor Tile 7 examples 1kg

Only a small group of medieval plain and decorated floor tiles were recovered from dumped deposits. Despite the small number a complete repertoire of 12th to 15th-century floor tile fabrics were identified.

Early Sandy Floor Tile *2273* (1135-1220) 2 examples <0.1kg

A rare 12th-century brown-glazed floor tile, in the coarse sandy fabric *2273* with a bevelled edge was recovered from [116] and [119]. Given the high quantity of early dumped medieval thick bat tile and peg tile recovered from the site it was inevitable that some floor tile from this period would be recovered.

Westminster Floor Tile *3081* (1225-1275) 1 example 0.1kg

A splash glazed fragment made from the fine sandy fabric *3081* was recovered from [63]. This fabric is typical of a 13th-century Westminster Floor Tile.

Penn tiles (*1810*; *2324*) 1330-1390 Penn, Buckinghamshire

2 examples 0.3kg

Fragments of plain glazed 14th-century Penn floor tile were present from [28] and [62].

Calcareous Flemish Import (1300-1550) 2 examples 0.3kg

1697; 2504

Imported 14th to 15th-century plain-glazed Flemish floor tile is represented by fragments from [66] and [186]. Including an example of the rarer maroon *2504* fabric.

Local floor tile *2320* (1300-1500)

Finally, also from [186] is a locally produced sandy glazed late medieval floor tile fragment.

Transitional-Tudor 453 examples 98.7kg

As expected there was a large quantity of transitional-Tudor early red brick, floor tile and peg tile. The site lies within Bridewell Palace constructed between 1515 and 1523. Red brick foundation walls [30] and sunken brick structures [86] account for the large quantity of wide, shallow Tudor Brick.

Late Medieval- Tudor Brick 136 examples 75kg

Nearly all of the late medieval to early post-medieval bricks were bonded in a loose brown sandy mortar (T1) (See Table 3) This mortar is associated with all the structures on the site, which would suggest that they were all of one contemporary build relating to Bridewell Palace.

3030 [1400-1660] 21 examples 5kg

Loose earthy brown late medieval to early post-medieval bricks are bonded with the same T1 mortar as used in the Tudor Reds which would suggest that some of the structures relating to Bridewell Palace used these brick fabrics as well.

3033; 3039; 3046; 3065 [1450-1700]

Four different sandy red brick fabrics were identified; the fine sandy *3033* associated with most of the Tudor structures uncovered; the mottled sandy *3039*; the very sandy red *3046* and fabric *3065* which contains burnt flint. All were manufactured for city use from local London brick clay between 1450 and 1700. The main red brick structures are summarised below (Table 2).

Context	Structure	Fabric	Form	Size	Spot date	Spot date with mortar
16	Drainage (recorded on site only)	3033; 3101	Early post-medieval brick shallow wide T1 mortar	1	1450-1700	1450-1700
22	Brick floor or infill	3033; 3101	Early post-medieval brick shallow wide T1 mortar	2	1450-1700	1450-1700
24	Brick lining	3046	Early post-medieval burnt and unburnt red brick	3	1450-1700	No mortar
30	Arched brick foundation and base of standing wall	3033; 3101	Whole early post-medieval thin brick Type1 mortar as [86] one burnt.	4	1450-1700	1450-1700
86	Sunken brick structure	3033; 3101	Shallow wide Tudor brick T1 mortar as [30]	2	1450-1700	1450-1700
104	Wall foundations identical to [30] that lay to south	3046; 3101	Early post-medieval brick T1 mortar	4	1450-1700	1450-1700
118	Fragment of small N-S aligned wall	3033; 3101	Early post-medieval brick and T1 mortar	1	1450-1700	1450-1700
120	Fragment of small N-S aligned wall	3033; 3101	Early post-medieval brick and T1 mortar	1	1450-1700	1450-1700
124	Fragment of floor associated with walls [118] [120]	3033	Early post-medieval brick fragment	1	1450-1700	No mortar
209	Foundation remnant	3033	Tudor brick	3	1450-1700	No mortar

Table 2: Listing of the Brick Structures from DOR13 from where whole brick and mortar were retained

In detail, the main structure to contain these red bricks is an asymmetrical tightly arched brick foundation from [30], examined during the site visit on the 25th April 2013. It dips 25 degrees to the south and 15-20 degrees to the north, consisting of 25 vertically included courses of brick. The courses were too ill defined to identify bonding type but there is some resemblance to English or English Cross, which was the main bonding type for the Tudor period and seen in other tightly, arched brick foundations from previous excavations (Gadd & Thompson 1979, 259). The bricks are all of the same size, poorly-made, crinkly red *3033* bricks 225mm long x 104mm wide and x 51mm depth with stack edge marks from kiln stacking similar in size to other bricks seen previously (Gadd & Thompson 1979, 259). As these bricks were hidden from view quality of brick type was not important. Other tightly arched brick foundations belonging to Bridewell Palace were also seen during the 1978 excavations (Gadd & Thompson 1979, 259, fig. 7) built in response to the unstable nature of the underlying river silts. All these brick structures belong to a courtyard not previously identified until now.

Peg tile 304 examples 22.9kg

2276 (1480-1900)

Peg tiles belonging to the very common sandy red fabric 2276, dominate the post-medieval roofing tile assemblage. The same T1 brown mortar as the red brick is often associated with large accumulations especially from Phase 4 palace construction debris [59] [61] [63] [65] [66] suggesting these tiles were used in the roofing of the palace.

Floor Tile 6 examples 0.6kg

Glazed "Flemish" silty Floor tiles

2850; 3063E (1450-1600) 3 examples 0.4kg

The tradition for using large plain glazed Flemish floor tile with a silty fabric was restricted to the latter half of the 15th century through into the 16th century. These were recovered from [41] [61] [184] and may relate to dumped flooring from Bridewell Palace.

Early Tin-Glazed Floor Tile

Antwerp (Rouen??) Floor Tile 2 examples [116]; [191] 1525-1560 2 examples <0.1kg

Cuenca Floor Tile *3238* 1 example [116] 1510-1530 1 example <0.1kg

Examples of the earliest types of tin-glazed floor tile to be used in London the Cuenca polychrome relief tile (1510-1530) *3238* manufactured from Valencia (Betts & Weinstein 2010) and the slightly later polychrome Low Countries from Antwerp (or Rouen) (Betts & Weinstein 2010) turn up from [116] and

[191]. These are extremely rare imports to London and the highly decorative schemes would have been used to adorn the flooring of a highly prestigious building perhaps Bridewell Palace.

Early post-medieval wall plaster

3100 6 examples <0.1kg

Fragments of white wall plaster from the fill of an early post-medieval pit [121] may represent surviving plaster decoration from Bridewell Palace.

Late Post-medieval 4 examples 0.3kg

Very brief comment needs to be made on the later, much smaller 18th to 20th-century assemblage. Modern structural impact removed any trace of 18th- and 19th-century activity, whilst the area under investigation was essentially an 18th- and 19th-century cemetery belonging to Bridewell prison. A mid 19th to mid 20th-century kiln brick drain pipe from a possible medieval reclamation deposit [42] may represent intrusive Victorian sewer building, whilst 20th-century Tarmacadam from another medieval layer [212] is a sampling error as is the curved roofing pan tile (1630-1850) recorded from medieval layer [176].

Mortar

A summary of mortar types and concrete as well as their period of use from the excavations at DOR13 are given below (Table 3).

Mortar/Concrete Type	Description	Use at DOR13
T1	Soft pale-brown lime mortar numerous chalk inclusions sometimes with wood inclusions [22] Dampness darkens to a deeper brown	Very common, associated with the Tudor build of Bridewell Palace used to bond the shallow, wide Tudor brick fabrics *3033; 3046; 3065.* Used in all the structures from the site including the arched foundation [30] [104] [209], drainage [16], sunken brick feature [86] wall and floor fragments [118] [120] [124] other brick floors and lining [22] [24]. Associated with loose red brick and brown *3030* throughout the site
T2	Very hard light grey mortar with chunks of chalk	Rare limited to use in Tudor/Stuart post-medieval worked stone [59] [61] somewhat similar to mortars used at Somerset House on stone (Hayward in prep b.)
T3	Hard grey clinker/charcoal mortar with fragments of glass and cbm	Rare limited to one fragment of post-medieval peg tile [31] later (18th/19th century post-medieval)
T4	White Lime mortar	Rare post-medieval used on brick and peg tile [183] [184]
T5	Brownish gravel mortar	Rare medieval recipe attached to earlier medieval peg tile 2273 from

Mortar/Concrete Type	Description	Use at DOR13
		[186]
T6	Very hard chalk mortar with chunks of Kentish ragstone and flint	Probably medieval Rare used in rammed chalk layer [162]. Brown Carrstone at base may however suggest it could be Roman
T7	Opus signinum pink hard Roman cement with inclusions of red Roman brick and tile	Residual Roman [117] in a late medieval dump layer

Table 3: List of mortar types identified from the excavation DOR13

The mortar types identified from excavations at DOR13 provide the basis for a simplistic chronological sub-division of all of the structures. Essentially all the structures including the Tudor brick foundation arches and walling use the same light brown lime rich mortar (T1) a recipe often associated with very late medieval early post-medieval ecclesiastical and palatial structures. Roman mortars limited to a singular example of the pink opus signinum mortar. Type 6 a very hard chalk mortar with chunks of Kentish ragstone and flint that forms the rammed chalk layer [162] however, bears some similarity with hard Roman type mortars associated with masonry structures in Southwark (Hayward 2013b) but it is possible that this could be medieval as well. Other mortars (T2-T5) are also rare and are associated with singular examples of dumped tile, brick and stone.

Stone 72 examples 17kg

A review of the main rock types, their geological character, source and probable function/ form are summarised below (Table 4). Subdivision according to function is summarised (Fig. 1). A more detailed consideration as to their origin and use of this small assemblage are reviewed below.

MoL fabric code	Description	Geological Type and source	Quantity	Use at DOR13
3105	Fine hard dark grey sandy limestone	Kent ragstone, Lower Cretaceous, Lower Greensand Maidstone District - Kent	20 examples 7.5kg	Common – Construction Rubble some burnt [18] [26] [28] [35] [43] [72] [89] [111] [121] [123]
3106	Yellow-green glauconitic sandstone	Hassock stone Lower Cretaceous, Lower Greensand Maidstone District - Kent	3 examples 0.8kg	Construction Rubble [26] part worked ashlar [119]
3107	Fine grained low-density glauconitic limestone	Reigate stone - Upper Greensand, Lower Cretaceous Reigate-Mertsham Surrey	3 examples 0.5kg	Present medieval column shaft [111] and rubble [72] [123]
3108	Fine banded light brown calcareous sandstone	Lower Cretaceous (Wealden) Kent	4 examples 0.7kg	Used as roofing slabs [72] and paving [21]
3111	Red/brown Ferruginous sandstone	Probably Lower Cretaceous - Lower Greensand Folkestone beds Weald Kent	1 examples 0.3kg	Used beneath a large rammed chalk mortar layer [162]
3115M	Blue-green hard fissile slate	Cornish Slate - Devonian Cornwall	25 examples 3.1kg	Common roofing material nail holes [18] [19] [26] [28] [72] [83]
3117	Hard dark-grey siliceous	Flint - Upper Cretaceous (Upper	2 examples 0.1kg	Burnt nodule [110]

MoL fabric code	Description	Geological Type and source	Quantity	Use at DOR13
	cryptocrystalline sandstone	Chalk) London Basin		
3119	Fine yellow to orange-yellow limestone Yellow Packstone (Dunham 1962)	Caen stone - Calcaire de Caen, Bathonian, Middle Jurassic , Departement Calvados Normandy	4 examples 0.4kg	Small intricately carved cornice fragments from [59] [72] [116]
3120a	Fine hard greensand	Source undetermined Lower or Upper Greensand Cretaceous southern England	1 examples 0.4kg	Large wide shallow hone from [123]
3120b	Fine hard calcareous greensand with flecks of shell and ooids	Bargate stone	2 examples 0.9kg	Rubble [40] [116]
3120c	Fine hard shelly sandstone	Possibly a Kentish ragstone variant or even Stonesfield Slate	1 example <0.1kg	Roofing [72]
3120d	Burnt carbonaceous shale	Kimmeridge Shale, Upper Jurassic, Dorset	2 examples 0.1kg	Fuel [46] [185]
3122	Hard yellow-grey calcareous mudstone	Septarian Nodule London Clay Thames basin	1 example 0.6kg	Rubble or Natural [43]
3123	Hard, coarse, dark-grey vesicular basalt lava - with white (leucite) and black inclusions.	Neidermendig lavastone Tertiary-Andernach Region, NW Germany	2 examples 1.3kg	Quern fragments [26] [41]
3135	Fine pink granite	Undetermined source possibly Cornwall, Lake District or Scotland	1 example 0.1kg	Rubble fragment [185]
3150	Brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments	Headington stone (Upper Jurassic) Corallian Oxfordshire	1 example 0.4kg	Ashlar fragment [61]

Table 4: Summary of the character, source, quantity and probable function of the main stone types from DOR13

Figure 1: Pie chart illustrating function of stone at Dorset Rise DOR13 (by weight %)

1. stone ashlar for walling; 2. Stone rubble for walling; 3. Roofing; 4. Reused mouldings; 5. Other (quern; whetstone; damp-proof)

Summary

An explanation for the wide array of stone material types encountered (16) from DOR13 can be provided not only by the intermixing and wealth of Roman and medieval building materials in the consolidation dumps but also the draw on resources including the acquisition of high status freestone materials for the embellishment of an early 16th-century Tudor Palace.

It seems likely that at least some of the stone types are Roman. German lavastone quern fragments include a fragment of a very thick (72mm) steeply sloping nether (or upper stone) stone from a Phase 4 medieval dump layer [41] as well as one from a slightly later Phase 5 consolidation layer [26]. These rock types were the most common quernstone material for Roman London, although the possibility exists that these may be dumped Saxon querns (Freshwater 1996) although the main focus of Saxon London, lies further west near Covent Garden. Bargate stone a shelly ragstone material from the Farnham area used in Roman building rubble in Southwark (Hayward in prep. c) has been identified from the medieval pit fill [40] and dump levelling layer [116]. Red carrstone another Roman type material for London was present embedded in a large medieval rammed chalk mortar layer [162]. There are also the large quantities of Kentish ragstone and Hassock (8kg) may have derived from the dismantling of the nearby Roman London City Wall. Finally, there is a large hone made from a hard fine greensand, probably from the Weald in a medieval dump layer [123]. These fine greensands are more commonly used for sharpening stone during the Roman period.

Examples of high quality worked freestone made from yellow Caen stone [59] [72] [116], part of a Headington stone ashlar fragment [61] and Reigate stone column shaft [111] are more likely to be associated with Bridewell Palace. The ornately carved cornice fragments of Caen stone are typical of the Renaissance style and seen in much greater quantity in the slightly later 1540s Somerset House (Hayward in prep. b) whilst examples of the coral rich Headington stone from Oxford were also identified from excavations beneath Somerset House (Hayward in prep. b). Headington stone was used in the embellishment of other Tudor palaces. For example documentary sources identify a freestone from the same outcrop (Wheatley limestone) being used as ashlar in the 1515-1522 Wolsey Courtyard at Hampton Court (Thurley 2004, 17). Reigate stone was identified as a dressing material for Bridewell Palace (Gadd and Thompson 1979, fig. 5).

Phase Summary

The fabric and form of the worked stone, ceramic building material (peg tile; ridge tile floor tile; brick) and mortar retained from the Dorset Rise excavations (DOR13), forms the basis of a broad chronological subdivision.

Phase 2-3 Medieval features and levelling layers – the origin and date of the building materials

Although some contexts contain just Roman ceramic building material **(**[53] [69] [73] [102] [151] [199] [203]) this is always in a highly broken up state and in this marginal riverine area it is more likely that this is simply dumped medieval reclamation deposits brought in from the City. In all probability the recovered fragments of stone such as Neidermendig Lava, Kentish ragstone, Bargate and Carr stone also came from these dumps or indeed the Roman City Wall.

Because of the intermixing between Roman and medieval ceramic building material, it has proven somewhat difficult to subdivide up the medieval features and deposits assigned to Phase 2 from the more substantial later medieval levelling layers immediately above (Phase 3). Nevertheless some generalisations can be made. First, in Phase 2 Roman ceramic building material is more prevalent, Next the medieval material that is found is generally made from fabrics *2274* {1060-1300) and 2273 (1135-1220) and forms (flange and bat tile) with a 12th to early 13th-century feel to it.

By contrast, the Phase 3 reclamation deposits have a greater proportion of later medieval peg tile fabrics and corresponding reduction in Roman tile. There are small quantities of plain glazed 12th-13th-century Westminster floor tile, 14th-century Penn tile and 14th-16th-century calcareous Flemish floor tile and locally produced tile. The only possible structure is the rammed chalk surface [161] containing a hard Kentish ragstone mortar, not a recipe that is normally associated with medieval construction but clearly sealing medieval tile, stone and pot. The surface contained a Carrstone fragment, a rock normally associated which Roman walling which was in all probability was salvaged from Roman building or the town wall. As to its function the possibility that it formed part of a working surface for a substantial stone revetment wall is the most probable.

Phases 4-5 Preparation and Building of the Late Medieval/Early Post-medieval Bridewell Palace

The preparation and building of Bridewell Palace between 1515-1523 accounts for the main bulk (60% 100kg) of the ceramic building material and certain examples of moulded stone. All the structures are made from English bonded shallow (51mm) and wide (104mm) red Tudor bricks in fabric 3033 (1450-1700) bonded with the same Type 1 brown mortar suggesting one contemporary build including the drain [16], asymmetric arch foundation [30] [104], sunken brick feature [86] and numerous other brick structures (see Table. 2). Other asymmetric arch foundations were observed in earlier excavations at Bridewell Palace (Gadd & Thompson 1979).

The roofing material consists of the common early post-medieval peg tile fabric *2276* (1480-1900) again bonded in a T1 mortar.

Embellishment of the floor is marked by fragments a variety of rare highly decorative early 16th-century tin-glaze tiles including Cuenca polychrome relief tile (1510-1530) manufactured in Valencia from [116] and the polychrome Antwerp or Rouen floor tiles (1525-1560) also from [116] and [191]. These are extremely rare imports to London and the highly decorative schemes would have been

used to adorn the flooring of a highly prestigious building such as Bridewell Palace. There are also numerous examples of glazed Flemish floor tile.

Highly ornate decorative Caen stone include small cornice fragments in a classical tradition from [59] [72] [116] are typical of 16th-century moulds seen elsewhere in prestigious buildings between the City and Westminster including the slightly later Somerset House (Hayward in prep. b). Headington stone ashlar from Oxford was also encountered [61], a rock also associated with Wolsey's palatial construction as shown by documentary sources. Here they identify a freestone from the same outcrop (Wheatley limestone) being used as ashlar in the 1515-1522 Wolsey Courtyard at Hampton Court (Thurley 2004, 17).

In essence fresh consignments of brick, peg tile imported floor tile and freestone were used to construct and embellish this palace.

Phase 6 Later post-medieval development

Because this area in the later post-medieval period was essentially a prison cemetery coupled with the impact that modern structures had in removing any evidence for 18th- and 19th-century activity or buildings, then evidence for post Great Fire brick or unglazed floor tile was completely lacking.

Distribution

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
3	*2816*	*Medieval/post-medieval peg tile fabric*	*1*	*1200*	*1800*	*1200*	*1800*	*1200-1700*	*No mortar*
3	*2816; 3046*	*Medieval early post-medieval peg tile and early post-medieval brick*	*2*	*1200*	*1800*	*1200*	*1800*	*1450-1700*	*No mortar*
5	*3046; 2586; 3065*	*Lots of early post-medieval brick sunken margins and transitional peg tile fabric*	*7*	*1180*	*1700*	*1450*	*1700*	*1450-1700*	*No mortar*
13	*2271 2273; 2586*	*Medieval peg tile, some glaze*	*16*	*1135*	*1800*	*1180*	*1800*	*1180-1500*	*No mortar*
14	*2815; 2271*	*Roman tile fragments (including 1x imbrex), fairly small and abraded medieval peg tile.*	*5*	*55*	*1800*	*1180*	*1800*	*1180-1500*	*No mortar*
18	*3238; 2273; 2452; 3006; 3105; 3115M*	*Roman tile and early post-medieval peg tile Kentish ragstone and Cornish Slate roofing*	*9*	*50*	*1220*	*1135*	*1220*	*1135-1220*	*No mortar*
19	*3115M*	*Cornish Slate Roofing*	*2*	*1050*	*1800*	*1050*	*1800*	*1050-1600*	*No mortar*
20	*2452;*	*Roman tegula*	*1*	*55*	*160*	*55*	*160*	*55-160+*	*No mortar*

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
21	2452; 2815; 2273; 3006; 3108; 3100	Roman imbrex, brick and tile, early medieval glazed bat and curved tile. Banded calcareous greensand roofing? Wall Plaster frags could be Roman but plain	17	50	1225	1135	1220	1135-1220	No mortar
22	3033; 3101	Early post-medieval brick shallow wide T1 mortar	2	1450	1700	1450	1700	1450-1700	1450-1700
24	3046	Early post-medieval burnt and unburnt red brick	3	1450	1700	1450	1700	1500-1700	Lime mortar
26	2587; 3039 2586; 3102; 3105; 3115M; 3106; 3123R	Late medieval peg tile and early post-medieval brick and large chunks of daub; Cornish Slate and Kentish ragstone; German Lavastone	15	1500bc	1700	1450	1700	1450-1600	No mortar
27	2587; 2273; 2271	Early medieval and medieval glazed peg tile	10	1135	1800	1180	1800	1240-1500	No mortar
28	2272; 2271; 2587; 2273; 2452; 3006; 3115M; 3105; 1810	Early medieval bat tile and peg tile Roman tile and brick; Kentish ragstone and Cornish slate Penn tile worn	25	50	1800	1180	1800	1330-1500	No mortar
30	3033; 3101	Whole early post-medieval thin brick; Type 1 brown mortar as [86] 1 burnt	4	1450	1700	1450	1700	1450-1600+	1450-1700
31	2276; 3033; 2271; 2816	Medieval to Early post-medieval peg tile and brick	34	1180	1900	1480	1900	1480-1800	Dark grey clinker mortar 1750-1900
32	2271; 2276; 2816	Reused medieval peg tile and early post-medieval peg tile	26	1180	1900	1480	1900	1480-1700	1450-1700
33	2271; 2816; 2276; 3033; 3101	Splash glaze med peg tile; early post-medieval peg tile burnt and fresh Tudor brick Type 1 brown mort	10	1180	1900	1480	1900	1480-1700	1450-1700
35	2271; 2273; 2276; 3105 3031nr3042; 2816	Medieval bat and peg and post-medieval peg tile; medieval chunky estuarine brick	17	50	1900	1480	1900	1480-1600	No mortar
38	2271; 2276; 3033; 3030	Medieval and post-medieval peg tile post-medieval red brick	7	1180	1900	1480	1900	1480-1700	No mortar
40	2276; 3120	Early post-medieval	2	50	1900	1480	1900	1480-1800	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		peg tile; Bargate stone rubble							
41	3102; 2452; 3057; 2271; 2273; 2274; 2276; 2587; 2850; 3046; 3030; 3123	Very large group of glazed medieval peg tile and early post-medieval peg tile, late medieval early post-medieval brick and early post-medieval Flemish tile Roman tile and brick; German Lavastone Quern	114	1500bc	1900	1480	1900	1480-1650	No mortar
42;	3261; 2271; 2276; 3046;	Drain pipe; early post-medieval brick and peg tile, medieval peg tile;	67	50	1950	1850	1950	1850-1950	No mortar
43	2271; 2274; 2587; 2459a; 3009; 3500; 3105; 3030; 3013; 2816; 2272	Medieval peg tile; Roman tile and brick some rare silt and unknown; Calc fabric early medieval peg tile and medieval brick Kentish ragstone rubble	28	50	1800	1180	1800	1400-1660	No mortar
45	2276; 3046	Early post-medieval peg tile and brick	6	1450	1900	1480	1900	1480-1800	No mortar
46	2276; 2271; 3120; 3046; 2273	Early post-medieval peg tile and Kimmeridge shale burnt early post-medieval brick; worn bat tile	10	1135	1900	1480	1900	1480-1700	No mortar
47	2274; 2273; 2586; 2271	Medieval peg tile, bat tile glazed thick	8	1080	1800	1180	1800	1180-1400	No mortar
49	2271	Medieval peg tile	6	1180	1800	1180	1800	1180-1600	No mortar
50	2271; 2587; 2816	Reused medieval and peg tile	11	1180	1800	1200	1800	1200-1600	No mortar
51	2271; 2273; 2587	Medieval peg tile some early	9	1135	1800	1180	1800	1240-1450	No mortar
53	2452	Roman brick	1	55	160	55	160	55-160+	No mortar
56	2452; 2273; 2274	Roman tile and early medieval bat tile and peg tile	4	55	1220	1080	1350	1135-1300	No mortar
57	3046; 2276	Early post-medieval burnt brick and peg tile	9	1450	1900	1480	1900	1480-1700	No mortar
59	3046; 2276; 2271; 3101; 3119	Medieval early post-medieval brick and peg tile; lime mortar; exquisitely carved microarchitecture Caen stone	31	1180	1900	1480	1900	1480-1700	Lime mortar tr
60	2271	Medieval early post-medieval peg tile	1	1180	1800	1180	1800	1400-1800	No mortar
61	3120; 2276; 3033; 3101; 2271; 2850; 2587	Headington Freestone Part worked; early post-medieval peg tile medieval peg tile	48	50	1900	1480	1900	1480-1700	Tr lime mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		and brick; moulded mortar cornice; unglazed Flemish silt floor tile							
62	3022; 2271; 2274; 2276; 3046; 2452; 2587; 2891; 2452	Bits of Eccles tile and Roman sandy tile and brick; medieval and early post med peg tile brick worn Penn tile and nail hole, tegula	37	50	1900	1480	1900	1480-1700	No mortar
63	3105; 2276f 2271; 3081; 3046; 3101	Kentish ragstone rubble; brown Type 1 mortar on Tudor brick and post-medieval / medieval peg tile; worn probable Westminster floor tile	22	50	1900	1480	1900	1480-1700	1450-1700
65	2276; 2271; 2587	Medieval to early post-medieval peg tile	39	1180	1900	1480	1900	1480-1700	Tr lime mortar
66	2271; 2276; 3030; 3046; 3030; 2504; 2271; 2587	Glazed Flemish Calc, post-medieval peg tile; brick and medieval peg tile	44	1180	1900	1480	1900	1480-1700	Tr lime mortar
67	2816; 2273; 2271; 2274; 2587; 2452	Abraded Roman tile; medieval glazed bat and peg tile	25	55	1800	1200	1800	1240-1500	No mortar
68	2459a; 2452; 2816; 2271; 2587	Roman tegula; imbrex medieval peg tile	13	50	1800	1180	1800	1180-1400	No mortar
69	2452; 2459a;	Roman brick imbrex, tile and tegula	11	50	160	55	160	55-160+	No mortar
70	2271; 2587	Medieval peg tile	8	1180	1800	1180	1800	1240-1450	No mortar
72	3119; 3106; 3120; 3107; 3108; 3105; 3116; 3120; 2271; 2274; 2587; 2273; 3057; 2452; 2816	Caen stone fragment; Reigate stone fragment Hassock stone rubble Chalk; Kentish ragstone roofing/paving and Calcareous greensand roofing as [21] and Cornish Slate roofing ; fine shelly limestone Roman tile, brick and imbrex; medieval curved, peg and bat tile	69	50	1800	1180	1800	1180-1500	No mortar
73	2453; 2452; 2454	Early and late Roman tile, brick imbrex	9	50	350	180	350	180-350+	No mortar
79	2273	Bat tile	1	1135	1220	1135	1220	1135-1220	No mortar
83	2273; 2271; 2274; 2459a; 2452; 3057; 3120	Roman tile and brick; Cornish Slate roofing; lots early medieval flanged and bat tile and	28	50	1950	50	1950	1180-1300	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		medieval peg tile							
85	3065; 2816; 2271; 2276; 3101	Shallow wide Tudor brick late medieval early post-medieval peg tile Intrusive concrete	6	1180	1900	1480	1900	1480-1900	1850-1950 Intrusive
86	3033; 3101	Shallow wide Tudor brick T1 lime sandy mortar as [30]	2	1450	1700	1450	1700	1450-1600+	1450-1700
89	3033; 3105; 2276; 2816; 2273; 2271; 3101	Vitrified Tudor brick; Kent Rag reused early medieval and post-medieval bricks T1 mortar	9	50	1700	1450	1700	1450-1700	1450-1700
91	2587; 2816; 2271	Medieval peg tile	7	1180	1800	1200	1800	1240-1500	No mortar
92	2271	Medieval peg tile	1	1180	1800	1180	1800	1180-1600	No mortar
93	2271; 2452	Medieval peg tile and tile	3	55	1800	1180	1800	1180-1500	No mortar
94	3216; 3006; 2587	Imbrex and medieval peg tile	5	50	1800	1200	1800	1200-1600	No mortar
97	3022; 2452; 2271	Abraded medieval peg tile and Eccles tegula and sandy imbrex	4	50	1800	1180	1800	1180-1500	No mortar
102	2452;	Roman tile and tegula	2	50	160	55	160	55-160+	No mortar
104	3046; 3101	Early post-medieval brick T1 lime brown mortar	4	1450	1700	1450	1700	1450-1600+	1450-1700
105	2587; 3102	Orange daub medieval peg tile	2	11500 bc	1450	1240	1450	1240-1450	No member
110	2271; 2276; 2452; 3046; 3117	Medieval and early post-medieval peg tile; early post-medieval brick Roman brick and tile burnt flint	11	50BC	1900	1480	1900	1480-1700	No mortar
111	2816; 2276; 3023	Late medieval and early post-medieval peg tile and Roman tile	4	55	1900	1480	1900	1480-1700	No mortar
113	2271	Early medieval peg tile	1	1180	1800	1180	1800	1180-1600	No mortar
116	2282; 3120; 3119; 2271; 2276; 3033; 2273; 2816; 2587; Antwerp	Cuenca floor tile Spanish; Antwerp/French polychrome floor tile Bargate stone rubble; Caen stone fresh post med mould medieval and post-medieval brick and tile; rare early medieval glazed floor tile medieval peg tile	30	50	1900	1480	1900	1505-1535+	No mortar
117	2271; 2276; 2815; 3104; 3102	Imbrex with opus signinum medieval and post-medieval	20	1500bc	1900	1480	1900	1480-1700	Residual Roman 100-400

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		peg tile; daub							
118	*3033; 3101*	*Early post-medieval red brick and T1 brown mortar*	*1*	*1450*	*1700*	*1450*	*1700*	*1450-1700*	*1450-1700*
119	*3106; 3030; 3046; 3101; 2271; 2276; 2816 Coarse Fabric FT*	*Part worked Hassock stone possibly Ashlar; medieval and post-medieval self glaze brick with sunken margin T1 mortar; peg tile med and post-medieval*	*23*	*50*	*1700*	*1450*	*1700*	*1450-1700*	*1450-1700*
120	*3033; 3101*	*Early post-medieval red brick and T1 brown mortar*	*2*	*1450*	*1700*	*1450*	*1700*	*1450-1700*	*1450-1700*
121	*3105; 3046; 2276; 2816; 3030; 3101*	*Kentish ragstone rubble medieval and post-medieval brick – medieval and post-medieval peg tile*	*10*	*50*	*1900*	*1480*	*1900*	*1480-1700*	*1450-1700*
123	*3107; 3105; 3120; 3046; 3030; 2271; 2276; 2816; 2459a*	*Large greensand hone; Reigate stone and Kentish ragstone rubble; medieval early post-medieval peg tile and medieval early post-medieval brick; Roman tile*	*13*	*50*	*1700*	*1450*	*1700*	*1450-1700*	*No mortar*
124	*3033*	*Early post-medieval brick fragment*	*1*	*1450*	*1700*	*1450*	*1700*	*1450-1700*	*No mortar*
127	*2816; 2273*	*Flanged early medieval roofing tile and medieval peg tile*	*2*	*1135*	*1800*	*1200*	*1800*	*1200-1500*	*No mortar*
150	*2452; 2271; 2273*	*Roman tile early medieval peg tile glazed*	*3*	*50*	*1800*	*1180*	*1800*	*1180-1500*	*No mortar*
151	*3023*	*Roman brick*	*1*	*50*	*120*	*50*	*120*	*50-120+*	*No mortar*
152	2271; 2587; 2273; 2452; 2274	Roman tile, medieval peg tile	22	55	1800	1180	1800	1240-1500	No mortar
154	*2271; 2273; 2452; 2587; 3023*	*Lots of early medieval bat tile and peg tile; Roman brick and tile*	*20*	*50*	*1800*	*1180*	*1800*	*1180-1300*	*No mortar*
155	*2452; 2272; 3004*	*Roman tegula and medieval peg tile*	*4*	*50*	*1220*	*1135*	*1220*	*1135-1220*	*No mortar*
160	*2452; 2271*	*Roman tile; brick and medieval peg tile*	*6*	*55*	*1800*	*1180*	*1800*	*1180-1500*	*No mortar*
162	*3101*	*Very hard white lime mortar Carrstone block*	*2*						*50-1400*
164	*2273; 2459a 2452; 3023; 3022*	*Lots of early medieval bat tile and Roman tile and brick*	*12*	*50*	*1220*	*1135*	*1220*	*1135-1220*	*No mortar*

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
165	2276; 3046	Burnt post-medieval brick and peg tile	4	1450	1900	1480	1900	1480-1700	No mortar
167	2271; 2276; 2816; 2273; 3046; 3039; 3101	Medieval and post-medieval peg tile early post-medieval brick and lime mortar	17	1135	1900	1480	1900	1480-1700	No mortar
168	2271; 2587	Medieval peg tile	5	1180	1800	1180	1800	1240-1500	No mortar
169	2271; 2271nr2272; 2273; 2274; 2452; 2587; 3023	Very large group of medieval peg and bat tiles and Roman tile	27	50	1800	1180	1800	1240-1500	No mortar
170	2273; 2587; 2271; 2459a; 2459a; 2274	Large group of early medieval bat, flange and later medieval peg tile Roman brick	11	50	1800	1180	1800	1180-1500	No mortar
171	3033; 2273; 2452; 2271; 3101	Early post-medieval brick; Roman tile and medieval peg and bat tile; T1 brown mortar	7	55	1800	1180	1800	1450-1700	1450-1700
172	2273	Bat tile	1	1135	1229	1135	1220	1135-1220	No mortar
173	2271; 2276; 3046	Early post-medieval peg tile and brick lime mortar	8	1180	1900	1480	1900	1480-1700	No mortar
175	2276; 3046; 3101	Post-medieval peg tile and brick	5	1450	1900	1480	1900	1480-1700	Lime mortar
176	2271; 2276; 2279	Post-medieval peg tile and pan tile	6	1180	1900	1480	1900	1630-1850	No mortar
177	3060B; 2459a 2271; 2816; 2587	Roman imbrex and tile medieval peg tile	12	50	1800	1180	1800	1240-1450	No mortar
178	2273; 2271; 2816; 2452	Roman imbrex, Medieval glazed peg and bat tile	8	55	1800	1200	1800	1200-1600	No mortar
181	2276; 3101; 3046	Reused early post-medieval peg tile and brick lime mortar T2	9	1450	1900	1480	1900	1500-1700+	1450-1700
182	2587	Medieval peg tile	1	1240	1450	1240	1450	1240-1450+	No mortar
183	3046; 2276	Early post-medieval brick and peg tile	3	1480	1900	1480	1700	1480-1700	No mortar
184	3046; 3039; 3101; 2816; 2271; 2587; 3063; 2276	Reused brick lime mortar T3 and T1 late medieval unglazed early post-medieval peg tile and curved tile	62	1180	1800	1200	1800	1500-1700+	1450-1700
185	3135; 2272; 2587; 2271; 2816; 2276; 3102; 3023; 3006	Granite fragment; bat tile; medieval glazed peg tile and occasional post med daub, Roman tile and imbrex	29	50	1950	50	1950	1480-1800	No mortar
186	2816; 2273; 2271; 3030; 2320; 1697; 3046; 3101	Very large group of late medieval and early medieval peg tile; late med brick;	60	1135	1800	1200	1800	1450-1700	T4 gravel mortar medieval 1200-1500

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		Calc Flemish tile and local sandy floor tile							
187	2816; 2271; 2459a; 2274; 3046; 2587	Big group of medieval peg tile one or two early post-medieval brick; Roman imbrex	19	50	1800	1200	1800	1450-1700	No mortar
190	2271; 2273; 2452; 3030; 2816; 2587; 2276; 3046	Medieval and very early post-medieval peg tile and brick Roman brick	14	55	1900	1480	1900	1480-1600	No mortar
191	3013; 2587; 2816; 2271; 2273; Antwerp patterned floor tile; 2276; 3046; 3030; 2452	Medieval flanged peg tile; and Roman calc roofing tile and sandy brick Antwerp patterned floor tile late medieval and early post-medieval brick and peg tile	26	50	1900	1480	1900	1520-1600	No mortar
196	2459b	Roman tile	1	120	250	120	250	120-250+	No mortar
198	3033; 3060	Brick fragment and Roman tile	2	50	1700	1450	1700	1450-1700	No mortar
199	2452	Roman brick	1	55	160	55	160	55-160+	No mortar
202	3117; 3046; 2587; 2816; 2271	Flint nodule cracked Early post-medieval brick and medieval peg tile	6	50BC	1800	1200	1800	1450-1700	No mortar
204	2271; 2273; 2452; 3057; 2816; 2587; 2274	Medieval peg tile and fragments of early Roman brick	24	55	1800	1180	1800	1240-1500	No mortar
206	3046; 2271	Early post-medieval brick and peg tile	4	1180	1900	1180	1800	1450-1700	No mortar
208	3046; 2587; 2271; 3105	Early post-medieval brick and peg tile and Kent Rag rubble	5	50	1800	1180	1800	1450-1700	No mortar
209	3033	Tudor brick	3	1450	1700	1450	1700	1450-1700	No mortar
212	2586; 3022; 2271; 2452; 2272; 2459a; Bitumen	Medieval glazed peg and bat tile; early Roman tile; Bitumen	9	50	1800	1180	1800	1180-1500	No mortar
213	2271	Medieval peg tile glazed	4	1180	1800	1180	1800	1180-1500	No mortar
216	2271	Medieval glazed peg tile	1	1180	1800	1180	1800	1180-1500	No mortar
219	2276	Early post-medieval peg tile	3	1480	1900	1480	1900	1480-1700	No mortar
223	2452; 3117; 3102; 2459A	Roman brick natural flint; daub and tile	9	50BC	1600	50BC	1600	55-160	No mortar
226	2271	Medieval glazed peg tile	4	1180	1800	1180	1800	1180-1500	No mortar
228	2587	Medieval peg tile	2	1240	1450	1240	1450	1240-1450	No mortar
229	2273; 2452	Roman brick and tegula and shaped chevron early bat tile	5	55	1220	1135	1220	1135-1220	No mortar
231	2452	Roman tile	1	55	160	55	160	55-160+	No mortar

Recommendations/Potential

Other than using building material as a dating tool, the value of the sizeable assemblage of ceramic building material and worked stone from Dorset Rise lies with the high-status flooring materials (Tin-Glazed Cuenca, Antwerp and glazed Flemish floor tile), small items of intricately carved stone (Caen; Reigate; Headington) and Tudor brick associated with the construction of the 1515-1523 Bridewell Palace. This is the first time that a sizeable assemblage has been collated, although it would be worth comparing this material from earlier excavations (Gadd & Thompson 1979; Gadd & Dyson 1981) to see if similar high status stones and tile have been used. Comparison should also be made with the building material assemblages from adjoining sites especially Whitefriars (WFT99) (Killock 2001) to see if any Tudor type material can be identified.

Comparison especially in the use of the rare Spanish and Antwerp wall and floor tile in other Tudor palaces would be useful to see how much of the embryonic early 16th-century tin-glazed wall tile industry was being imported to meet Royal demand. Research will also be conducted to determine how typical are the steep arched foundations in other Tudor palaces in London.

Some of the more ornate items such as decorative Spanish wall tile require photography, whilst the stone cornice fragments require illustration at publication.

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APPENDIX 6: METAL AND SMALL FINDS ASSESSMENT

By Märit Gaimster

In total, around 230 metal and small finds were retrieved from the excavations; the vast majority of finds came from phases associated with the construction and occupation of the late medieval Bridewell Palace. This assemblage is particularly characterised by offcuts and fragments indicative of copper-alloy working in the vicinity, including pin making and the possible production of strap ends or similar artefacts. Other significant finds include part of a double-socketed candlestick and a devotional ceramic figurine of St Barbara. All finds are listed in Table 1, and are discussed by phase below.

Phase 2: medieval features and deposits

Only one find was retrieved from Phase 2 contexts, in the form of an angled cast-iron object, possibly a pintle for hanging doors or shutters (sf 33). An unstratified short-cross penny, dating from the late 12th to early 13th centuries, may also belong to this phase (sf 32).

Phase 3: medieval reclamation and levelling

Phase 3 yielded seventeen finds, including a probable jeton (sf 47) and other copper-alloy objects in the form of a fine pin with wound-wire head (sf 42), fragments of sheet or mount (sf 40) and a substantial pin or handle (sf 41). There were also a handful of iron nails, an iron strap (sf 7) and a piece of substantial lead sheet, likely from roofing (sf 68).

Phase 4: preparation for Bridewell Palace, late medieval landscaping

Fifty-five finds came from Phase 4 contexts, including tentative elements of copper-alloy working in the form of strips, sheet waste and slag fragments (sf 3–5, 55, 80–82); there are also four possibly unfinished copper-alloy pins (sf 78 and 83). Ivory working is also present in a thin splinter or offcut with worked exterior (sf 73). Dress accessories are represented in a complete, sturdy annular buckle of copper alloy (sf 6; cf. Egan and Pritchard 1991, fig. 36), a small copper-alloy lace-chape (sf 79) and a globular jet bead (sf 37; cf. Egan 2005, fig. 42 no. 245). Other finds include kitchen furnishings in the form of fragments of a copper-alloy skimmer (sf 2; cf. Egan 1998, fig. 125), and two possible copper-alloy book clasps (sf 27 and 69).

Phase 5: the late medieval Palace of Bridewell

The largest single assemblage of finds, with nearly 135 individual objects, came from Phase 5. Here the material is strongly dominated by copper-alloy working waste, including strips and sheet fragments (sf 11, 14, 18, 21, 28, 89, 91, 93) along with numerous corroded lumps and fragments. Of particular interest are three cut tapering strips with pointed finials (sf 34). The strips are cut at equal lengths and are likely roughs or blanks for products such as strap ends or similar objects. Other possible products may be two domed mounts or rivets (sf 19-20), or lace-chapes (sf 46, 84, 86 and 90). There are also numerous pieces of pin or wire (sf 12, 22, 24, 29 and 45), some of which may be corroded lace-

chapes (sf 30 and 71), with pin making indicated by the presence of two pinner's bones (sf 13 and 23) and a number of pins indicating possible products (sf 44, 51, 85 and 87).

Outside of production waste, Phase 5 also yielded part of a copper-alloy branched double-socketed candlestick (sf 1), characteristic of the late 15th/early 16th centuries (Brownsword 1985, fig. 3; cf. Egan 2005, fig. 122 no. 609, for a miniature lead/tin version). A complete copper-alloy hooked tag cast with a double rose motif would also fall within the same date bracket (sf 54; cf. Egan 2005, 43 and fig. 25). There is also at least one heavily corroded copper-alloy jeton (sf 26 and 70), for the calculating of sums, and a minute dice of bone (sf 74).

Phase 6: post-medieval

Phase 6 yielded 27 finds, all seemingly residual from Bridewell Palace. Of particular significance is a small pipeclay figurine of St Barbara (sf 61). The figure, known also from Tooley Street in Southwark (Ward Perkins 1940, plate XCI), represents a category of pre-Reformation devotional objects intended for the private sphere (cf. Gaimster 2003, 128–32), with the intentional removal of the figurine's head a reflection of Protestant iconoclasm. The general rarity of these portable and personal objects makes the figurine an important discovery. Its find spot near Bridewell Palace is also suggestive; St Barbara is the patron saint of armourers and artillerymen, and the figurine may have been the personal possession of a soldier.

Another find of interest is a circular disc, cast with a double rose motif and with a small rectangular perforation at the centre, and likely a dagger plate (sf 64). Like the previous phases, this assemblage also included possible evidence of copper-alloy working (sf 57-60, 96 and 100-101); other copper-alloy finds include the edge fragment of a dish or shallow vessel (sf 95).

Recommendations

The metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. For the Dorset Rise assemblage, particularly significant finds include the ceramic figurine of St Barbara (sf 61), the double-socketed candlestick (sf 1) and the hooked tag and dagger plate, both cast with double rose motifs (sf 54 and 64); however, also the elements of copper-alloy working on or near site is important. While sheet waste, offcuts and wire are frequent finds on sites dating from the late 15th and 16th centuries, the presence of roughs or blanks, providing an indication of the products manufactured, is a rare element (cf. Egan 2005, 133-37). For the purpose of publication, a number of objects require further x-ray to aid identification; these are all marked in Table 1. A small unstratified silver coin (sf 50) and the three possible jetons (sf 26, 47 and 70) will require cleaning. Following x-ray and publication, incomplete iron nails and undiagnostic and fragmented metal may be discarded.

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Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommendations
Phase 0	0	32	silver short-cross penny; late 12th to early 13th centuries	silver	coin	n/a	1	further ident
Phase 0	0	50	small silver coin on thin and regular flan; heavily corroded; diam. 13mm	silver	coin	n/a	1	clean for ident
Phase 2	47	33	iron ?pintle; cast-iron angled fragment only; L 45mm+; ht. 50mm+	iron	?pintle	1170-1350	1	x-ray
Phase 3	21		iron nail; L 52mm	iron	nail	n/a	1	
Phase 3	56	7	iron strap; W 15mm; L 55mm+	iron	strap	1170-1350	1	x-ray
Phase 3	68		iron nail; incomplete	iron	nail	1240-1350	1	
Phase 3	116	40	copper-alloy sheet/mount; four fragments	copper	sheet/mount	1480-1550	1	x-ray
Phase 3	116	41	copper-alloy pin/handle; two pieces; L 33 and 70mm; gauge 3.72mm	copper	pin/wire	1480-1550	1	x-ray
Phase 3	116	42	copper-alloy pin; complete Caple Type B; L 38mm; gauge 0.8mm	copper	pin	1480-1550	1	
Phase 3	116	47	copper-alloy ?jeton; thin and heavily corroded; diam. 23mm	copper	coin/jeton	1480-1550	1	clean for ident
Phase 3	116	68	piece of substantial lead sheet; 65 x 140mm	lead	sheet	1480-1550	1	
Phase 3	116	92	copper-alloy ?waste; two fragments only	copper	?waste	1480-1550	2	x-ray
Phase 3	116		iron ?nails; three corroded pieces	iron	?nails	1480-1550	3	x-ray
Phase 3	155		iron nail; incomplete	iron	nail	n/a	1	
Phase 3	212		iron nails; two incomplete	iron	nails	1080-1350	2	
Phase 4	31	67	lead sheet waste; 35 x 70mm	lead	sheet	1480-1550	1	

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommendations
Phase 4	31	69	copper-alloy tapering strip; ?iron rivet at centre; W 10mm; L 50mm; ?book clasp	copper	?book clasp	1480-1550	1	x-ray
Phase 4	31	78	copper-alloy pins; two Caple Type B; L 55mm and 30mm+; ?unfinished	copper	pins	1480-1550	2	
Phase 4	31	79	copper-alloy lace-chape; L 22mm	copper	lace-chape	1480-1550	1	
Phase 4	31	80	copper-alloy ?waste; small curved strip; W 2-3mm	copper	?waste	1480-1550	1	x-ray
Phase 4	31		iron ?objects; three small corroded pieces	iron	?objects	1480-1550	3	x-ray
Phase 4	32	2	copper-alloy skimmer; fragment only of circular perforated disc; diam. *c.* 150mm	copper	skimmer	1480-1550	1	x-ray
Phase 4	32	3	copper-alloy sheet waste; thin strip; L 105mm	copper	waste	1480-1550	1	x-ray
Phase 4	32	4	copper-alloy strap/waste; W 14mm; L 120mm+	copper	waste	1480-1550	1	x-ray
Phase 4	32	5	copper-alloy sheet/waste; two tapering strip fragments; W 4-8mm	copper	waste	1480-1550	1	x-ray
Phase 4	32	35	iron strap/fitting; W 10mm; L 120mm+	iron	strap	1480-1550	1	x-ray
Phase 4	32	81	?copper-alloy working; irregular slightly hollow lump; 20 x 20mm; ?waste from vessel foot	copper	?waste	1480-1550	1	x-ray
Phase 4	32	82	?copper-alloy working; seven small fragments, including parts of lace-chapes	copper	?waste	1480-1550	7	x-ray
Phase 4	32	83	copper-alloy pins; two Caple Type B; L 26 and 38mm; ?unfinished	copper	pins	1480-1550	2	
Phase 4	32		iron ?strap; W 15mm; two fragments only	iron	strap	1480-1550	1	x-ray
Phase 4	32		iron ?sheet mount; five pieces with one corner extant	iron	?mount	1480-1550	1	x-ray
Phase 4	32		iron ?wire; L 33mm	iron	wire	1480-1550	1	x-ray
Phase 4	32		iron nails; six incomplete	iron	nail	1480-1550	6	
Phase 4	35	6	copper-alloy annular buckle; round-section frame and pin; diam. 35mm	copper	buckle	1480-1500	1	
Phase 4	35	39	iron curved strap/binding; W 15mm; L 180mm	iron	binding	1480-1500	1	x-ray
Phase 4	41	65	iron knife; part of blade with tang only; W 20mm	iron	knife	1480-1550	1	x-ray
Phase 4	43		iron nail; incomplete	iron	nail	1480-1550	1	
Phase 4	49	8	iron ring/fitting; heavily encrusted; diam. *c.*45mm	iron	ring	1480-1500	1	x-ray
Phase 4	49	66	iron ?scissors; two riveted straps, now at an angle to each other; L 80mm	iron	?scissors	1480-1500	1	x-ray

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommendations
Phase 4	49	73	ivory-working waste; thin splinter with worked exterior surface; L 70mm	bone	waste	1480-1500	1	
Phase 4	50		iron nail; L 55mm	iron	nail	1270-1370	1	
Phase 4	62	27	copper-alloy ?book clasp; tapering fragment only; L 30mm	copper	?book clasp	1480-1600	1	x-ray
Phase 4	85		iron nail; L 60mm	iron	nail	1480-1550	1	
Phase 4	91	37	globular jet bead; diam. 13mm; ht. 13mm	jet	bead	1480-1550	1	
Phase 4	91		iron nail; L 55mm	iron	nail	1480-1550	1	
Phase 4	123		copper-alloy coin; residual Roman	copper	coin	1550-1580	1	furter ident
Phase 4	170	55	copper-alloy ?slag; one fragment only	copper	?slag	n/a	1	x-ray
Phase 4	176	77	iron ?knife; tang and part of blade only; W25mm; L 120mm+	iron	?knife	1480-1600	1	x-ray
Phase 4	176		iron nails; two incomplete	iron	nails	1480-1600	2	
Phase 4	178		iron nail; incomplete	iron	nail	1170-1350	1	
Phase 4	198		iron nails; three incomplete	iron	nails	n/a	3	
Phase 5	5	1	copper-alloy branched double-socket candlestick; incomplete; to fit on standard base with central spike; ht. 80mm	copper	candlestick	mid-16th century	1	
Phase 5	33	34	copper-alloy working; three cut tapering strips with pointed finials; W 10mm; L 45mm	copper	waste	1480-1550	3	x-ray and further ident
Phase 5	33	36	copper-alloy fitting; narrow strap with central rectangular cut-out; W6mm; L 55mm+	copper	fitting	1480-1550	1	further ident
Phase 5	45	70	copper-alloy ?coin; fragment only	copper	?coin	1550-1600	1	clean for ident
Phase 5	45		iron nails; three; L 70-85mm	iron	nails	1550-1600	3	
Phase 5	45		?copper-alloy working; flat rectangular block; 28 x 30mm	copper	?cu working	1550-1600	1	x-ray and further ident
Phase 5	57	84	copper-alloy ?lace-chapes; three corroded fragments	copper	?lace-chapes	1630-1846	2	x-ray
Phase 5	57	85	copper-alloy pin with ?solid head; L 35mm	copper	pin	1630-1846	1	x-ray
Phase 5	57		iron nails; six incomplete	iron	nails	1630-1846	6	
Phase 5	58	10	copper-alloy ?casting waste; 8 x 25mm fragment only	copper	?casting waste	n/a	1	x-ray
Phase 5	59	86	copper-alloy lace-chapes; two heavily corroded	copper	lace-chape	1580-1700	2	x-ray
Phase 5	59	87	copper-alloy pins; at least three; Caple Type B, L 30mm; Caple Type C, L 24mm	copper	pins	1580-1700	3	
Phase 5	59		iron nails; three incomplete	iron	nails	1580-1700	3	
Phase 5	61	11	copper-alloy ?waste; fragment of strip only; W 9mm	copper	?waste	1480-1550	1	x-ray

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommendations
Phase 5	61	12	copper-alloy ?buckle-pin; tapering with one thickened end; L 38mm	copper	?buckle pin	1480-1550	1	x-ray
Phase 5	61	13	pinner's bone of cattle metatarsus; complete with working end; L 120mm	bone	pinner's bone	1480-1550	1	
Phase 5	61	14	copper-alloy sheet/waste; 15 x 30mm fragment only	copper	waste	1480-1550	1	x-ray
Phase 5	61	17	?copper-alloy working; small lump	copper	?cu working	1480-1550	1	x-ray
Phase 5	61	18	copper-alloy strip/waste; two small fragments	copper	waste	1480-1550	1	x-ray
Phase 5	61	19	copper-alloy mount/rivet; domed; diam. 13mm	copper	mount/rivet	1480-1550	1	x-ray
Phase 5	61	20	copper-alloy mount/rivet; domed; diam. 20mm	copper	mount/rivet	1480-1550	1	x-ray
Phase 5	61	21	copper-alloy sheet/mount; four fragments	copper	sheet	1480-1550	1	x-ray
Phase 5	61	22	copper-alloy pin/wire; L 47mm; gauge 1mm	copper	pin/wire	1480-1550	1	x-ray
Phase 5	61	23	pinner's bone of cattle metatarsus; broken-off working end only; L 35mm	bone	pinner's bone	1480-1550	1	
Phase 5	61	24	copper-alloy sturdy pin/wire; L 38mm; gauge 2.65mm	copper	pin/wire	1480-1550	1	x-ray
Phase 5	61	25	copper-alloy ?object; 13 x 20mm fragment only	copper	?object	1480-1550	1	x-ray
Phase 5	61	26	copper-alloy ?jeton; thin corroded disc; diam. 30mm	copper	?jeton	1480-1550	1	clean for ident
Phase 5	61		iron ?nails; five corroded	iron	?nails	1480-1550	5	x-ray
Phase 5	61		iron straps/fittings; five heavily corroded fragments;	iron	fittings	1480-1550	5	x-ray
Phase 5	63	71	copper-alloy ?lace-chapes; two incomplete	copper	?lace-chapes	mid-16th century	1	x-ray
Phase 5	63		copper-alloy ?waste; three minute fragments, including twisted wire	copper	?waste	mid-16th century	3	x-ray
Phase 5	63		iron ?nails; six corroded pieces	iron	?nails	mid-16th century	6	x-ray
Phase 5	63		iron nails; five incomplete	iron	nails	mid-16th century	5	
Phase 5	65	88	small copper-alloy rivet with slightly domed head; L 7mm; diam. 5mm	copper	rivet	mid-16th century	1	
Phase 5	65	89	copper-alloy waste; four small fragments including sheet and wire	copper	waste	mid-16th century	4	x-ray
Phase 5	65		iron ?object; fragment of flat tapering bar only; W 30mm	iron	?object	mid-16th century	1	x-ray
Phase 5	65		iron ?object; flat tapering bar with angled end; W 15mm; L 90mm	iron	?object	mid-16th century	1	x-ray
Phase 5	65		iron sheet; six fragments	iron	sheet	mid-16th century	1	x-ray
Phase 5	65		iron nails; 19 incomplete	iron	nails	mid-16th century	19	

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommendations
Phase 5	66	28	copper-alloy sheet/mount; three fragments	copper	sheet	mid-16th century	1	x-ray
Phase 5	66	29	copper-alloy pin/wire; L 90mm; gauge 3.4mm	copper	pin/wire	mid-16th century	1	x-ray
Phase 5	66	30	copper-alloy ?lace-chape; L 28MM	copper	?lace-chape	mid-16th century	1	x-ray
Phase 5	66	31	iron ?bucket/cauldron handle; large curved fragment; heavily corroded; L 280mm	iron	?handle	mid-16th century	1	x-ray
Phase 5	66	74	minute bone dice; 5 x 5 x 5mm	bone	dice	mid-16th century	1	
Phase 5	66	90	copper-alloy lace-chapes; four heavily corroded pieces	copper	lace-chapes	mid-16th century	4	x-ray
Phase 5	66	91	?copper-alloy working; fragment of pin/wire and offcut	copper	?waste	mid-16th century	2	x-ray
Phase 5	66		iron ?flesh hook; fragment with angled protrusion only; L 60mm+	iron	?flesh hook	mid-16th century	1	x-ray
Phase 5	66		iron ?nails; three corroded pieces	iron	?nails	mid-16th century	3	x-ray
Phase 5	66		iron nails; two incomplete	iron	nails	mid-16th century	2	
Phase 5	117	44	copper-alloy pin; complete Caple Type B; L 30mm; gauge 0.95mm	copper	pin	1480-1550	1	
Phase 5	117	45	copper-alloy wire; L 42mm; gauge 1.6mm	copper	wire	1480-1550	1	
Phase 5	117	72	copper-alloy ?object; 13 x 25mm fragment only	copper	?object	1480-1550	1	x-ray
Phase 5	117	93	copper-alloy ?waste; two fragments only	copper	?waste	1480-1550	2	x-ray
Phase 5	117		copper-alloy ?slag; two small pieces	copper	?slag	1480-1550	2	x-ray
Phase 5	119	46	copper-alloy lace-chapes; two corroded pieces	copper	lace-chapes	1500-1550	2	x-ray
Phase 5	119		?copper-alloy working; several pieces of slag and lumps	copper	?cu working	1500-1550	1	x-ray and further ident
Phase 5	119		?copper-alloy working; 50 x 80mm slab or stone with frequent inclusions of oxidised copper	copper	?slag	1500-1550	1	x-ray and further ident
Phase 5	121		copper-alloy ?slag; one small piece	copper	?slag	1550-1700	1	x-ray
Phase 5	165	51	copper-alloy pin with sturdy shaft; ?Caple Type B; L 38mm	copper	pin	1550-1700	1	x-ray
Phase 5	165	53	copper-alloy ?bell; fragment of hemispherical body only	copper	?bell	1550-1700	1	x-ray
Phase 5	165	54	copper-alloyhooked clasp; complete with tapering rectangular loop and solid double rose decoration on body; W 14mm; L 35mm	copper	hooked clasp	1550-1700	1	
Phase 5	165		iron nails; two incomplete	iron	nails	1550-1700	2	

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommend ations
Phase 5	167	75	iron strap; W 20mm; L 100mm+	iron	strap	1480-1550	1	x-ray
Phase 5	173	76	iron ?sheet mount;30mm W strap, with curved end; L 90mm	iron	?mount	1480-1550	1	x-ray
Phase 5	175	56	copper-alloy pin/handle; solid tapering shaft; fragment only; gauge 2mm; L 57mm+	copper	pin/handle	1480-1600	1	
Phase 5	175		iron nails; two incomplete	iron	nails	1480-1600	2	
Phase 6	181	57	copper-alloy ?object; 17 x 23mm corroded lump	copper	?object	1480-1600	1	x-ray
Phase 6	181	58	copper-alloy ?object; 10 x 20mm corroded lump	copper	?object	1480-1600	1	x-ray
Phase 6	181	59	copper-alloy ?object; 15 x 15mm corroded lump	copper	?object	1480-1600	1	x-ray
Phase 6	181	60	copper-alloy ?object; 5 x 12mm corroded lump	copper	?object	1480-1600	1	x-ray
Phase 6	184	62	copper-alloy ring/?annular buckle; oval-section half only; diam. 44mm	copper	?buckle	1500-1700	1	x-ray
Phase 6	184	100	?solid piece of ?copper melting residue; ?copper-alloy working; 25 x 30mm with one rounded side from ?crucible	copper	?melting	1500-1700	1	x-ray
Phase 6	184	101	?solid piece of ?copper melting residue; ?copper-alloy working; 55 x 90mm with one moulded side from ?crucible	copper	?melting	1500-1700	1	x-ray
Phase 6	184		iron ?objects; four corroded pieces	iron	?objects	1500-1700	4	x-ray
Phase 6	185	61	ceramic figurine on oval base of St Barbara holding a tower in her left hand; incomplete with head missing; ht. 77mm+	ceramic	figurine	1480-1600	1	
Phase 6	185	94	copper-alloy ?strap; two fragments only; W 5mm	copper	?strap	1480-1600	1	x-ray
Phase 6	185		iron ?mount; corroded 30 x 60mm fragment only	iron	?mount	1480-1600	1	x-ray
Phase 6	186		iron nails; four incomplete	iron	nails	1480-1550	4	
Phase 6	187	95	copper-alloy vessel; curved fragment with simple rounded rim; 30 x 65mm	copper	vessel	1480-1550	1	x-ray
Phase 6	187		iron ?strap; three fragments; W 30mm	iron	?strap	1480-1550	1	x-ray
Phase 6	187		iron clench bolt with diamond-shaped rove; L 40mm	iron	clench bolt	1480-1550	1	
Phase 6	187		iron nail; incomplete	iron	nail	1480-1550	1	
Phase 6	190	96	copper-alloy sheet waste; L 33mm	copper	waste	1480-1600	1	x-ray
Phase 6	190	97	copper-alloy ?rivet; tubular body with small flat head; gauge 2.5mm; L 14mm	copper	?rivet	1480-1600	1	x-ray
Phase 6	190	98	copper-alloy pin/wire; L 28mm+	copper	pin/wire	1480-1600	1	x-ray

Phase	Context	Sf	Description	Material	Object Name	Pot Date	No Of Objects	Recommend ations
Phase 6	191	64	copper-alloy ?dagger plate; circular and cast with double rose motif; small rectangular opening at centre; diam. 32mm; opening 3 x 6mm	copper	?dagger plate	1480-1600	1	further ident
Phase 6	191	99	copper-alloy pin/handle; incomplete; tapering and curved at one end; gauge 3mm; L 85mm+	copper	pin/handle	1480-1600	1	further ident
Phase 6	191		copper-alloy ?slag; small fragment only	copper	?slag	1480-1600	1	x-ray

APPENDIX 7: IRON AND COPPER WORKING ASSESSMENT

By Lynne Keys

Methodology

A very small quantity of material (2.43kg), initially identified as slag, was recovered by hand on site and from soil samples processed after excavation. For this report it was examined by eye and categorised on the basis of morphology; a magnet was used to test for iron-rich material and smithing microslags in the soil adhering to slags. Each slag or other material type in each context was weighed except for the two smithing hearth bottoms, which were individually weighed and measured for statistical purposes. Quantification data and details are given in the table below in which weight (wt.) is shown in grams, and length (len.), breadth (br.) and depth (dp.) in millimetres.

cxt	^s	slag type	wt	len	br	dp	comment	pcs
31	2	cinder	1					
32	1	cinder	19					
32	1	iron-rich undiagnostic	6					1
41		smithing hearth bottom	215	90	70	30		
43	4	cinder	1					
57	6	cinder	10					
57	6	iron-rich cinder	8					
59		cinder	2					
61		undiagnostic	164					1
62		iron-rich undiagnostic	205					
63	7	undiagnostic	9					
72		iron-rich undiagnostic	104			20		
116		iron-rich undiagnostic	76					
165		iron	59				tool, rod, large nail	
165		undiagnostic	111					
168		iron-rich undiagnostic	10					
176		iron-rich undiagnostic	210					1
181		crucible	95				fragments	2
184		ceramic crucible/pot	10					
184		cinder	23				with iron staining	
184		copper alloy	31					
184		copper alloy waste	19					
184		fired clay	4					
184		fuel ash slag	4					
184		iron-rich cinder	40					
184		mould	4				fragments	
184		smithing hearth bottom	175	75	60	35		
184		undiagnostic	154					1
184		undiagnostic	311					1
185		iron-rich undiagnostic	88					
186		ceramic crucible/mould	25					

cxt	^s	slag type	wt	len	br	dp	comment	pcs
186		copper alloy	48					
186		kiln/hearth brick	112				fragment; from copper-alloy working	
186		lead	35					
187		undiagnostic	40					

Total weight = 2.43kg

Key groups

The key group is Trench 5, Phase 6 pit [189], contexts (184), (185), (186), and (187). This is a key group for copper-alloy working waste.

Discussion of the assemblage

Although much of the iron slag is fragmentary and undiagnostic, the diagnostic material represents secondary smithing. A significant proportion of the material from pit [189] which was described as slag, is debris from copper-alloy working and casting.

The iron slag appears as a very tiny amount in Phase 3, with an increase in quantity in Phase 4 (only to 657g) in the Trench 5 dump layers [31], [32], [41], [62], and [176]. In Phase 5 the quantity of slag decreases to just 373g

The significant period for metalworking evidence is Phase 6. Although just 808g of the material is iron slag or related ironworking debris - a smithing hearth bottom was found in context (184) - the rest is waste from copper-alloy working, most from pit [189].

Type	Context
Copper alloy	184, 186
Copper alloy waste	184
Ceramic mould fragments	184, 186
Crucible fragment	184
Brick from a copper-alloy working hearth	186
Lead lump	186

This type of copper-alloy working evidence is not unexpected in this area, given the enormous quantity and range of debris (trade copper coil, waste dribbles, crucibles, moulds, pinner's bones, wire, offcuts, pins etc.) found at the City of London Boys School (BOY 86) (Keys 1989) and the smaller quantity of material at the Whitefriars excavation (WFT99).

Significance of assemblage

The assemblage has no great significance other than to highlight the early post-medieval dumping of metalworking waste – particularly from copper-alloy working – in this area.

Importance

The site is of local importance.

Recommendations for further work

The non-ferrous waste and debris should be examined in conjunction with the other copper-alloy working evidence and finds found at the site. The iron slag assemblage does not require further analysis and only needs a passing comment in any publication. The iron slag assemblage could be discarded.

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APPENDIX 8: ANIMAL BONE ASSESSMENT

By Philip Armitage

Introduction

This report summarises the results of an assessment of the large assemblage of hand-collected animal bone (27 boxes) from the medieval and post-medieval contexts at the site. Two boxes of sieved samples were also submitted. For the purposes of rapid assessment and reporting, samples from five contexts were selected as representative of this sieved material.

Identifications of the bone to taxon/species level were carried out using the author's modern comparative osteological collections and with reference to published works – including: Cohen & Serjeantson (1986), Lister (1966), Sisson *et al.* (1975), Tomek & Bocheński (2000), Wójcik (2002), and Wouters *et al.* (2007).

With the exception of the few horse, cat, dog, house mouse bones, and worked red deer antler, the animal bone from DOR13 is identified as discarded food waste.

Results

Preservation & numbers of species represented

Preservation overall is good to very good with only very low incidences of weathered, leached or, biologically degraded bones. Likewise, very few bones exhibit evidence of either dog gnawing or burning. Bones with areas/patches of green staining were noted in the Phase 4, 5 and 6 assemblages – indicating contact with, or at least close proximity to copper alloy objects.

The numbers of identified specimens present (Total NISP = 2,385) in the hand-collected material are summarised by phase in Table 1. NISP data for the examined sieved samples are summarised in Table 2. Overall, 12 mammalian, 10 bird and 10 fish species are represented. No amphibians or reptiles were identified in the examined material. Microsoft Excel spreadsheets showing the complete sets of NISP data for each of the species by phase/context are held in the site archive.

Descriptions of the assemblages

Phase 2: Medieval features and deposits

Context [47] fill of pit [48] produced a very small group of bones (NISP = 4), including a domestic fowl tibiotarsus.

Phase 3: Medieval reclamation and levelling

Cattle and sheep are the dominant animals represented in the Phase 3 assemblage, occurring in virtually equal numbers. Bones of other food animals include those of pig, rabbit, domestic fowl and

goose, but in smaller quantities. Horse is represented by a single isolated upper second premolar tooth.

Phase 4: the preparation for Bridewell - late medieval landscaping

Phase 4 contexts yielded larger quantities of animal bones than the previous one; predominated by those of cattle and sheep. Among the other mammal remains, in addition to bones of pigs, rabbits, fallow deer and red deer, there is the noteworthy presence of a lumbar vertebra of a cetacean (dolphin or porpoise), from dump/levelling layer [31]. Bones of domestic fowl form the majority of the recovered bird bones, with lesser quantities of geese and mallard duck. Marine fish dominate in the sieved samples.

Phase 5: the late medieval Palace of Bridewell

Even more animal bone came from this phase than the previous one, but again with almost equal representation of the major domesticates: cattle and sheep. Pig and rabbit are again relatively well represented. Three species of deer are identified: red deer, fallow deer and roe deer. Domestic fowl and goose comprise the major bird species. Context [165] fill of linear cut [166] produced three articulating/associated bone elements (carpometacarpus, radius & ulna) from the wing of a teal. Marine species dominate the sieved fish bone material, as in Phase 4.

Among the noteworthy bones in Phase 5 is a worked red deer antler with chopping marks, from dump layer [66]. This specimen comprises the lower portion of the beam with attached brow tine, burr and pedicel – the latter's presence indicating the antler had derived from a hunted animal and was not a naturally shed antler picked up in the surrounding landscape. Evidence of bone-working is provided by a sawn proximal end of a cattle metatarsus from dump/levelling layer [167].

Phase 6: Post-medieval

A smaller quantity of animal bone came from this phase, predominated by cattle and sheep, with pig of secondary frequency. Cattle horn-working waste is represented by a chopped horn core from [184] the fill of pit [189].

Research Questions

Among the suggested areas meriting further research are the following:

- Are there particular groups of food bones or significant bone elements of certain species within the late medieval and post-medieval assemblages that are characteristic of high status dining and can these be directly shown to be associated with the occupants of local households or Bridewell Palace?
- Similarly, is there any evidence of a restricted or basic dietary regime that may be linked to the site at the time of the "poor house" and prison?
- What do the bones from the sieved residues reveal about the variety of fish and small wild birds exploited as food sources?

- What do the bones from the sieved residues tell us about the natural small wild fauna at the site?
- Does the cattle metrical data provide evidence of stock improvements earlier than the so-called "Agricultural Revolution" of the late 18th and early 19th centuries? This aspect is of more than local/regional interest (see Kerridge 1967).
- Does the metrical data obtained from the quantities of domestic fowl bones indicate significant progress in poultry breeding in the later medieval and post-medieval periods? This aspect is of more than local/regional interest.

Recommendations

In order to answer the research questions above, further detailed recording and analyses of the animal bones from the Phase 3, 4, 5 & 6 contexts will need to be carried out. This includes examination of faunal remains from all the sieved samples.

Comparison of the range of wild birds at DOR13 should be made with species lists documented for other contemporary late medieval/early post-medieval sites in London, such as Baynard's Castle (Bramwell 1975). Sexing and ageing the domestic fowl bones from DOR13 will reveal whether the birds represented had been kept primarily as egg or meat producers, or for both products. Measurements taken on the domestic fowl should be compared with contemporary medieval/ post-medieval assemblages - such as that from Hertford (Jaques & Dobney 1995) – allowing insight into any size increase that may have taken place during these periods.

In summary, it is recommended that the animal bone from the site should be published, concentrating on assemblages associated with high status households, Bridewell Palace and its subsequent use as a "poor house" and prison. The very small group of bone from Phase 2 needs no more than a brief mention (if at all?). The final report on the animal bone should include summary tables of NISP and metrical data. A photograph or drawing of the lumbar vertebrae of the dolphin/porpoise should feature in the report. This is a particularly interesting find and should be referenced against other archaeological discoveries of cetaceans in London and also considered as evidence of high status dining (see Gardner 1997).

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		Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	
	No. Contexts	1	13	19	22	8	Totals
MAMMALS:							
cattle *Bos* (domestic)		1	59	309	492	104	
sheep Ovis (domestic)		3	45	302	520	109	
pig *Sus* (domestic)			9	32	54	13	
dog *Canis* (domestic)				1	2	2	
cat *Felis* (domestic)				2	2	2	
rabbit *Oryctolagus cuniculus*			1	13	55	5	
horse Equus caballus (domestic)			1	2	1		
red deer *Cervus elaphus*				1	1		
fallow deer *Dama dama*				3	1		
roe deer *Capreolus capreolus*					1		
Cetacean - dolphin/porpoise (a)				1			
	Subtotals	4	115	666	1129	235	2149
BIRDS:							
domestic fowl *Gallus gallus* (domestic)			4	52	114	19	
grey-lag/domestic goose *Anser anser*/domestic			2	4	22	1	
mallard/domestic duck *Anas platyrhynchos*/domestic				3	3	1	
teal *Anas crecca*					4		
cormorant *Phalacrocorax carbo*				1			
woodcock *Scolopax rusticola*				1	1		
magpie *Pica pica*						1	
	Subtotals	0	6	61	144	22	233
FISHES:							
cod *Gadus morhua*					2		
plaice/flounder *Pleuronectes platessa/Platichthys flesus*			1				
	Subtotals	0	1	0	2	0	3
	Overall Totals	4	122	727	1275	257	2385

Table 1: Total numbers of identified specimens present (NISP) of mammal, bird and fish bones. Hand-collected bones.
Note: (a) possibly common porpoise Phocoena phocoena

		Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Totals
	No. contexts		1	2	2		
MAMMALS:							
cattle Bos (domestic)			5	19	5		
sheep Ovis (domestic)			16	41	15		
pig Sus (domestic)			1	2	2		
rabbit Oryctolagus cuniculus			11	11	61		
	Subtotals	0	33	73	83	0	189
BIRDS:							
domestic fowl Gallus gallus (domestic)			1	13	14		
grey-lag/domestic goose Anser anser/domestic					5		
snipe Capella gallinago					1		
woodcock Scolopax rusticola					1		
blackbird Turdus merula					1		
starling Sturnus vulgaris				1			
	Subtotals	0	1	14	22	0	37
FISHES:							
cod Gadus morhua			1	14	11		
haddock Melanogrammus aeglefinus				1			
whiting Merlangius merlangus				33	15		
small Gadoid (codfishes) Gadidae				33	21		
herring Clupea harengus				28	18		
plaice/flounder Pleuronectes platessa/Platichthys flesus			1	12	10		
conger eel Conger conger				7			
thornback ray (or roker) Raja clavata					1		
gurnards family Triglidae				1			
freshwater eel Anguilla anguilla				13	15		
cyprinid (carp family)				1	1		
	Subtotals	0	2	143	92	0	237

Table 2: Total numbers of identified specimens present (NISP) of mammal, bird and fish bones. Representative sieved samples

		Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Totals
MAMMALS:							
cattle *Bos* (domestic)			2	11	14	5	32
sheep Ovis (domestic)			1	19	13	10	43
pig *Sus* (domestic)				1	2		3
rabbit *Oryctolagus cuniculus*				4	8	1	13
dog *Canis* (domestic)					1	2	3
cat *Felis* (domestic)				1	2		3
red deer *Cervus elaphus*				1			1
roe deer *Capreolus capreolus*					1		1
	Subtotals	0	3	37	41	18	99
BIRDS:							
domestic fowl *Gallus gallus* (domestic)			1	28	38	9	76
grey-lag/domestic goose *Anser anser*/domestic					7		7
	Subtotals	0	1	28	45	9	83
	Overall Totals	0	4	65	86	27	182

Table 3: Numbers of measurable bones.

APPENDIX 9: ENVIRONMENTAL ASSESSMENT

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Introduction

This report summarises the findings arising out of the environmental archaeological assessment undertaken by Quaternary Scientific (University of Reading) of samples from 1 Dorset Rise, City of London, London EC4Y 8EN (Site Code: DOR13; National Grid Reference TQ 31552 81003). Bulk samples for environmental archaeological assessment were collected during a series of archaeological interventions at the site, undertaken by Pre-Construct Archaeology Ltd between January and September 2013. Although the archaeological sequence has clearly been severely impacted by modern construction and demolition, the site is located immediately to the west of Henry VIII's Royal Palace at Bridewell. Four phases of medieval activity were identified at the site: Phase 2, including a series of features cut in to the natural brown clay and containing artefacts that may might date from the late 10th century, but predominantly dated to the 12th or 13th centuries; Phase 3, including deposits related to land reclamation and levelling prior to the establishment of Bridewell Palace from the 12th century onwards; Phase 4, Late medieval Landscaping associated with Bridewell Palace; and Phase 5, including structures and features that relate to the Bridewell Palace complex itself. A total of twelve samples were collected from the site, with one dated to Phase 3; four from Phase 4, and seven dated to Phase 5.

The aim of the environmental archaeological assessment was to evaluate the potential of the samples for reconstructing the past economy and diet, and general environmental context of the site.

Methods

Rapid assessment

A total of twelve bulk samples were processed by flotation by Pre-Construct Archaeology Ltd using 1mm and 300-micron mesh sizes, producing a flot and residue from each sample. All samples were rapidly assessed for macrofossil remains using a low power zoom-stereo microscope at x7-45 magnification, and the quantities and preservation of each class of macrofossil in each sample recorded (Table 1).

Charcoal assessment

Following the results of the rapid assessment, all twelve samples were recommended for a more detailed assessment of the charcoal remains. The methodology employed for the assessment of the charcoal fragments followed standard procedures as described in Hather (2000). Ten fragments from each of the twelve samples were examined, with the taxa identified, the total values for weight,

fragment count, and 'ubiquity' (i.e. number of samples in which each taxon is represented) recorded (Table 2). Fragment counts ('Qty') and weight ('Wt.') of each taxon identified in each sample was recorded (Table 3). The nomenclature used follows Stace (1997).

Results Of The Rapid Assessment Of Flots And Residues

A total of twelve samples were assessed for the preservation and concentration of macrofossil remains (Table 1).

Phase 3: Medieval Reclamation and Levelling

One sample assessed dated to Phase 3 (<11> [116]; Medieval dump/levelling layer). This sample contained only low to moderate quantities of identifiable charcoal fragments.

Phase 4: The Preparation for Bridewell: Late Medieval Landscaping

A total of four samples assessed were dated to Phase 4. Of these, fragments of bone and Mollusca were recorded in low quantities in one sample (<4> [43]; medieval dump/levelling layer). All four samples contained low to moderate quantities of identifiable charcoal (>2mm in diameter).

Phase 5: The Late Medieval Palace of Bridewell

A total of seven samples were assessed from Phase 5. Fragments of bone were recorded in low quantities in two samples: <5> [59] (Fill of bedding trench cut [60]) and <6> [57] (Fill of bedding trench cut [58]). Moderate to high quantities were recorded in an additional three samples, <7> [63] (Fill of bedding trench [64]), <8> [65] (medieval dump/levelling layer) and <9> [66] (medieval dump/levelling layer ?kitchen/oven waste).

Low quantities of Mollusca, mostly preserved as fragments but with some small complete specimens, were recorded in samples <6> [57] (Fill of bedding trench cut [58]), <7> [63] (Fill of bedding trench [64]), <8> [65] (medieval dump/levelling layer) and <9> [66] (medieval dump/levelling layer ?kitchen/oven waste). Charcoal was recorded in moderate to high quantities in all seven samples, with the exception of samples <10> [103] (Fill within brick drain [16]) and <12> [117] (medieval dump/levelling layer), which contained low concentrations. However, all seven samples contained identifiable fragments (>2mm length on all axes).

No charred or waterlogged seeds, waterlogged wood or insects were identified during the rapid assessment.

Table 1: Results of the rapid assessment of flots and residues from Dorset Rise, City of London (Site Code: DOR13)

								Charred					Uncharred		Bone			Mollusca			
Sample number	Context number	Phase	Context description	Size of context sampled (%)	Total volume processed (l)	Flot weight (g)	Fraction (e.g. flot, residue, >300µm)	Charcoal (>4mm)	Charcoal (2-4mm)	Charcoal (<2mm)	Seeds	Chaff	Wood	Seeds	Large	Small	Fragments	Whole	Fragments	Insects	Pottery
1	32	4	Medieval dump/levelling layer	?	?	17.9	Flot	-	-	1	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	3	-	-	-	-	-	-	-	-	-	-	-	-	-
2	31	4	Medieval dump/levelling layer	?	?	30.2	Flot	-	-	-	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	2	-	-	-	-	-	-	-	-	-	-	-	-	-
3	35	4	Medieval dump/levelling layer	?	?	10.0	Flot	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	43	4	Medieval dump/levelling layer?	?	40	10.0	Flot	-	2	-	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	-	-	-	-	-	-	-	-	-	1	1	-	-	-
5	59	5	Fill of bedding trench cut [60]	?	?	93.2	Flot	-	-	5	-	-	-	-	-	-	1	-	-	-	-
						N/A	Residue	3	-	-	-	-	-	-	-	-	-	-	-	-	-
6	57	5	Fill of bedding trench cut [58]	?	35-40	115.5	Flot	1	-	5	-	-	-	-	-	-	1	1	-	-	-
						N/A	Residue	1	1	1	-	-	-	-	-	-	-	-	-	-	-
7	63	5	Fill of bedding trench [64]	?	?	17.1	Flot	-	1	5	-	-	-	-	-	1	-	-	-	-	-
						N/A	Residue	3	4	-	-	-	-	-	-	2	5	-	1	-	-
8	65	5	Medieval dump/levelling layer	?	40	13.5	Flot	1	1	1	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	5	2	-	-	-	-	-	-	2	5	-	2	-	-

								Charred					Uncharred		Bone			Mollusca			
Sample number	**Context number**	**Phase**	**Context description**	**Size of context sampled (%)**	**Total volume processed (l)**	**Flot weight (g)**	**Fraction (e.g. flot, residue, >300µm)**	**Charcoal (>4mm)**	**Charcoal (2-4mm)**	**Charcoal (<2mm)**	**Seeds**	**Chaff**	**Wood**	**Seeds**	**Large**	**Small**	**Fragments**	**Whole**	**Fragments**	**Insects**	**Pottery**
			?kitchen/oven waste																		
9	66	5	Medieval dump/levelling layer ?kitchen/oven waste	?	40	29.0	Flot	1	1	5	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	4	2	-	-	-	-	-	-	2	5	1	1	-	-
10	103	5	Fill within brick drain [16]	?	10	N/A	Residue	1	-	1	-	-	-	-	-	-	-	-	-	-	-
11	116	3	Medieval dump/levelling layer	?	30	13.9	Flot	1	-	-	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	2	-	-	-	-	-	-	-	-	-	-	-	-	-
12	117	5	Medieval dump/levelling layer	?	30	10.0	Flot	-	1	-	-	-	-	-	-	-	-	-	-	-	-
						N/A	Residue	1	1	-	-	-	-	-	-	-	-	-	-	-	-

Key: 0 = Estimated Minimum Number of Specimens (MNS) = 0; 1 = 1 to 25; 2 = 26 to 50; 3 = 51 to 75; 4 = 76 to 100; 5 = 101+

Results And Interpretation Of The Charcoal Assessment

The 10 taxa identified during the charcoal assessment are listed below (Table 2), along with the total values for weight, fragment count, and 'ubiquity' (i.e. number of samples in which each taxon is represented). The detailed findings for each sample assessed are presented in Table 3.

Table 2: Taxa identified during the assessment of samples from Dorset Rise, City of London (DOR13)

Taxon	English name(s)	Total Qty.	Total Wt.(g)	Ubiquity
Acer cf campestre	Field Maple	3	7.899	3
Betula sp.	Birch	10	6.918	7
Corylus avellana	Hazel	11	13.099	7
Fagus sylvatica	Beech	20	11.473	9
Frangula alnus	Alder Buckthorn	1	0.446	1
Fraxinus excelsior	Ash	11	19.868	9
Maloideae: *Crataegus*, *Malus*, *Pyrus* & *Sorbus* spp.	Hawthorn; apple; pear; rowan, whitebeams & wild service tree	3	2.497	2
Salix/Populus sp.	Willlow/Poplar	10	14.521	4
Quercus sp.	Oak	46	35.929	12
Ulmus sp.	Elm	4	4.196	2
Indeterminate (hardwood)	-	1	0.113	1

All ten taxa identified are hardwoods native to England. No softwoods were identified among the fragments examined. Each of the 12 samples typically contained relatively large fragments of well-preserved charcoal, including intact round-wood. Thermal degradation in most instances was unexceptional. Likewise, fungal degradation was occasionally present but relatively abundant in only a few fragments. Of the 120 fragments examined only a single fragment could not be identified (beyond being a hardwood). In this instance atypical anatomical characteristics, described here as 'knotty', prevented recognition.

Table 3: Detailed results of the charcoal assessment of samples from Dorset Rise, City of London (DOR13)

Cxt.	Samp.	Phase	Taxon	Qty	Wt (g)	Remarks
32	1	4	*Acer cf campestre*	1	1.944	Branch/stem frag.
			Betula sp.	1	2.209	Round-wood.
			Fraxinus excelsior	1	1.651	Branch/stem
			Quercus sp.	4	4.905	x4: Twig/round-wood; Ø7-14mm; 6-8 rings.
			Salix/Populus sp.	3	9.002	All round-wood; Ø14-25mm; 6-8 rings. Fungal hyphae frequent.
31	2	4	*Corylus avellana*	2	6.477	Round-wood; Ø25mm; 7/8 rings. Ring growth pattern: *cf* coppiced wood?
			Fraxinus excelsior	2	0.926	Inc. twig
			Quercus sp.	5	3.303	Inc. round-wood; Ø6-7mm; 10(+) rings (small branch)
			Salix/Populus sp.	1	0.931	Round-wood
35	3	4	*Acer cf campestre*	1	0.067	Round-wood. 3(+) rings
			Betula sp.	1	0.172	Round-wood. 4(+) rings
			Fagus silvatica	3	0.401	Round-wood. Inc. some v slow grown. 10+ rings
			Quercus sp.	5	0.647	Round-wood. 2(+) - 8(+) rings. most fast grown
43	4	4	*Corylus avellana*	1	0.038	Round-wood
			Fagus silvatica	3	0.168	Mature stem/branch wood.
			Quercus sp.	5	0.272	Mature stem/branch wood. Inc.(x2) acute thermal degradation.
			Indeterminate hardwood	1	0.113	Very 'knotty'
59	5	5	*Betula* sp.	2	2.171	Round-wood; Ø9-15mm; 5(+) - 8(+) rings
			Corylus avellana	2	1.271	x2: Round-wood: Ø10-11mm; 5-6 rings
			Fagus silvatica	2	0.913	Stem/branch wood; 6(+) -10(+) rings
			Fraxinus excelsior	2	8.975	x2: ½ round – Ø24mm; 8/9 rings.
			Quercus sp.	1	0.272	Stem/branch wood, tyloses present. 2(+) rings.
			Salix/Populus sp.	1	0.174	Round-wood? 2(+) rings
57	6	5	*Betula* sp.	2	1.005	Round-wood (x1) Ø8mm, 6(+) rings; (x1) 'knot-wood"
			Corylus avellana	2	3.306	Round-wood Ø10-23mm, 6(+) - (8+) rings. Ring growth pattern: *cf* coppiced wood?
			Quercus sp.	3	1.711	Twig/round-wood, Ø12mm; 2-6 rings, fast grown
			Ulmus sp.	3	3.541	Stem/branch wood. 2(+) rings

Cxt.	Samp.	Phase	Taxon	Qty	Wt (g)	Remarks
63	7	5	*Acer cf campestre*	1	5.888	Small ?stem/branch. *Rad.*26mm(+), slow grown
			Fagus sylvatica	3	5.574	Stem/branch. *Rad.*21mm(+) - 33mm(+).
			Fraxinus excelsior	1	0.769	Round-wood. 5 rings
			Frangula alnus	1	0.446	Round-wood, Ø12mm, 9 rings.
			Maloideae	1	2.026	Round-wood, Ø14mm.
			Quercus sp.	2	0.986	Twig/small branch. *Rad*. 8mm(+), 10(+) rings
			Ulmus sp.	1	0.655	Stem-branch. 3 rings. Mature.
65	8	5	*Betula* sp.	1	0.687	Round-wood, Ø11mm.
			Corylus avellana	1	0.664	Round-wood, *Rad*. 9mm(+)
			Fagus sylvatica	3	0.734	Stem-branch. Mature.
			Fraxinus excelsior	1	0.622	Round-wood. Mature.
			Quercus sp.	4	3.234	Twig/small branch. *Rad*. 11,16mm(+), 7(+) rings
66	9	5	*Fagus sylvatica*	1	0.456	½ round – Ø12mm; Thermal deg. acute
			Fraxinus excelsior	1	5.970	Round-wood, Ø22-26mm.
			Maloideae	2	0.471	½ round – Ø9-10mm; 10(+) rings
			Quercus sp.	6	13.951	Round-wood, Ø20-27mm; 10(+) rings
103	10	5	*Corylus avellana*	1	0.129	½ round – Ø9mm. Round-wood.
			Fagus sylvatica	1	0.294	Stem/branch wood.
			Fraxinus excelsior	1	0.215	Stem/branch wood.
			Quercus sp.	2	0.650	Stem/branch wood. Ty loses present
			Salix/Populus sp.	5	4.414	Round-wood. Ø10-27mm.
116	11	3	*Betula* sp.	1	0.382	½ round – Ø15(+)mm. ?Round-wood.
			Corylus avellana	2	1.214	½ round – Ø14(+)mm. 24(+) rings, Round-wood.
			Fagus sylvatica	1	2.357	½ round – Ø15(+)mm. 12(+) rings, Round-wood.
			Fraxinus excelsior	1	0.449	Stem/branch wood.
			Quercus sp.	5	2.961	Round-wood. Inc. *Rad.*10(+)mm.
117	12	5	*Betula* sp.	2	0.292	Round-wood. 5(+) rings
			Fagus sylvatica	3	0.576	Stem/branch wood. 12(+) rings.
			Fraxinus excelsior	1	0.291	¼ round, *Rad.*6(+)mm.
			Quercus sp.	4	3.309	Round-wood, Ø12(+) -15(+)mm. 4(+) -10(+) rings,

Discussion and Conclusions

The aim of the environmental archaeological assessment was to evaluate the potential of the samples for reconstructing the past economy and diet, and general environmental context of the site. A total of twelve samples were assessed from Phases 3 (one sample), 4 (four samples) and 5 (seven samples). During the course of the rapid assessment it was found that the twelve samples assessed contained low to high quantities of identifiable charcoal, and thus these underwent a more detailed assessment. No charred or waterlogged seeds, waterlogged wood or insects were identified during the rapid assessment.

From the context information available, it appears that the wood remains assessed here derived from the use of wood as fuel, seemingly from domestic activities. The array of woods identified includes some of the most highly regarded fuel woods and, as such, tends to support this view. The general size of the fragments, inferred by ring curvature and evident as intact round-wood, suggest that the original form of the great majority of the wood used was probably a mix of small branches and large twigs rather than large stem/branches that had been reduced in size (i.e. split or chopped) to facilitate use in a hearth. This includes the wood from the large timber producing trees represented in the assemblage: Oak, Beech, Elm and Ash. It should be noted that of the samples from Phases 4 and 5, sample <6> [57], included what appears to be coal; sample <12> [117] included what appeared to be slag/clinkers from a fire; and fragments of bone were recorded in low quantities in three samples: <4> [43], <5> [59] and <6> [57], whilst moderate to high quantities were recorded in samples <7> [63], <8> [65] and <9> [66].

The identified taxa include those well suited to coppicing (i.e. Hazel, Field Maple, Oak, Ash and Beech) and, significantly, some fragments displayed the ring growth pattern of wide (fast grown) early rings followed by narrower (slower grown) later rings believed to be indicative of this method of silviculture (Rackham 1977). Slow grown wood, possibly derived from ancient established woodland, was also observed.

It seems unlikely that all the taxa represented in these samples were growing in sufficient, if any, quantity in the vicinity of the site. The apparent good quality of the wood suggests that it was probably not gathered opportunistically from among the coarse woody debris found on the woodland floor. A plausible scenario perhaps is that the wood derived from more distant managed woodland and was supplied from accumulated stock via a specialist trade network.

Recommendations

Further analysis of samples from this site could identify woods not represented in the samples assessed here. The distinct possibility that specific woods were harvested from managed woodland, some of which included coppice, is of some interest and could be further investigated through more detailed analysis of the size/age range pattern(s) of the woods represented in various samples and, where feasible, through study of the growth ring patterns of individual wood elements. For these reasons

further work on samples from this site is recommended should they be deemed of sufficient archaeological interest. All twelve samples contain charcoal suitable for radiocarbon dating.

Bibliography

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Stace, C., 1997. *New Flora of the British Isles*. 2nd edition. Cambridge: Cambridge University Press.

APPENDIX 10: OASIS DATA ENTRY FORM

OASIS ID: preconst1-184554

Project details	
Project name	1 Dorset Rise
Short description of the project	Limited area excavations were carried out immediately to the north of the standing building and within the adjacent courtyard, a drainage trench was excavated in the basement of the standing building. Medieval land reclamation dumps and landscaping formed the majority of the sequence prior to the construction of Bridewell Palace. The excavations unearthed major structural elements of a previously undocumented wing of the Palace
Project dates	Start: 15-04-2014 End: 17-09-2014
Previous/future work	Yes / No
Any associated project reference codes	DOR13 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 3 - Built over
Monument type	DITCH Medieval
Monument type	PIT Medieval
Monument type	DRAIN Medieval
Monument type	FOUNDATION Medieval
Significant Finds	POT Roman
Significant Finds	TILE Roman
Significant Finds	POT Medieval
Significant Finds	TILE Medieval
Significant Finds	BRICK Medieval
Significant Finds	STATUETTE Medieval
Significant Finds	GLASS Medieval
Significant Finds	GLASS Post-medieval

Significant Finds	POT Post-medieval
Investigation type	"Part Excavation","Open-area excavation"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON 1 Dorset Rise
Postcode	EC4Y 8EN
Study area	975.00 Square metres
Site coordinates	TQ 31552 81003 51.5121199729 -0.10402222335 51 30 43 N 000 06 14 W Point
Height OD / Depth	Min: 2.21m Max: 4.00m

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	City of London
Project design originator	Helen Hawkins
Project director/manager	Helen Hawkins
Project supervisor	Douglas Killock
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Montague Evans LLP on behalf of Whitbread and Premier Inn

Project archives

Physical Archive recipient	LAARC
Physical Archive ID	DOR13
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Industrial","Metal","Worked bone"
Digital Archive recipient	LAARC

Digital Archive ID	DOR13
Digital Media available	"Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	LAARC
Paper Media available	"Context sheet","Drawing","Matrices","Microfilm","Photograph","Plan","Report","Section","Survey","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
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