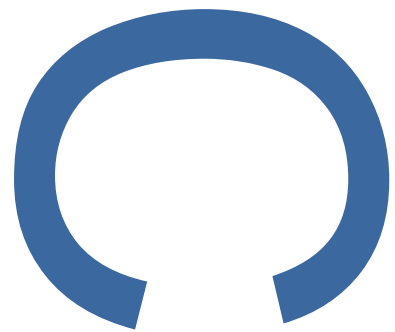


**POETS' CORNER YARD,
TRIFORIUM PROJECT,
WESTMINSTER ABBEY,
LONDON SW1P 3PA**



**AN ARCHAEOLOGICAL
ASSESSMENT**

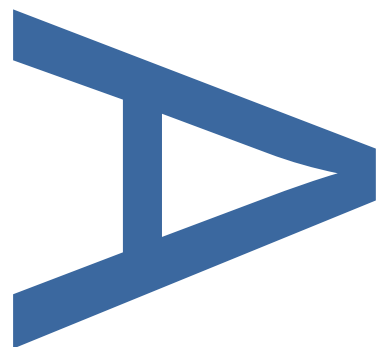


**LOCAL PLANNING AUTHORITY: CITY OF
WESTMINSTER**

PCA REPORT NO: 13223

SITE CODE: PSY12

MAY 2018



PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

**POETS' CORNER YARD, WESTMINSTER ABBEY
TRIFORIUM PROJECT, WESTMINSTER ABBEY,
LONDON SW1P 3PA
CITY OF WESTMINSTER**

EXCAVATION

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**Poets' Corner Yard, Westminster Abbey Triforium Project, Westminster Abbey,
London SW1P 3PA
An Archaeological Assessment**

Site Code: PSY12

Central NGR: TQ 3010 7946

Local Planning Authority: City of Westminster

Planning Reference: 14/13010/FULL

EH Reference: CLO15667

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May 2018

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1 ABSTRACT

- 1.1 Archaeological mitigation works were carried out within Poets' Corner Yard (Figure 1) by Pre-Construct Archaeology Ltd on several occasions between 24th September 2012 and 8th April 2018.
- 1.2 The investigations consisted of an archaeological evaluation, excavations and watching briefs. The archaeological evaluation has been detailed in a previous report (Jorgensen 2012) but will also be referred to in the present document. The work was commissioned by the Dean and Chapter of Westminster Abbey and formed part of the Westminster Abbey Triforium Project.
- 1.3 The archaeological work was carried out by Pre-Construct Archaeology under the project management of Chris Mayo with Paw Jorgensen, Guy Seddon, Kari Bower, Leonardo Penades Clavijo and Corso Dominici supervising various aspects of the fieldwork at different times. Professor Warwick Rodwell, OBE, FSA monitored the work on behalf of the Dean and Chapter. It was also monitored by Diane Abrams of Historic England on behalf of Westminster Council and Iain Bright of Historic England who monitored those works requiring Scheduled Ancient Monument Consent.
- 1.4 The earliest stratum encountered during the investigation was naturally deposited loose, brownish yellow sand occasionally overlying or containing bands or patches of compact gravel, which was consistent with natural deposits recorded during previous archaeological investigations at Westminster Abbey.
- 1.5 A variety of layers were seen to overlie naturally deposited sand and gravels and represented episodes of land reclamation. The finds recovered from these deposits were suggestive of prehistoric and Roman activity on Thorney Island, although the deposits themselves, as with those found during previous archaeological investigations within the abbey precincts, were attributed to large scale land reclamation; the purpose of which was to prepare the site for the construction of Edward the Confessor's church and monastery.
- 1.6 The next major phase of activity within Poets' Corner Yard, seen in several of the excavations, were burials attributed to the monastic cemetery attached to Edward the Confessor's church and monastery dating from the 11th century until the early part of the 13th century. The burials included individuals within wooden and stone coffins, chalk lined cist graves and a number that no longer contained skeletons.

- 1.7 The monastic cemetery was superseded by several features and deposits within Trenches 10-13 that were considered to be associated with Henry III's Lady Chapel, built between 1220-1245, including chalk and Reigate stone wall foundations, masons' floor deposits and a drainage ditch.
- 1.8 The archaeological investigation also revealed a number of activities on site that related to the construction of Henry III's Church and Chapter House within almost all of the excavation areas. These included the foundations for the Abbey structures including a stepped limecrete raft, a number of features associated with construction such as postholes and layers composed of dumped materials, including further potential masons' floor surfaces.
- 1.9 Following the construction of the Henry III's Church and Chapter House the locale of Poets' Corner Yard was once again used as a burial ground and several inhumations were found within the Main Excavation Area, Area A, Trenches 10-13, Trench 16 and Trench 100. These included 3 burials within lead coffins, at least one of which was a decorated, anthropoid casket, and a burial within a 'brick' coffin near the entrance to the South Transept.
- 1.10 Henry III's Lady Chapel was demolished in 1502 in order to make room for the new Lady Chapel. The footings for the new chapel were partially uncovered during the excavation within Trenches 10-13 and following the construction of Henry VII's Lady Chapel a row of shops was built along the southern wall of the building. The remains of brick foundations, for either timber or brick built structures, were uncovered in Trenches 10-13, Area B, and Trench 100.
- 1.11 Further development was seen to have taken place during the 17th and 18th centuries in the area between the Chapel of St Edmund and the South Transept. The heavily truncated remains of at least one brick building and a truncated rectangular soakaway were found as well as additions to both the buttresses and the foundation raft.
- 1.12 Additional development associated with this period occurred in the area to the east of the Chapter House between 1746 and 1792 with the construction of Nos. 1, 2 and 3 Poets' Corner Yard and the remains of one of these, No. 3 Poets' Corner Yard, was exposed during the excavation of Trench 16.

- 1.13 The principle archaeological remains found during the final phase of activity consisted of evidence of the restoration work on the Chapter House performed under the auspices of George Gilbert Scott. Evidence for the works in the Main Excavation Area included trenches excavated for the re-facing of the Chapter House, the construction of a brick lightwell and the rebuilding of one of the Chapter House's flying buttresses. These works were followed by the implementation of service runs, principally culverts and drains dating from the 19th century until the modern period.
- 1.14 All deposits, structures and features were ultimately sealed beneath the paved and grassed areas of Poets' Corner Yard, the recently demolished public toilet block and, in the case of the Southern Transept Heating Duct the flagstones of Westminster Abbey itself.

2 INTRODUCTION

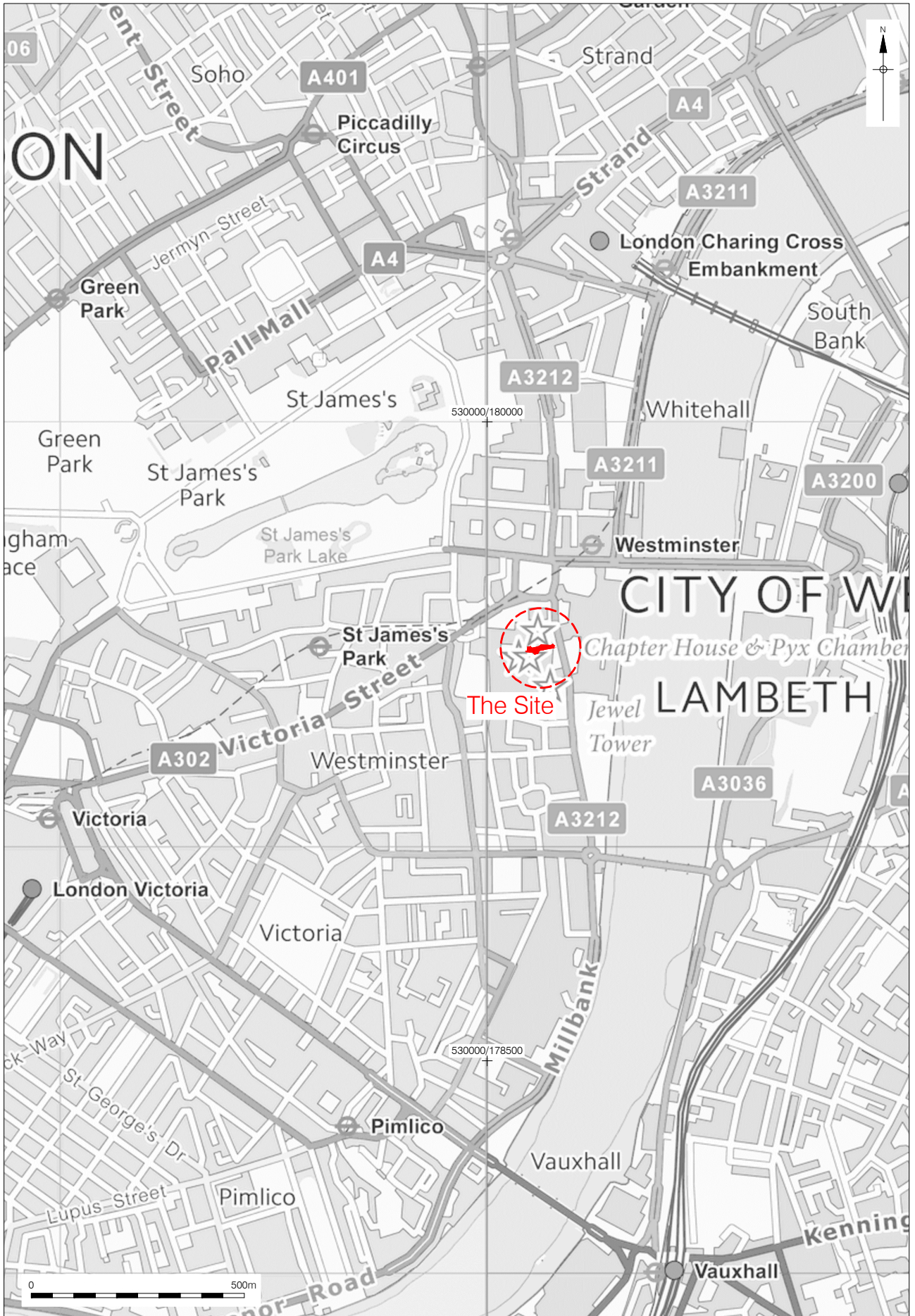
- 2.1 Archaeological mitigation, comprising an evaluation, excavations and watching briefs, was undertaken by Pre-Construct Archaeology Limited at Poets' Corner Yard, Westminster Abbey on various occasions between 24th September 2012 and 8th April 2018. The site was centred at National Grid Reference TQ 3010 7946 in the City of Westminster (Figure 1). The external site boundaries were defined by the Chapels of St Benedict, St Edmund and the Henry VII Lady Chapel to the north, to the west by the South Transept of the Church, to the south by the Chapter House and the fence that separated Poets' Corner Yard from the lawn area around the statue of George V and to the east by the eastern extent of Poets' Corner Yard fronting Abingdon Street. The external site covered an approximate area of c. 280m². Works were also undertaken within the South Transept, concerning the heating duct, and at gallery level within the Abbey (Figure 2).
- 2.2 The archaeological investigation in Poets' Corner Yard (Figure 3) was a consequence of various works preparatory to the construction of a new access tower which will allow public access to the east triforium galleries high above the ambulatory of the church
- 2.3 Initially during the archaeological investigations the site was located within an Area of Special Archaeological Priority as defined by the City of Westminster in their Strategic Policies Map dated January 2013, covering *Lundenwic* and Thorney Island. Westminster Abbey, along with Westminster Palace and St Margaret's Church. During the course of the archaeological investigations a review of Westminster's Archaeological Priority Areas was issued by Historic England (Historic England 2017) which designated Westminster and Whitehall as Tier 1 Archaeological Priority Areas which are known, or strongly suspected, to contain a heritage asset of national importance (a Scheduled Monument or equivalent); or is otherwise of very high archaeological sensitivity. The Chapter House of Westminster Abbey which lies to the south-east of the site is together with the Pyx Chamber in the abbey cloisters a Scheduled Ancient Monument (Scheduled Monument No. SM LO 11). The current site is wholly situated within a World Heritage Site (number 426, designated inscription in 1987). The site also lies within the Westminster Abbey and Parliament Square Conservation Area.
- 2.4 An archaeological evaluation took place at the site between late September and October 2012, the objectives of which were outlined in the Written Scheme of Investigation (Rodwell 2012):
- To determine the nature and size of the footings for the South Transept of the church

- To identify the nature of the footings for the polygonal chapel of St Edmund and one of the supporting buttresses.
- To evaluate the archaeological potential of Poets' Corner Yard and to gauge the level of disturbance caused to the 'soft' archaeology by the installation of services.

2.5 The results of the evaluation led to the organization of the archaeological mitigation discussed in this report, its design was outlined in the Written Scheme of Investigation (Mayo 2014 updated 2015). The objectives of the further archaeological mitigation at the site were defined in that document as:

- To determine / confirm the palaeotopography of the site.
- To determine the presence or absence of prehistoric activity.
- To determine the date and extent of Roman activity, and its location in relation to the Roman street to the east.
- To determine the extent and date of the monastic cemetery.
- To investigate the relationship of the cemetery to the early church, both spatially and temporally.
- To determine / confirm the nature and size of the footings for the South Transept of the church
- To determine / confirm the nature of the footings for the polygonal chapel of St Edmund and one of the supporting buttresses.
- To establish the date and nature of activity associated with the construction of Henry III's church, vis-à-vis the mason's floors.
- To establish the presence or absence of later medieval activity within the external yard area.
- To establish the early to mid post-medieval usage and development of the Yard.
- To establish the extent of past post-depositional impacts on the archaeological resource.

- 2.6 Scheduled Monument Consent was applied for to dismantle a section of the 19th-century Chapter House lightwell retaining wall containing a stone coffin, construction of new access tower footings and relocation of the coffin into the vestibule for the new tower along with associated enabling works and making good of the lightwell footings (S00132421). The consent was granted on 8th April 2016.
- 2.7 The archaeological evaluation was conducted by Pre-Construct Archaeology Limited under the project management of Chris Mayo with Paw Jorgensen, Guy Seddon, Kari Bower, Leonardo Penades Clavijo and Corso Dominici supervising various aspects of the fieldwork at different times. The archaeological work was commissioned by Westminster Abbey and monitored by Professor Warwick Rodwell, OBE, FSA on behalf of the Dean and Chapter of Westminster Abbey. It was also monitored by Diane Abrams of Historic England on behalf of Westminster Council and Iain Bright of Historic England who monitored those works requiring Scheduled Ancient Monument Consent.
- 2.8 The site was recorded under the unique site code PSY12, issued by the Museum of London. The completed archive comprising written, drawn and photographic records will, upon completion of the project, be deposited with the Westminster Abbey Museum under that code.



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Figure 1
 Site Location
 1:12,500 at A4

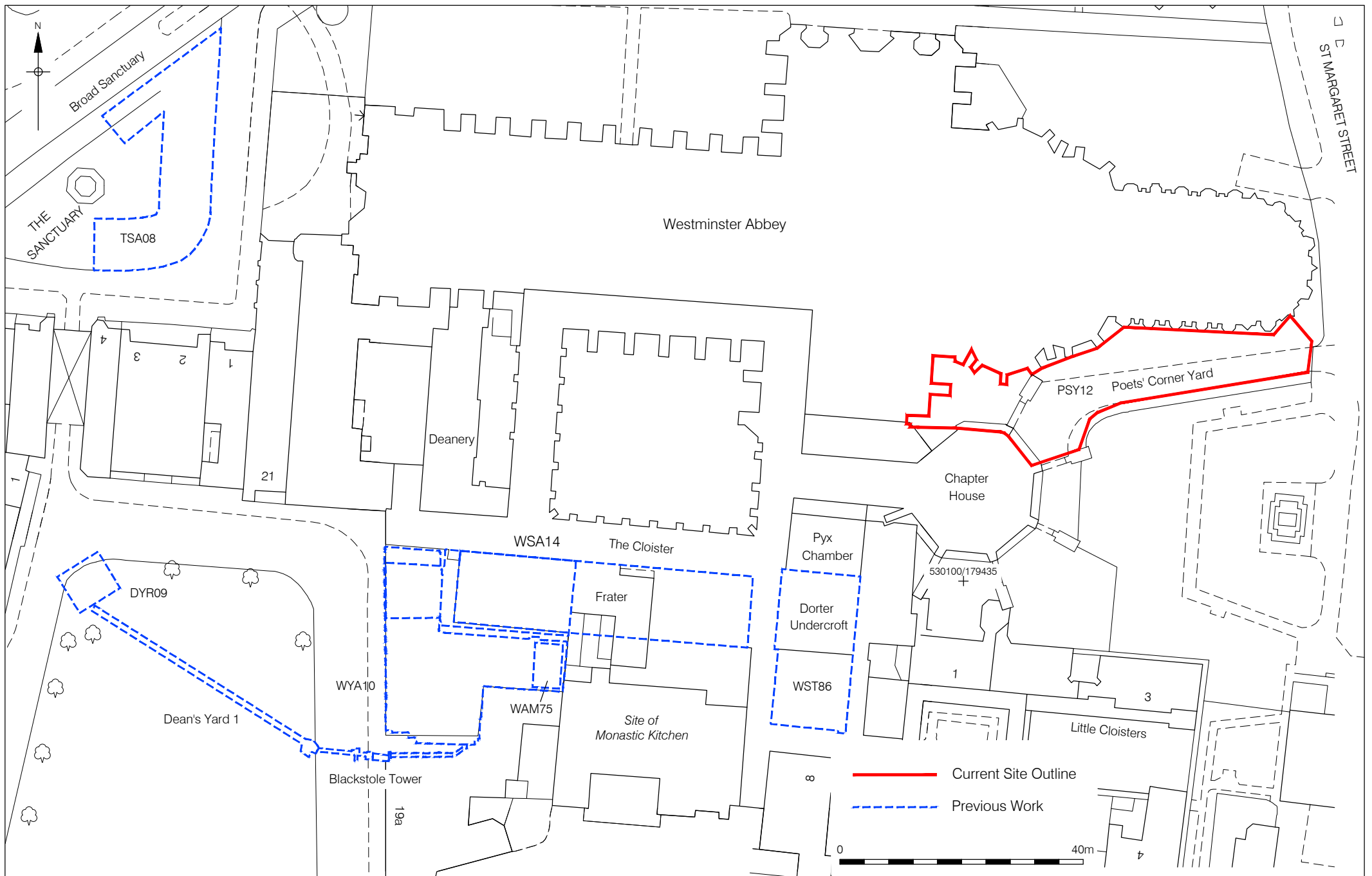
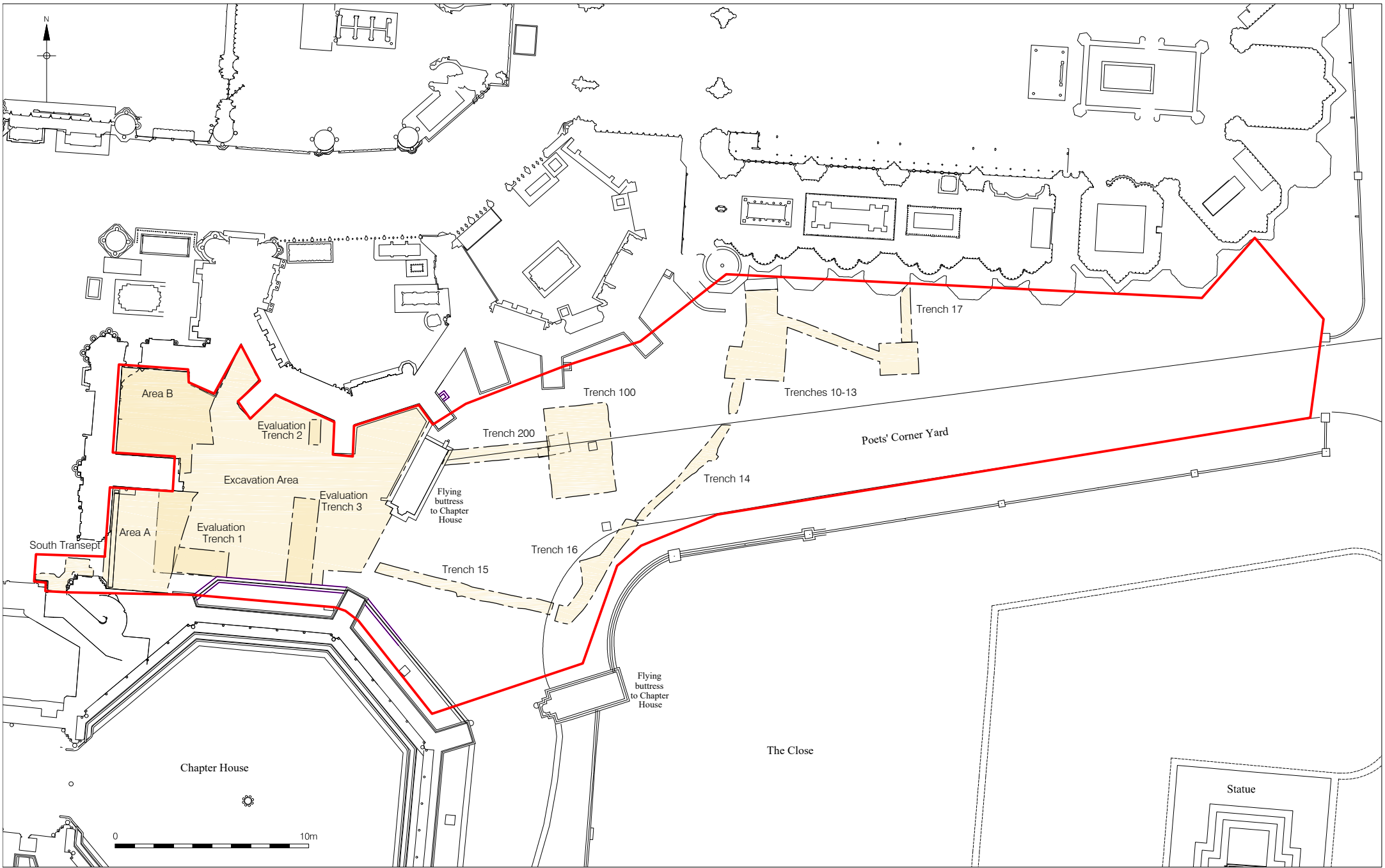


Figure 2
 Detailed Site Location
 1:800 at A4



Based on survey drawing WMA-GFP-PS supplied by The Downland Partnership, 2015
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06/04/18 JB

Figure 3
 Trench Location
 1:250 at A4

3 PLANNING BACKGROUND

3.1 Introduction

3.1.1 A planning application was submitted seeking permission for the construction of a new access tower which would allow public access to the east triforium galleries high above the ambulatory of the church

3.1.2 Poets' Corner Yard is located within an Area of Special Archaeological Priority Area as defined by the City of Westminster in their Strategic Policies Map dated January 2013, covering *Lundenwic* and Thorney Island. During the course of the archaeological investigations a review of Westminster's Archaeological Priority Areas was issued by Historic England (Historic England 2017) which designated Westminster and Whitehall as Tier 1 Archaeological Priority Areas which are known, or strongly suspected, to contain a heritage asset of national importance (a Scheduled Monument or equivalent); or is otherwise of very high archaeological sensitivity. The Chapter House and Pyx Chamber in the abbey cloisters is a Scheduled Ancient Monument (Scheduled Monument No. SM LO 11) as designated by the Ancient Monuments and Archaeological Areas Act 1979. Westminster Abbey, along with Westminster Palace and St Margaret's Church, is a World Heritage Site (number 426, designated inscription in 1987).

3.1.3 Planning permission (14/10310/FULL) has been granted for the Triforium development. Permission was dependent on adherence to certain conditions including that which pertained to the preservation of the archaeological and architectural heritage values of the site.

3.2 National Planning Policy

3.2.1 The National Planning Policy Framework (NPPF) was adopted on March 27th 2012, and constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.

3.2.2 In considering any planning application for development the local planning authority will be guided by the policy framework set by the NPPF, by current local plan policy and by other material considerations.

3.3 Westminster City Plan: Strategic Policies

3.3.1 Developed in order to ensure consistency with the National Planning Policy Framework (NPPF) Westminster's City Plan, adopted November 2013, forms the key policy document for determining planning applications in Westminster. It outlines the planning policies for the city, including particulars relating to the historic environment. The policy relevant to the current study is S25; which is presented below:

POLICY S25 HERITAGE

Recognising Westminster's wider historic environment, its extensive heritage assets will be conserved, including its listed buildings, conservation areas, Westminster's World Heritage Site, its historic parks including five Royal Parks, squares, gardens and other open spaces, their settings, and its archaeological heritage. Historic and other important buildings should be upgraded sensitively, to improve their environmental performance and make them easily accessible.

Reasoned Justification

The intrinsic value of Westminster's high quality and significant historic environment is one of its greatest assets. To compete effectively with other major, world-class cities the built environment must be respected and refurbished sensitively as appropriate. Any change should not detract from the existing qualities of the environment, which makes the city such an attractive and valued location for residents, businesses and visitors.

Detailed policies for each type of heritage asset will be set out in the City Management Plan. Area-based characteristics and detailed measures required to protect and enhance heritage assets have been set out in Conservation Area Audit Supplementary Planning Documents and the Westminster World Heritage Site Management Plan.

3.4 Local Policy: City of Westminster Unitary Development Plan

3.4.1 The Westminster Unitary Development Plan (UPD), which was adopted 24th January 2007, sets out planning policies for developing land, improving transport and protecting the environment.

3.4.2 Chapter 10 of the UDP contains policies pertaining to urban design and conservation, of these policies Policy DES 11 specifically relates to Scheduled Ancient Monuments and areas and sites of archaeological priority and potential and Policy DES 16 pertains to the World Heritage Site consisting of the Palace of Westminster and Westminster Abbey including St Margaret's Church.

DES 11: SCHEDULED ANCIENT MONUMENTS, AREAS AND SITES OF ARCHAEOLOGICAL PRIORITY AND POTENTIAL

Aim

10.147 To identify archaeological remains of national and local importance, conserve them in their settings, and provide public access to them. Where new development is proposed

on sites of archaeological potential, to ensure adequate archaeological impact assessment, followed by appropriate provision for preservation or investigation, recording, and publication.

(A) Scheduled Ancient Monuments

Permission for proposals affecting the following Scheduled Ancient Monuments, or their settings, will be granted providing that their archaeological value and interest is preserved:

- 1) the Chapter House and Pyx Chamber in the Cloisters, Westminster Abbey*
- 2) the Jewel Tower.*

(B) Areas and Sites of Special Archaeological Priority and Potential

Permission will be granted for developments where, in order of priority:

- 1) all archaeological remains of national importance are preserved in situ*
- 2) remains of local archaeological value are properly, evaluated and, where practicable, preserved in situ*
- 3) if the preservation of archaeological remains in situ is inappropriate, provision is made for full investigation, recording and an appropriate level of publication by a reputable investigating body.*

Policy application

10.148 There are three categories of archaeological remains. In order of importance they are:

- a) Scheduled Ancient Monuments: nationally important remains which are scheduled under the Ancient Monuments and Archaeological Areas Act 1979*
- b) Areas of Special Archaeological Priority: areas rich in archaeological remains, where ground works are likely to reveal archaeological remains*
- c) Sites of Archaeological Significance and Potential: areas where archaeological remains are known or thought likely to exist.*

10.149 These locations are listed in the Sites and Monuments Record maintained by English Heritage. The Areas of Special Archaeological Priority are Lundenwic and Thorney Island; Paddington and Lillystone Villages; Marylebone Village; Tyburn Settlement and Ebury Village. The archaeological data produced by the Museum of London and English Heritage provide more detailed information, including further sites and areas of archaeological significance and potential within Westminster. Areas of Special

Archaeological Priority are illustrated on Maps 10.3-10.7. Information on these and other sites of archaeological priority and potential are available from the Greater London sites and monuments record maintained by English Heritage.

10.150 In considering applications for development of land with archaeological potential, the City Council will require an archaeological assessment detailing the potential impact of development upon surviving archaeological remains. Should archaeological evaluation and investigations be required, it must be undertaken in accordance with a written scheme of investigation approved by the City Council. The Greater London Archaeology Advisory Service provides guidance papers detailing these procedures. With respect to policy DES 11 B (3), investigation may include a watching brief and, or, a full excavation.

10.151 The City Council will seek professional archaeological advice as appropriate and will encourage applicants proposing development to do the same. Where development may affect land of archaeological priority or potential, the City Council will expect applicants to have properly assessed and planned for the archaeological implications of their proposals. In this way the Council and the applicant will have sufficient information upon which an informed planning decision, incorporating appropriate archaeological safeguards, may be based. Such safeguards normally consist of design measures to ensure the permanent preservation of archaeological remains in situ or, where that is not appropriate, archaeological rescue investigations in advance of development. The results and finds from archaeological investigations also need to be analysed, interpreted, presented to the public and curated for future use. Attention is drawn to the advice contained within the code of practice prepared by the British Archaeologists' and Developers Liaison Group.

Reasons

10.152 Archaeological remains are important evidence of the City's past and are a valuable historical, educational and tourist resource. They are finite and fragile; once lost, they cannot be recovered. The City Council considers that the archaeology of Westminster is a national as well as a local asset and that its preservation is a legitimate objective, against which the needs of development must be carefully balanced and assessed. The destruction of such remains should be avoided wherever possible and should never take place without prior archaeological excavation and record.

10.153 The most important archaeological remains are scheduled and are protected under the Ancient Monuments and Archaeological Areas Act 1979. Where works to such sites and

their setting are proposed, including repair, scheduled ancient monument consent is required.

10.154 *The London Plan states at Policy 4.C.10 that boroughs “should give careful consideration to the relationship between new development and the historic environment including archaeological areas, including tidal foreshores...”. National planning guidance is set out in PPG16: Archaeology and Planning, issued in November 1990.*

10.155 *The preservation of Westminster's archaeological heritage is a material planning consideration and applicants will need to show that proposed development is compatible with the objectives of the City Council's archaeological policy. The Council will wish to implement that policy under relevant legislation and statutory guidance and by means of legal agreements and planning conditions.*

DES 16: WORLD HERITAGE SITE

Aim

10.188 *To safeguard the World Heritage Site.*

Permission will only be granted for developments that protect and conserve the character, appearance, setting and ecological value of the World Heritage Site

Policy application

10.189 *Although no additional statutory controls follow from the designation of a World Heritage Site, PPG15: Planning and the Historic Environment states, in paragraph 2.22, that the designation highlights the outstanding international importance of the site which should be a key material consideration to take into account when determining planning and listed building consent applications. Great weight is placed upon the need to protect them for future generations. Development proposals affecting these sites or their settings need to be compatible with this objective and require careful scrutiny, often by way of formal environmental assessments, to ensure that their immediate and long term impact are fully evaluated.*

Reason

10.190 The member states of United Nations Educational Scientific and Cultural Organisation UNESCO adopted the Convention concerning the Protection of World Cultural and Natural Heritage in 1972. This Convention provided for the creation of the World Heritage Committee which, in 1987, inscribed the area formed by the Palace of Westminster, St Margaret's and Westminster Abbey as a World Heritage Site, now one of twenty six in the United Kingdom. This area has thus been recognised as being of 'outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view'

3.5 **Site Specific Background**

3.5.1 Following the archaeological evaluation in 2012 on 17th February 2015 Westminster City Council granted Permission for Development (Conditional) to Ptolemy Dean Architects Ltd for the construction of a new stair and lift within Poets' Corner Yard, providing access to the eastern triforium level with an associated ground floor vestibule area and a linking bridge at triforium level (Application No. 14/10310/FULL). Planning permission was granted subject to a number of conditions including the requirement for archaeological investigation prior to the commencement of the redevelopment (Condition 4):

No development shall take place until you have secured the implementation of a programme of archaeological investigation and historic building recording in accordance with a Written Scheme of Investigation which has been submitted and approved by the local planning authority in writing. Once approved, no development or demolition shall take place other than that in accordance with this Written Scheme of Investigation. The development shall not be occupied until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation and provision made for analysis, publication and dissemination of the results and archive deposition has been secured. To be carried out in accordance with approved details in 15/04152/ADFULL.

Reason:

Heritage assets of archaeological interest survive on the site. The planning authority wishes to secure the provision of appropriate archaeological investigation and historic building recording, including the publication of results, in accordance with S25 of Westminster's City Plan: Strategic Policies that we adopted in November 2013, DES 11 of our Unitary Development Plan that we adopted in January 2007 and Section 12 of the National Planning Policy Framework.

3.5.2 In accordance with Condition 4 of the planning permission a Written Scheme of Investigation for Archaeological Works was prepared by Chris Mayo (2015) of Pre-Construct Archaeology

Ltd and approved by both the Consultant Archaeologist to Westminster Abbey, Professor Warwick Rodwell, and the Archaeology Advisor to the City of Westminster, Diane Abrams of Historic England. The preparation of the WSI was guided by a briefing document prepared by Professor Warwick Rodwell (2013). The document detailed the methodologies by which all archaeological works associated with the new scheme would be conducted, including excavation, watching brief and historic building recording. The Written Scheme of Investigation was submitted for approval to the City of Westminster under application number 15/02110/ADFULL and approved on the 5th May 2015.

- 3.5.3 Scheduled Monument Consent was applied for to dismantle a section of the 19th-century Chapter House lightwell retaining wall containing a stone coffin, construction of new access tower footings and relocation of the coffin into the vestibule for the new tower along with associated enabling works and making good of the lightwell footings (S00132421). The consent was granted on 8th April 2016.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.2 The study site is located on what used to be Thorney Island, the largest and probably the highest of the eyots within the Tyburn delta. The island was located at the confluence of the Tyburn and the Thames rivers. Geologically Thorney Island consisted primarily of sand and gravel overlying London Clay (Thomas *et al.* 2006).

4.2 Topography

4.2.2 It is likely that the church occupied the highest point of the former island. This is somewhat corroborated by the levels of the natural sand deposits observed in recent years through archaeological work carried out within the abbey precincts.

4.2.3 The archaeological evaluation recorded the level of the natural sand at 3.86m OD (Jorgensen 2012) while in the Receiver General's property to the south west the natural sand was seen at 2.14m OD (Jorgensen & Langthorne 2017) and further to west still, in the northwest corner of Dean's Yard the natural sand was encountered at a maximum height of 0.92m OD (Jorgensen 2010).

4.2.4 Poets' Corner Yard is located on generally level ground at an approximate elevation of 4.98m OD.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Palaeoenvironmental

5.1.1 The natural sedimentary depositional sequence in the vicinity of the study site has a complex recent geological history stretching back 6000-7000 years, the upper stratigraphy of the basal geology having been formed by alluvial deposition. The early Holocene sequence was characterised by channel margin deposition and the formation of palaeochannel dune systems. The meandering stream of the River Tyburn divided into two branches forming a tripartite division of the land near its confluence with the River Thames. Deposition of sand and gravel between the two branches of the stream commenced around 4350 cal. BP and led to the formation of a riverine dune system known as the Thorney Sand Bed. This area of firm ground amidst the marshland in the Tyburn delta later became known as Thorney Island (De Maré 1968) on which the current study site is located.

5.1.2 By the beginning of the Bronze Age the higher ground of the island had become dominated by lime forest, which was later replaced by oak-dominated woodland with hazel, whilst lower-lying areas around the periphery of the island were dominated by alder and sedge vegetation. Deforestation of the island occurred sometime during the Early Bronze Age with evidence for arable cultivation appearing shortly thereafter (Thomas *et al.* 2006).

5.2 Prehistoric

5.2.1 An archaeological excavation carried out by Pre-Construct Archaeology during 2009 towards the north of Dean's Yard, recovered a struck flint of Late Neolithic/Early Bronze Age date (Jorgensen 2010). Archaeological investigations undertaken prior to the extension of the Jubilee Line between 1991 and 1998 revealed evidence for Bronze Age activity along the east side of Thorney Island in the form of a timber revetment along the river as well as possible boundary fences. Environmental data collected during investigation in the 1990s indicated the presence of cereal pollen, suggesting arable cultivation in the vicinity during this period. Although there may have been significant human activity on the island from the Late Neolithic and through much of the Early Bronze Age, there appears to have been a much-reduced presence by the later Bronze Age (Thomas *et al.* 2006).

5.2.2 Evidence for Iron Age occupation is limited and has almost exclusively been recorded in the more elevated areas of the island. It has been suggested that this may have been due to a major flooding event during the middle of the 11th century AD, which resulted in extensive truncation of Late Bronze Age, Iron Age and Roman deposits along the peripheral areas of Thorney Island (Thomas *et al.* 2006). However, the 2009 excavation in Dean's Yard revealed a single pit that contained a small assemblage of Late Iron Age and early Roman pottery (Jorgensen 2010). Ten sherds of Iron Age pottery was also recovered from excavations at the Cellarium ((Jorgensen 2014).

5.3 Roman

5.3.1 The Roman settlement of *Londinium* was centred upon the modern day City of London, some distance to the east of Westminster. Whilst no definite Roman features have been recorded during excavations on the former island, artefacts dating to this period have been recovered from a number of excavation sites. In the vicinity of the Abbey itself a number of antiquarian discoveries have been reported including a Roman sarcophagus found on the north side of the Abbey (Poole 1870). Although the sarcophagus itself was probably of Roman origin, it is likely that it was brought to the island and reused during the Saxon period. Forty-two sherds of Roman pottery was recovered from the Cellarium Excavations (Jorgensen 2014) and a single sherd was recovered from a possible Roman ditch at the Song School (Jorgensen & Langthorne 2018).

5.3.2 Part of a Roman hypocaust and walls are reported to have been observed below the floor of the nave of the Abbey church and two fragments of Roman concrete floor have been recorded near the south side of the cloister and infirmary cloister (Thomas *et al.* 2006). Some accounts of the origins of Westminster Abbey claim that a temple dedicated to Apollo was constructed on Thorney Island in the 2nd century AD., and when it was destroyed by a violent earthquake, King Lucius built the island's first church in its place (Morley 1890). However, no archaeological evidence exists to substantiate these suggestions.

5.4 Anglo-Saxon

5.4.1 The main Saxon settlement of *Lundenwic* was focussed on the area between present day Charing Cross and Aldwych to the north-east of the site. During the late Saxon period Thorney Island became an important religious centre. This is reflected by the place name 'Westminster', which derives from the Saxon word 'minster', referring to either the monastery church built on the island by Edward the Confessor or an earlier church on the site. It was consecrated prior to the Norman invasion of 1066.

- 5.4.2 One of the earliest references to a church derives from Offa's Charter, c. AD 785, which refers to *St. Peter and the people of the Lord dwelling in Thornea at the awesome place called Westminster* (Barton 1992). The authenticity of this charter has been brought into question by various 20th century-scholars and it seems likely that it is a later forgery.
- 5.4.3 It is more likely that the foundation of the abbey dates to the reign of King Edgar (AD 959-75) who granted a foundation charter to St Dunstan. The church founded by St. Dunstan was described as a *monasterium*, or little monastery, and was inhabited by twelve monks and an abbot (Thomas *et al.* 2006).
- 5.4.4 Under Edward the Confessor the abbey was re-established and a new church built in stone to replace the earlier building. The anonymous 11th-century biographer of the Confessor stated in *Vita Ædwardi* that Edward's motives for founding a great Abbey church at Westminster were not only in his piety and devotion to St. Peter, the favorable location of the place, on the river and close to London, but principally because he wished for himself to be buried there (Field 1996).
- 5.4.5 Work on the new church commenced in 1045 and, although not completed in its entirety, was consecrated in December 1065. *Vita Ædwardi* states that the new church was built far enough to the east of the existing one to enable services to continue in it; whilst Sulcard in his *History of Westminster* (written in the 11th century) states that the old church was demolished to make room for the new (Field 1996).
- 5.4.6 Limited archaeological evidence for a presence during the Saxon period has been found within the vicinity of the study site, including land reclamation deposits of Saxon date along with a contemporary partial donkey skeleton identified during investigations at 17 Dean's Yard (Murray 2003). Residual Saxon pottery was also recovered during the 2009 excavation towards the north of Dean's Yard (Jorgensen 2010). Recent excavations within the Cellarium and adjacent spaces uncovered the remains of a late 10th or early 11th century chalk block wall (Jorgensen 2014) and episodes of land reclamation, represented by widespread dump layers, followed by the construction of the *Frater*, the refectory, in the late 11th century (Jorgensen & Langthorne 2018).
- 5.5 **Medieval**
- 5.5.1 In the early medieval period, the pre-established seats of government and law were retained by the Norman Kings in an attempt to legitimise their claims to the throne. The Palace of Westminster, largely built by Edward the Confessor, was to remain the legislative centre and residence for over 500 years (De Maré 1968).

- 5.5.2 The flow of the Tyburn was heavily impacted upon in 1236 when, on the request of Henry III and the Lord Mayor, a conduit was installed by Tyburn Springs to ensure a supply of clean water to the growing population of the city. While it is unclear exactly how much this impacted on the flow of the river it has been suggested that the stream was reduced to a mere trickle as a result of the piping of the springs (Barton 1992).
- 5.5.3 Following his return from visits to France in 1242 and 1243, Henry III embarked on an ambitious mission to rebuild Westminster Abbey as a rival to the great abbeys and churches of France. With the assistance of Master Henry of Reynes, the newly appointed Master of the King's Masons, the task of demolishing the old Romanesque church began (Field 1996).
- 5.5.4 By the time of the king's death in 1272 the work of rebuilding the abbey had not been completed although the unfinished church had been consecrated in 1269. The church was described as 'fully finished to the end of the quire' in 1285 (Field 1996).
- 5.5.5 Poets' Corner Yard itself was formed in the 13th century during the construction of the Chapter House and the South Transept and *chevet* of the church which included the chapel of St. Benedict and the polygonal chapel of St. Edmund enclosing the yard on three sides.
- 5.6 **Post-Medieval**
- 5.6.1 In 1503 Henry VII decided to pull down Henry III's Lady Chapel and rebuild it to house the tomb of Henry VI. This was finally consecrated in 1516. The construction of this structure on the north side of Poets' Corner Yard would have caused truncation to earlier structures and deposits including graves.
- 5.6.2 By 1528 the work that Henry III had started nearly three centuries earlier was finally completed with the carving of the screens. Only twelve years later, as a result of the Dissolution of the Monasteries, the deed surrendering the abbey to the crown was drawn up and became the cathedral of the new diocese of Westminster (Bradley 1895).
- 5.6.3 The bishopric of Westminster only lasted ten years and was abolished in 1550. When the bishopric was dissolved the property held by the Bishop of Westminster was granted to Lord Wentworth. Lord Wentworth died the following year where after the house was bequeathed to his son, the second Lord Wentworth. However, during the reign of Mary the monastery was briefly re-established and the property occupied by Lord Wentworth was given to Abbot Feckenham for his residence (Robinson 1911).
- 5.6.4 During the surveyorship of Sir George Gilbert Scott (1849-78) the Chapter House was restored and the flying buttresses restored or replaced (Rodwell 2015, 38; Brindle 2015, 331-2).

- 5.6.5 Prior to the archaeological evaluation of 2012 (Jorgensen 2012) no archaeological work had been carried out within Poets' Corner Yard and little documentary evidence for its history was readily available.
- 5.6.6 The evaluation (*ibid*) indicated that the area of the yard was in use as a monastic cemetery prior to Henry III's rebuilding of the abbey; subsequently serving as a mason's yard/workshop during the construction works. After this time it was at least partially laid with gravel and according to Francis Bond (1909) potentially functioned as a private passage from Westminster palace to the abbey church via the 13th-century doorway in the east wall of the South Transept. Bond further suggests that this doorway was added as an afterthought as it interferes with the arcading inside the church.
- 5.6.7 The southern edge of the yard had been disturbed by the 19th-century rebuilding work of Sir George Gilbert Scott, when the retaining wall which circuits the Chapter House was constructed.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 Archaeological Evaluation (2012)

6.1.1 The design for the archaeological evaluation was outlined in the report for the Westminster Abbey Fabrics Commission: *Westminster Abbey: Triforium Project Archaeological Evaluation of Poets' Corner Yard* (Rodwell 2012). This document recommended the excavation of three trenches (Trenches 1-3) that were primarily tasked with investigating the foundation masonry of the Abbey.

6.1.2 Trenches 1 and 3 were situated in the open yard and Trench 2 was within a shed on the north side of the yard. Prior to excavation commencing the Works Department of the Abbey set out the trenches and removed any overlying slabs, stone setts and concrete bedding layers in those locations. All trenches were tested for live services using a Cable Avoidance Tool. The dimensions of Trenches 1-3 are summarized in the table below:

Trench	Alignment	Length (m)	Width (m)	Depth (m)
1	E-W	2.80	1.30	1.25
2	N-S	1.30	0.60	0.66
3	N-S	4.40	1.30	1.44

6.1.3 The proposed dimensions of Trench 1 and 2 were more extensive but it was discovered that the southern part of Trench 2 was occupied by a series of drains running from the public toilets west of the trench. These pipes appeared to be contained within a single poured concrete slab, as a result, it was only possible to excavate the northern part of the trench. Trench 1 was slightly curtailed in order to maintain public access to the toilets.

6.1.4 The evaluation trenches were excavated by hand and archaeologically significant deposits were described on pro-forma context sheets. Plans and sections were drawn on permatrace at scales of either 1:10 or 1:20.

6.1.5 A dumpy level was used to measure the height of each feature or deposit in relation to a temporary benchmark (TBM) established in the south-west corner of the site. The height of this TBM was 5.07m OD according to data provided by the Downland Partnership. A photographic record was kept of all significant archaeological deposits and features using a high resolution digital SLR camera.

6.1.6 Brick/stone and mortar samples were taken of all masonry and environmental bulk samples were taken from features and deposits where relevant.

6.2 Borehole Watching Brief (2014)

6.2.1 A watching brief was conducted upon two geotechnical boreholes in order to provide further data to inform the future excavation that was a product of the 2012 evaluation. Borehole 1 was situated a short distance to the north-east of the north-eastern lightwell of the Chapter House; while Borehole 2 was located above the position of the backfilled Trench 3. The dimensions of both boreholes are detailed in the following table:

Borehole	Diameter (m)	Depth (m)
1	0.20	2.10
2	0.20	6.00

6.2.2 The excavation of the geotechnical boreholes was undertaken by contractors with archaeological monitoring provided by PCA. Deposits revealed by the boreholes were described on pro-forma context sheets and sections were drawn on permatrace at a scale of 1:10. A digital photographic record was also kept.

6.3 Archaeological Excavation (2015-2016)

6.3.1 The results of the 2012 evaluation (Jorgensen 2012) supplemented by the 2014 watching brief on the geotechnical boreholes defined the structure of the subsequent excavations and watching briefs outlined in the Written Scheme of Investigation (Mayo 2014 updated 2015) and was derived and developed from a brief for the works produced by the Consultant Archaeologist to Westminster Abbey (Rodwell 2013).

6.3.2 Prior to the excavation commencing existing structures within Poets' Corner Yard, including a public toilet block and a storage area for audio guides, were demolished and the site was cleared to ground level by the client's groundwork contractor. The same contractor then proceeded to remove and dispose of the hard-standing surfaces while under archaeological monitoring.

6.3.3 These overlying layers having been removed the archaeological team assumed control of the excavation and proceeded to dig using hand-tools to excavate all features and deposits. This continued until the archaeological sequence had been fully excavated and only geological deposits remained in the various areas of the excavation.

6.3.4 The main excavation phase encompassed a number of different areas of Poets' Corner Yard (Figure 3); the Main Excavation Area was focussed in the vicinity of the recently demolished buildings and evaluation Trenches 1-3. Trenches 10, 11, 12 and 13 combined to make a secondary excavation area (Trenches 10-13) to the north-east of the Main Excavation Area and a short distance to the south of Henry VII's Lady Chapel and finally Trenches 15, 16, and 17 extended between these two excavation areas. The dimensions of the Main Excavation Area and the associated trenches are summarized in the table below:

Excavation Area	Orientation	Length (m)	Width (m)	Max. Depth (m)
Main	n/a	15.75 (E-W)	12.00 (N-S)	2.77
Trenches 10-13	n/a	11.00 (E-W)	6.30 (N-S)	1.50
Trench 14	NE-SW	7.00	1.10	1.17
Trench 15	WNW-ESE	9.25	1.20	0.93
Trench 16	NE-SW	6.50	1.40	0.90
Trench 17	N-S	2.80	1.30	0.70

6.3.5 During the excavation a stone coffin containing a skeleton was discovered to have been used as a component in a later lightwell attached to the northern face of the Chapter House. Scheduled Monument Consent was applied for to dismantle a section of the 19th-century Chapter House lightwell retaining wall containing the stone coffin, construction of new access tower footings and relocation of the coffin into the vestibule for the new tower along with associated enabling works and making good of the lightwell footings (S00132421). The consent was granted on 8th April 2016. A further method statement was formulated in order to remove both the coffin and its contents to enable further works on the lightwell (Mayo 2016). The coffin was subsequently removed to the premises of Taylor Pearce for expert conservation, prior to its proposed relocation into the vestibule for the new tower.

6.3.6 All archaeologically significant features and deposits were recorded in the same manner as in the archaeological evaluation and appropriate masonry and environmental samples were taken.

6.3.7 Feature and site plans were drawn from a combination of baselines and a site grid established by PCA and surveyed to the OS grid.

6.4 **Further Areas of Excavation (2016)**

6.4.1 Under the auspices of the WSI for the archaeological excavation (Mayo 2014 updated 2015). Further areas of site to be used as service runs were opened for excavation later in 2016 these included Trenches 100 and 200, Areas A and B and Test Pit SKA08.

Excavation Area	Orientation	Length (m)	Width (m)	Max. Depth (m)
Trench 100	N-S	4.68	3.30	1.44
Trench 200	E-W	5.53	0.69	2.40
Area A	n/a	5.22 (N-S)	4.40 (E-W)	0.80
Area B	n/a	5.02 (E-W)	4.54 (N-S)	0.75
SKA08	n/a	1.70 (E-W)	1.00 (E-W)	0.30

6.5 **South Transept Heating Duct Watching Brief (2017)**

6.5.1 A watching brief was performed on an investigation on the heating duct within the South Transept a short distance to the west of Area A and the Main Excavation Area. Excavation work was performed by contractors and monitored by an archaeologist. Written, drawn and photographic records were taken in the manner previously established on site.

6.6 **Gallery Level Watching Brief (2017)**

6.6.1 In order to facilitate access at the gallery level from the proposed lift it proved necessary to break through a wall, revealing the internal fabric and structure of that part of the Abbey. This work was performed by contractors and monitored by an archaeologist.

6.7 The complete archive produced during the evaluation, comprising written, drawn, photographic records and artefacts will be deposited with the Westminster Abbey Museum, identified by site code PSY12.

7 PHASED ARCHAEOLOGICAL SEQUENCE

7.1 Phase 1: Natural

7.1.1 The earliest deposit found in various areas of Poets' Corner Yard was naturally deposited loose, brownish yellow sand occasionally overlying or containing bands or patches of compact gravel. Natural sand and gravel was recorded as [67] and [80] in Trench 1; [84] in Borehole 1; [232], [347], [409], [410] in the Main Excavation Area; [596] in Trenches 10-13 as well as [733] and [738] in Trench 100 (Figure 17).

7.1.2 Additionally interface deposits had formed between natural sand and gravel and later deposits in Borehole 1 and Trench 15; mottled sand layer [83] and sandy silt [496] contained occasional flecks of charcoal, chalk and CBM respectively (Figure 16).

7.1.3 The table below summarises the heights that the natural deposits were encountered at in each of the Foundation Pits:

Context no.	Excavation Area	Maximum height (m OD)
67	Trench 1	3.86
80	Trench 1	4.03
83	Borehole 1	3.75
84	Borehole 1	3.34
232	Main Excavation Area	4.18
347	Main Excavation Area	4.18
409	Main Excavation Area	2.28
410	Main Excavation Area	2.24
496	Trench 15	4.20
596	Trench 10-13	2.93
733	Trench 100	2.86
738	Trench 100	1.99

7.1.4 The relative heights natural sand was encountered at indicated the varying amounts of truncation the natural horizon had suffered as a result of later developments at Poets' Corner Yard.

7.2 Phase 2: Land reclamation deposits (10th-11th centuries)

7.2.1 A variety of layers and features were seen to overlie naturally deposited sand and gravels within Evaluation Trenches 1 and 3, the Main Excavation Area and later Trenches 10-13, 100 and 200 (Figure 4).

7.2.2 The majority of the layers appeared to have been deliberately deposited, representing episodes of land reclamation. The land reclamation deposits were typically characterised as fairly loose, mottled mid yellowish brown and dark brown silty sand with occasional sub-rounded pebbles, charcoal, CBM and mortar flecks. The table below depicts the locations and heights each of these deposits were found at:

Context no.	Excavation Area	Maximum height (m OD)
63	Trench 3	4.13
308	Main Excavation Area	4.43
313	Main Excavation Area	4.47
340	Main Excavation Area	4.25
348	Main Excavation Area	4.39
355	Main Excavation Area	4.26
356	Main Excavation Area	4.11
380	Main Excavation Area	4.21
453	Main Excavation Area	4.48
457	Main Excavation Area	4.39
464	Main Excavation Area	4.39
469	Main Excavation Area	4.22
595	Trench 10-13	3.76
732	Trench 200	3.16
742	Trench 200	4.02

7.2.3 Dating evidence from the land reclamation deposits originated in the main from the Roman period and included such materials as large chunks of brick and occasionally tile from layer [308], *opus signinum* and further brick and tile from layer [313] and Hartfield *tegula* fragments from [595], though this last context also appeared to have been contaminated by a chunk of post-medieval brick.

7.2.4 A notable find was a distinct flint flake considered to have been the product of sharpening a tranchet axe and combined with traces of further struck and burnt flint and very occasional Neolithic, bronze age and Middle-Late Iron Age pottery was suggestive of prehistoric activity on Thorney Island, The Middle-Late Iron Age pottery particularly is relatively rare in London and the large fragment size and lack of abrasion appeared to indicate it was deposited soon after breakage

7.2.5 Previous archaeological investigations within the abbey precincts have identified similar deposits suggesting that large scale land reclamation was taking place in order to prepare the site for the construction of Edward the Confessor's church and monastery. Sites excavated in the 1970s interpreted this sequence of land reclamation deposits as river silt deposits and this interpretation was adopted during the excavations in the dormitory undercroft and during the underpinning of 17 Dean's Yard. There is, however, no evidence to suggest that these deposits were flood deposits and it is more likely that they represent land reclamation efforts prior to construction of Edward's church and the adjoining monastery. If this interpretation is accurate it would imply that the Roman material found within contexts [308], [313] and [595] is redeposited.

7.2.6 A small number of features have also been attributed to this phase of activity including two postholes [79] and [315], pit [354] and north-south orientated ditch [310] all of which were recorded in the Main Excavation Area. The dimensions of these features are outlined in the following table:

Context	Type	Fills	North-South (m)	East-West (m)	Depth (m)	Height (m OD)
79	Posthole	78	0.30	0.26	0.12	3.86
310	Ditch	309, 321	1.24	1.02	0.51	4.47
315	Posthole	314	0.10	0.20	0.35	4.47
354	Pit	353	0.20	0.70	0.40	4.10

7.2.7 As with the finds from some of the land reclamation deposits pottery and CBM dating from the Late Iron Age and into the Roman period was recovered from the fills of [310], [315] and [354]. This would appear to support the theory that activity did take place during the prehistoric and Roman periods in the locality as also indicated by ditches and a subsoil deposit recorded during the Song School Relocation investigation (Jorgensen & Langthorne 2018).

7.3 Phase 3: Potential early medieval activity (11th century)

7.3.1 Evidence was found within Trench 100 which suggested the presence of post-Roman - early medieval activity on the site that pre-dated the construction of any of the elements of the Abbey (Figure 5).

7.3.2 The evidence for early medieval activity consisted of a chalk surface [694], levelling layers [703] and [739], as well as a small group of features: two postholes, [714] and [720], and a pit [741].

7.3.3 The earliest feature recorded in Phase 3 was pit [741], filled with fairly loose but friable, mid greenish brown silty sand with moderate charcoal flecks [740], the pit was 0.62m deep and encountered at a maximum height of 3.17m OD. Pottery recovered from this feature dated to 970-1050, however some degree of contamination was present within the fill as CBM from the post-medieval period was also apparent and so the pottery date cannot be assumed to accurately date pit [741].

7.3.4 Pit [794] was sealed beneath chalk surface [694], at the south end of Trench 100. Surface [694] was composed of a mixture of chalk flakes in a firm silty matrix and was found at a maximum height of 4.15m OD. The fairly loose mottled dark reddish brown and yellow brown silty sand with frequent chalk flecks that composed both [703] and [739] were seen at similar heights of 4.00m OD and 4.05m OD respectively.

7.3.5 Postholes [714] and [720] were seen to cut levelling layer [703] and were capped by chalk surface [694] their details are summarized in the table below:

Context	Fills	North-South (m)	East-West (m)	Depth (m)	Height (m OD)
714	713	0.11	0.08	0.08	4.05
720	719	0.12	0.13	0.13	4.03

7.3.6 Both fills [713] and [719] were firm grey brown silty clay, no datable evidence was recovered from either fill and both were sealed by chalk surface [694].

7.4 Phase 4: Monastic Burials (11th-12th centuries)

7.4.1 The principal features attributed to Phase 4 were 30 burials, occasionally intercutting, found in several areas of the Poets' Corner Yard: Evaluation Trench 3, the Main Excavation Area, Trenches 10-13, and Trenches 14, 15 and 100 (Figures 6, 14 & 15). While all inhumations were orientated east-west, they had several distinct characters including bodies within wooden and stone coffins, chalk lined cist graves (Plate 2) and a number that no longer contained skeletons. These burials were considered to be part of the monastic cemetery attached to Edward the Confessor's Abbey dating from the 11th century until the early part of the 13th century.

7.4.2 The details of each of the burials attributed to the monastic cemetery can be found in the following table:

Cut no.	Fill no.	Skeleton no.	Wood coffin no.	Masonry no.	Length (m)	Width (m)	Depth (m)	Height (m OD)	Location
58	56	-	-	57	1.4	0.57	0.34	4.33	Main Excavation Area/ Trench 3
62	59	64	-	61	1.04	0.5	0.45	4.35	Main Excavation Area/ Trench 3
77	74, 75	-	-	76	0.8	0.42	0.33	4.23	Main Excavation Area/ Trench 3
157	156	158	165	620	0.63	0.55	0.58	4.36	Main Excavation Area
168	166	167	-	621	0.8	0.42	0.11	4.22	Main Excavation Area
204	273	275	276	-	2	0.58	0.61	4.56	Main Excavation Area
274	203	266	260	-	1.65	0.22	0.58	4.57	Main Excavation Area
291	290	342	341	-	2.3	0.76	0.64	4.39	Main Excavation Area
298	297	296	-	-	1.8	0.4	0.08	4.23	Main Excavation Area
305	304	303	-	-	0.75	0.45	0.13	4.16	Main

Cut no.	Fill no.	Skeleton no.	Wood coffin no.	Masonry no.	Length (m)	Width (m)	Depth (m)	Height (m OD)	Location
									Excavation Area
319	316	317	318	-	1	0.35	0.2	4.34	Main Excavation Area
331	330	337	338	-	2	0.6	0.23	4.21	Main Excavation Area
335	333	334	-	-	0.76	0.4	0.1	4.32	Main Excavation Area
345	346	-	-	-	0.4	0.34	0.12	4.21	Main Excavation Area
425	419	424	-	-	0.52	0.28	0.22	4.34	Trenches 10-13
450	449	-	-	-	0.42	0.18	0.38	4.34	Trenches 10-13
462	458, 461	460	-	459	0.82	0.61	0.24	3.99	Trench 14
473	492	-	-	-	0.3	0.6	0.1	4.02	Trenches 10-13
477	474	475, 476	-	-	0.58	1.95	0.1	4.08	Trench 14
527	526	524	525	-	0.88	0.84	0.23	4.21	Trench 15
536	535	534	-	-	0.62	0.38	0.29	4.21	Trench 15
592	590	-	-	591	1.46	0.82	0.26	4.03	Trenches 10-13
601	532	618	-	603	1.08	0.92	0.79	4.16	Trenches 10-13
606	605	619	-	-	0.74	0.51	0.36	3.88	Trenches 10-13 (Not illustrated)
610	607, 608	-	-	609	1.34	0.74	0.53	4.12	Trenches 10-13

Cut no.	Fill no.	Skeleton no.	Wood coffin no.	Masonry no.	Length (m)	Width (m)	Depth (m)	Height (m OD)	Location
613	611	612	-	-	1.14	0.24	0.88	4.16	Trenches 10-13
615	426	-	-	-	0.6	0.34	0.37	4.44	Trenches 10-13 (Seen in section only Figure 15: section 11)
691	690, 702	701	-	700	1.44	1.1	0.29	4.04	Trench 100
716	715	717	-	-	1.07	0.32	0.2	4.02	Trench 100
n/a		153/737	-	152	2.34	0.42	0.35	4.68	Main Excavation Area - Lightwell

7.4.3 The grave fills differed widely from firm, dark greyish brown silty sand to loose, mid yellowish grey brown sandy silt and loose, mid grey brown sandy, clay silt; though chalk, mortar and Reigate stone flecks and fragments and disarticulated animal bone would frequently be found within the fills. Pottery and CBM recovered from the fill dated from the Roman period to the late 19th century indicating a degree of contamination within some of the fills as well as residual artefactual evidence from earlier periods.

7.4.4 A number of articulated skeletons were retrieved from the Phase 4 burials and subsequently assessed. The majority were incomplete adults of uncertain sex with the exception being a 90% complete infant (see Appendix 12).

7.4.5 The chalk lined cist graves [57], [61], [76], [609], [620], [621] and [700], were typically lined with roughly hewn blocks of chalk, dressed on one side that varied between 0.20-0.30m long by 0.24-0.26m wide by 0.15-0.20m thick. There were also Barnack stone coffins [152] and [459], although [459] did not have a lid, and a chalk lined cist grave [591] with a Barnack stone lid.

7.4.6 It should also be noted that skeleton [737], initially recorded as [153], within its Barnack stone sarcophagus [152] belong to this period of activity within Poets' Corner Yard, however due to sarcophagus [152] and its contents being incorporated into the later Chapter House lightwell [448], a structure attributed to the restoration works, it stratigraphically belongs to Phase 10 (see Figure 12). Skeleton [737] itself was a probable male of 30-34 years of age and it was mostly complete in a moderate-poor state of preservation; although notably the skull with the exception of the lower jaw was missing.

7.4.7 Timber coffins were frequently represented purely by wood staining of the fill and the presence of nails.

7.4.8 Further burial activity was indicated by the presence of 3 charnel pits: [312], [344] and [594] all of which contained significant amounts of disarticulated human bone within fills composed of fairly firm-fairly loose dark-mid reddish or greyish brown silty sand: [311] and [332] in [312], [343] in [344] and [593] in [594].

7.5 **Phase 5: Henry III's Lady Chapel (13th century)**

7.5.1 The foundation stone for the Lady Chapel was laid down in 1220 and the building was completed by 1245 prior to its eventual replacement by Henry VII's Lady Chapel. Several features and deposits within Trenches 10-13 were considered to be associated with Henry III's Lady Chapel (Figure 7).

7.5.2 The key features were wall foundations [418] and [470] and later addition [417] (Figures 15 & 16). All of which were composed of a combination of roughly shaped chalk and well dressed Reigate stone of various sizes in a sandy lime mortar. The dimensions of the foundations and the maximum height they were found at is detailed in the table below:

Masonry no.	Cut no.	Orientation	Length (m)	Width (m)	Depth (m)	Height (m OD)
417	452	E-W	1.70	1.10	1.10	4.78
418	427	E-W	1.40	0.60	0.35	4.49
470	471	N-S	0.85	0.90	0.76	4.19

7.5.3 Construction cuts [427] and [471] were seen to cut earlier monastic burials while construction cut [452] truncated both wall foundations [418] and [470].

- 7.5.4 An additional feature, a drainage ditch [432] was also attributed to this period of construction. Orientated north-east to south-west the heavily truncated ditch [432] was 0.50m long by 0.20m with and reached a maximum depth of 0.23m. It was filled by a very firm, light brown grey silty clay with occasional sub-rounded flints and mortar flecks [431].
- 7.5.5 The construction also resulted in the deposition of a number of layers composed of building material such as the firm, light pinkish yellow lime mortar and sand recorded as [385] at 4.03m OD, [412] at 4.30m OD and [508] at a maximum height of 4.43m OD. Additionally, a layer of fairly firm, mid green crushed Reigate stone [411] was recorded at a maximum height of 4.39m OD.
- 7.6 **Phase 6: Construction of Henry III's Church and Chapter House (13th-14th centuries)**
- 7.6.1 Henry III's work on site commenced with the demolition of Edward the Confessor's church. In 1246 Henry's workers started the construction of the new edifice. Work commenced at the east end of the church and progressed westwards at least as far as the crossing. After this, work started on the South Transept as well as alterations being carried out to the newly constructed footing of the ambulatory. The alterations to the *chevet* (the extreme end of the chancel or choir; properly the round or polygonal part) footing may have been carried out in response to a change of plans regarding the shape and size of the chapels radiating from the ambulatory. After the construction of the South Transept footing and alterations to the ambulatory footing, work commenced on the construction of the Chapter House.
- 7.6.2 The investigation revealed a number of activities on site that related to the construction of Henry III's Church and Chapter House within Evaluation Trenches 1-3, the Main Excavation Area, Trenches 10-13, Trench 15, Trench 16, Trench 100, the South Transept Heating Duct and Areas A and B (Figure 8). These included the foundations for those structures including a stepped limecrete raft, a number of features associated with construction such as postholes and layers composed of dumped materials, in parts forming potential masons' floor surfaces.

7.6.3 The earliest foundation for the construction of the Church and Chapter House was based on an extensive stepped raft composed of sections of stone-lined basins which had been filled with lime concrete, Reigate stone and Kentish ragstone with occasional relict *opus signinum* seen in Evaluation Trench 2, the Main Excavation Area (Plate 3), Area A and the South Transept Heating Duct (Plate 6). The limecrete raft identified as [38], [136], [172], [229], [230], [233] [6002] was found at heights between 4.37-4.81m OD. The backfill of many of the construction cuts for the raft, notably fill [285], contained large amounts of disarticulated human bone (Plate 4). The bone is almost certainly the product of disturbance of the monastic burial ground during construction works.

7.6.4 One of the earliest footings built over the limecrete raft were foundations constructed of a mixture of roughly shaped Caen stone, Reigate stone and fragmented CBM in a sandy mortar matrix: [146], [190], [191]. Though they may all form one coherent foundation the dimensions and the heights that the individual footings were encountered at are detailed in the following table:

Masonry no.	Orientation	North-South (m)	East-West (m)	Depth (m)	Max. Height (m OD)
146	E-W	0.40	2.80	0.13	4.46
190	E-W	0.30	0.85	-	4.50
191	E-W	0.37	0.85	-	4.55

7.6.5 Similarly in Trench 100 stepped foundations [706], [734], [735] and [736] within construction cut [705] dated from 1250-1550 and were constructed of a mixture of flint, ragstone and Reigate stone rubble, ashlar blocks of Reigate stone, in the case of [734], and shelly, sandy mortar (Figure 17: Section 21 only).

7.6.6 Various foundations or footing could be characterised as belonging to specific aspects of the Church and Chapter House, these are detailed in the table below:

Masonry no.	Cut no.	Component	Description
8	-	Stepped footing for South Transept	Ashlar blocks of Reigate stone in a light, yellowish brown sandy lime mortar
37	-	Footing for St.	Roughly shaped chalk and

		Edmund's Chapel	Reigate stone
192	371	Stepped foundation of ambulatory	Ashlar blocks of Reigate stone
229	-	Footing for St. Thomas's Chapel	Limecrete raft with ashlar blocks of Caen stone and Reigate stone
230	226	Footing for St. Thomas's Chapel	Limecrete raft with roughly hewn Reigate stone, Caen stone and chalk

7.6.7 The dimensions of each footing and maximum heights they were recorded at are described in a further table below:

Masonry No.	Orientation	North-South (m)	East-West (m)	Depth (m)	Max. Height (m OD)
8	N-S	1.50	1.30	1.26	4.56
37	E-W	0.28	0.60	0.10	4.42
192	E-W	1.50	8.80	1.95	4.23
229	E-W	0.60	5.66	0.60	4.71
230	E-W	0.18	1.55	0.76	3.72

7.6.8 Many of the stones used in the construction of the footings of the ambulatory and South Transept appeared to have been reused; possibly from Edward the Confessor's church. This was evident from residual mortar on the stones as well as the shape of the stone blocks themselves. These blocks had been squared off on all sides, which suggested that they originally formed part of the above ground portion of a building rather than being intended for footing material. Furthermore, the presence of several moulded stone fragments, such column sections, within the footing stones strongly denoted re-use of those materials.

7.6.9 Additional masonry structures included a wall built over footing [229] constructed of ashlar blocks of Caen stone and Reigate stone and sandy lime mortar [502]. The surviving fragment of wall encompassed a doorway that was blocked during a later period, it was aligned east-west and encountered at a maximum height of 4.71m OD.

7.6.10 A further investigation of the fabric of the building took place inside the Abbey at Gallery level above St Edmund's Chapel. The internal structure of the wall at this level exhibited a fairly thick inner wall skin principally constructed of ashlar blocks of Caen stone filled with a core of rubble presumably, at least in part, taken from the earlier church a thin skin of yellow mortar applied to the southern aspect of the rubble core against which a relatively thin outer skin of Caen stone had been built (Figure 18 & Plate 5).

7.6.11 A small group of postholes [25], [27], [51], [53], [71], [73], [708], [710] and [712] and pits [19], [22], [247]/[300], [559], [693] and [731] were also taken as indicators of temporary structures and disposal areas resulting from the medieval construction process. Traces of residual Roman CBM dating to AD 55-160 was found within pit fill [558] and residual early medieval pottery dated to 970-1100 in pit fill [730]. The details of each features are described in the following table:

Cut no.	Fill nos.	North-South (m)	East-West (m)	Depth (m)	Max. Height (m OD)
25	23, 24	0.33	0.13	0.29	4.14
27	26	0.20	0.10	0.18	4.04
51	50	0.31	0.52	0.10	4.53
53	52	0.20	0.22	0.17	4.56
71	70	0.24	0.58	0.24	4.37
73	72	0.34	0.44	0.15	4.34
247/300	246/301, 248	1.05	0.95	0.15	3.76
559	558	1	0.5	0.13	4.17
693	692	0.7	0.18	-	4.09
708	707	-	-	0.11	4.05
710	709	0.10	0.10	0.13	4.05
712	711	0.12	0.11	0.08	4.00
731	730	1.62	0.6	0.1	2.87

7.6.12 A ditch [278] was also encountered in the Main Excavation Area; extending 5.30m east-west, the ditch was 1.30m wide by 1.36m deep and found at a maximum height of 4.34m OD. A primary fill [284] composed of fairly loose and friable mid brownish grey sand was succeeded by a 0.93m thick fairly loose dark brown mixture of silty sand and pinkish white mortar. A large amount of disarticulated human bone was recovered from both fills, bone that was considered to originate from the monastic burial ground.

7.6.13 Additionally, a large number of dumped deposits, typically composed of firm- fairly loose, mid greyish green crushed Reigate stone and mid yellow sand with very occasional flint gravel, in the Main Excavation Area, Trenches 10-13 and Trench 15 were considered to be the product of the construction works and would have served as masons' floor surfaces. These layers are detailed in the table below:

Context no.	North-South (m)	East-West (m)	Depth (m)	Max. Height (m OD)
111	3.00	3.95	-	4.85
181	2.00	3.10	0.10	4.67
183	2.00	3.10	0.10	4.57
210	0.75	3.00	0.10	4.68
238	2.18	3.04	0.05	4.48
239	0.45	1.15	0.08	4.61
257	0.70	2.86	0.06	4.58
385	0.40	2.20	0.14	4.29
386	1.14	2.85	0.13	4.03
494	0.40	2.51	0.10	4.45
495	0.40	2.59	0.10	4.41
556	1.32	0.84	0.17	4.34

7.7 Phase 7: Later Burials (14th-15th centuries)

7.7.1 Following the construction of the Henry III's Church and Chapter House the locale of Poets' Corner Yard was once again used as a burial ground. Inhumations were found within the Main Excavation Area, Area A, Trenches 10-13, Trench 16 and Trench 100 and all were orientated east-west (Figures 9 & 17). The following table details all 17 burials:

Cut no.	Fill no.	Skeleton no.	Coffin no.	Length (m)	Width (m)	Depth (m)	Height (m OD)	Location
140	139	149	164	2.55	0.70	0.93	4.71	Main Excavation Area
224	222	223	-	0.26	0.28	0.12	4.27	Main Excavation Area

Cut no.	Fill no.	Skeleton no.	Coffin no.	Length (m)	Width (m)	Depth (m)	Height (m OD)	Location
359	357	358	-	0.50	0.50	0.10	4.10	Main Excavation Area
369	367	368	-	0.55	0.52	0.19	3.94	Main Excavation Area
408	407	445	-	0.70	0.35	0.74	4.39	Trenches 10-13
444	443	-	-	0.20	0.20	0.38	4.23	Trenches 10-13
447	446	-	-	0.60	0.20	-	3.88	Trenches 10-13
479	478	-	533	2.14	0.56	0.61	4.33	Trenches 10-13
521	518	520	519	0.46	0.50	0.38	4.47	Trenches 10-13
539	537	538	-	1.46	0.44	0.38	4.38	Trenches 10-13
547	545	546, 548, 549	-	1.60	0.40	0.32	4.41	Trench 16
574	571	573	572	1.40	0.60	0.69	4.40	Trenches 10-13
589	587	-	588	1.60	0.80	0.32	4.00	Trenches 10-13
600	598	-	599	1.46	0.52	0.25	3.82	Trenches 10-13
723	721	722	-	1.58	0.40	0.35	3.93	Trench 100
728	726	727	-	0.40	0.50	0.40	4.35	Trench 100
2007 = 2009	2008	2005	2006	2.20	0.80	0.25	4.42	Area A

7.7.2 One of the more interesting burials was skeleton [2005] within a brick built 'coffin' [2006]. Situated a short distance to the east of the doorway to the South Transept of the Abbey it was considered that this individual may well have been discovered during works undertaken in 1954, the brick 'coffin' [2006] built around individual [2005] in order to protect it when modern concrete was poured over the area (Plate 12). Its location close to the Abbey may also denote a high status individual.

7.7.3 However, the three most impressive burials were found in Trenches 10-13 each containing a lead coffin: [533], [588] and [599] (Plate 7). Coffin [533] despite being compressed by the overlying deposits was complete and was described as being anthropoid as its shape followed the rudiments of the human form, being sharply shouldered at the head end with a round component that contained the skull and tapering towards the foot end (Appendix 11). The lid of the coffin was decorated with an extensive raised, roped cross and six floriated motifs (Plate 8).

7.7.4 It was not possible to excavate [599] due to its situation beneath wall foundation [522] and coffin [588] was truncated at the head end by a modern concrete manhole. And therefore it was not possible to establish whether either or both of these lead coffins exhibited anthropoid features. No inscriptions were present on any of the three coffins though the rarity of such caskets indicated that all three were individuals of high status.

7.7.5 The other coffins, [164], [519] and [572], appeared to have originally been timber but only nails and, in the case of [164], a wood stain were still extant.

7.7.6 Many of the individuals recovered were only partial skeletons but more than 50% of individuals [149], [538] and [570] were present and recovered. All three were older adults, probably male with symptoms of joint disease, particularly spinal joint disease.

7.7.7 Also attributed to this phase were a small group of layers, pits and postholes within the Main Excavation Area of the site that may represent later medieval construction works on the Church and Chapter House as they precede the Phase 7 burials already discussed. A table outlining these features follows below:

Cut no.	Layer/Fill no.	Feature	Depth (m)	Maximum height (m OD)
174	173	Posthole	0.21	4.63
176	175	Posthole	0.24	4.51
178	177	Pit	0.10	4.69
180	179	Pit	0.12	4.67
553	552	Pit	0.17	4.34
-	169	Masons' floor surface consisting of compacted Reigate stone dust and chippings.	0.05	4.71
-	442	Mortar surface.	0.01	4.23
-	550	Mortar surface.	0.08	4.41
-	704	Layer against Abbey footings	0.48	4.55

7.7.8 One final intriguing truncation associated with the later burial ground was cut [531] a fairly shallow rectangular excavation measuring 1.20m east-west by 0.40m north-south by 0.13m deep. It was backfilled with fairly firm, mottled greenish brown Reigate stone fragments and silty sand [530] and contained the remnants of a sandy cobbled surface [529]. Recorded at a maximum height of 4.48m OD over grave cut [539] in Trenches 10-13 deposit [529] was interpreted as potentially being the remnants of a funerary monument. The only datable evidence was residual Roman CBM recovered from backfill [530].

7.8 **Phase 8: Henry VII's Lady Chapel (16th century)**

7.8.1 Henry III's Lady Chapel was demolished in 1503 in order to make room for a new Lady Chapel. The footings for the new chapel were partially uncovered during the excavation within Trenches 10-13 at a maximum height of 4.31m OD (Figure 10). Comprising a Reigate stone foundation and hard white shelly mortar [562] dated from 1250-1550 the footing also incorporated the earlier (Phase 5) chalk foundation [418] at its western extent.

7.8.2 Following the construction of the new Lady Chapel a row of shops was built along the southern wall of the chapel. The remains of brick foundations for either timber or brick built structures were uncovered in Trenches 10-13, [403] and [505], with the remnants of further buildings of a similar type found in Area B, [91], and Trench 100, [678] and [679]. The masonry was typically noted as being wide Tudor brick in a brown lime mortar. The table below outlines the details of each of the shop structures:

Masonry No.	Orientation	Length (m)	Width (m)	Depth (m)	Max. Height (m OD)
91	N-S turning E-W at W end	1.43	0.50	0.08	4.80
403	E-W turning N-S in central area	5.00	0.80	0.35	4.51
505	E-W	0.23	0.17	0.15	4.59
678	ENE-WSW	0.36	0.06	0.10	4.65
679	ENE-WSW	0.40	0.16	-	4.55

7.8.3 A small group of cut features and deposits in Trenches 10-13 appeared to be associated with the construction of the shops. These included pit cuts [391], [466] and [467], posthole [510] and possible channel or beam slot [491]:

Cut no.	Fill no.	Length (m)	Width (m)	Depth (m)	Height (m OD)
391	390	1.22	0.56	0.43	4.40
466	465	0.90	0.20	0.35	4.25
467	379	2.60	0.80	0.37	4.62
491	490	1.60	0.22	0.20	4.43
510	509	0.20	0.20	0.08	4.43

7.8.4 Cartographic evidence indicated that the row of shops had been demolished by the 1740s (Jorgensen 2016).

7.8.5 During the investigation of the Chapter House lightwell in the southern part of the Main Excavation Area a stepped footing for the Chapter House was revealed [440]. Foundation [440] was built of blocks of Reigate stone and hard shelly mortar dating to 1250-1550. It measured 0.24m north-south by 5.34m east-west by 0.56m deep and was recorded at a maximum height of 3.46m OD.

7.8.6 A second group of features was also found within the Main Excavation Area: postholes [323], [325], [327] and [329] and pits [124], [185] [216] and [244]. All of the features lay in close proximity to each other with the exception of pit [244] that lay a short distance to the east. The fills of these features were formed of firm dark-mid grey brown clay silt or loose mid grey yellow sandy silt with traces of residual medieval and Roman pottery and CBM. They were interpreted as being the remains of temporary structures, possibly the results of further building activity within Poets' Corner Yard. The dimensions and heights the features were encountered at are described in the following table:

Cut no.	Fill no.	Length (m)	Width (m)	Depth (m)	Height (m OD)
124	123	0.57	0.10	0.19	4.72
185	184	0.50	0.40	0.20	4.44
216	215	0.50	0.26	0.17	4.64
244	243	0.60	0.45	0.14	4.64
323	322	0.12	0.12	0.13	4.19
325	324	0.08	0.08	0.15	4.09

Cut no.	Fill no.	Length (m)	Width (m)	Depth (m)	Height (m OD)
327	326	0.07	0.07	0.09	4.00
329	328	0.10	0.10	0.10	4.00

7.9 Phase 9: 17th-18th Century

7.9.1 Further development took place during the 17th and 18th centuries in the area between the chapel of St Edmund and the South Transept (Figure 11). The heavily truncated remains of at least one brick building was uncovered in the Main Excavation Area comprising unfrogged red brick walls and grey lime mortar [34], [225] and [234] and, potentially, truncated rectangular soakaway or well [90] and floor [93] both of which were built of shallow frogged red brick and concreted light grey lime mortar. The dimensions and heights these structures were encountered at are outlined in the table below:

Masonry No.	Type	Orientation	Length (m)	Width (m)	Depth (m)	Max. Height (m OD)
34	Wall	E-W	0.16	0.30	0.46	4.81
90	Soakaway/ Well	N-S turning E-W at North and South ends	1.50	1.10	0.61	4.95
93	Floor	n/a	1.45	1.45	0.05	4.37
225	Wall	E-W	0.72	0.46	0.34	4.94
234	Wall	E-W	3.00	0.40	0.39	4.96

7.9.2 Further buttress additions and repairs [36], [130] and [138] were uncovered in the Main Excavation Area during the archaeological investigation. The details of these roughly hewn Reigate stone, brick and tile structures are shown in the table below:

Masonry No.	North-South (m)	East-West (m)	Depth (m)	Max. Height (m OD)
36	0.90	0.18	0.50	4.81
130	1.40	0.42	0.48	4.71

138	1.18	0.85	0.29	4.35
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7.9.3 As well as the buttress repairs some further construction work appeared to have occurred on the raft beneath the South Transept specifically CBM, such as unglazed Flemish floor tile, dating to 1600-1800 was recovered from layer [2000] within Area B. Layer [2000] itself appeared to be a later concrete deposit applied to the top of the limecrete foundation raft. It was recorded at a maximum height of 4.90m OD.

7.9.4 Additional development occurred in the area to the east of the Chapter House between 1746 and 1792 with the construction of Nos. 1, 2 and 3 Poets' Corner Yard. These buildings remained standing until the final years of the 19th century. The footings [542] overlying [555] for one of these, No. 3 Poets' Corner Yard, were exposed during the excavation of Trench 16 to the east of the Chapter House truncating an earlier brick structure [541] and crushed mortar surface [543] (Plate 9). Dimensions of the masonry structures are detailed in the following table:

Masonry No.	Orientation	Length (m)	Width (m)	Depth (m)	Max. Height (m OD)
541	E-W (unclear)	0.72	0.30	0.34	4.54
542	N-S turning E-W at North end	1.20	0.48	0.40	4.94
555	N-S turning E-W at North end	1.20	0.48	0.24	4.60

7.9.5 A large number of robber cuts, pits and postholes were present in both the Main Excavation Area and Trenches 10-13 and 16. These features were likely to be the result of construction works, given the sizeable amount of mortar and CBM fragments within the fairly loose mid-dark grey brown silty sand and sandy silt fills of the features. The dimensions and heights features were recorded at are outlined in the following table:

Cut no.	Fill no.	Type	Location	Length (m)	Width (m)	Depth (m)	Height (m OD)
127	126	Posthole	Main Excavation Area	0.18	0.16	0.11	4.59

Cut no.	Fill no.	Type	Location	Length (m)	Width (m)	Depth (m)	Height (m OD)
129	128	Pit	Main Excavation Area	0.90	0.55	0.16	4.69
171	170	Posthole	Main Excavation Area	0.40	0.12	0.30	4.69
187	186	Posthole	Main Excavation Area	0.68	0.64	0.10	4.58
189	188	Posthole.	Main Excavation Area	0.42	0.30	0.20	4.63
196	195	Pit	Main Excavation Area	0.80	0.60	0.36	4.67
202	197	Posthole	Main Excavation Area	0.72	0.60	0.39	4.59
206	205	Pit	Main Excavation Area	0.55	0.40	0.10	4.55
212	211	Robber cut	Main Excavation Area	1.10	0.55	0.10	4.27
214	213	Posthole	Main Excavation Area	0.10	0.10	0.09	4.62
250	249	Pit	Main Excavation Area	0.70	0.65	0.09	4.92
252	251	Pit	Main Excavation Area	0.46	0.46	0.10	4.96
262	271	Pit	Main Excavation	1.30	0.94	0.21	4.91

Cut no.	Fill no.	Type	Location	Length (m)	Width (m)	Depth (m)	Height (m OD)
			Area				
269 (not illustrated)	255	Pit	Main Excavation Area	0.98	0.78	0.24	4.90
288	281, 292	Robber cut	Main Excavation Area	2.62	1.46	0.23	4.93
376	375	Robber cut	Trenches 10-13	0.70	0.35	0.46	4.65
378	377	Posthole	Trenches 10-13	0.19	0.18	0.46	4.65
384 (only seen in Figure 15: Section 12)	383	Pit	Trenches 10-13	0.85	0.60	0.30	4.25
391	390	Pit	Trenches 10-13	1.22	0.56	0.43	4.40
399	398	Pit	Trenches 10-13	1.10	0.50	0.78	4.66
430	415	Robber cut	Trenches 10-13	4.92	1.04	0.30	4.62
488	487	Robber cut	Trenches 10-13	3.00	0.50	0.20	4.5
513	512	Posthole	Trenches 10-13	0.20	0.20	0.67	4.57
515	514	Pit	Trenches 10-13	0.80	0.50	0.67	4.57
566	567	Robber cut	Trench 16	0.88	0.54	0.26	4.7

7.10 **Phase 10: 19th Century-Modern**

7.10.1 The advent of the 19th century saw the commencement of restoration work on the Chapter House under the auspices of George Gilbert Scott (Figure 12). Evidence for the works in the Main Excavation Area included trenches excavated for the refacing of the Chapter House, the construction of a south facing unmortared brick retaining wall [302], brick lightwell [448] and rebuilding of the flying buttress [528] in the northeastern part of the Main Excavation Area (Figure 16). Lightwell [448] was constructed predominantly of yellow brick with some re-used and contemporary stone elements for the crown in a light brown cement mortar, and also incorporated the Barnack stone sarcophagus [152] which had presumably been disturbed when the construction cut [102]/[113] was dug (Figure 14 & Plate 11). It was encountered a maximum height of 5.40m OD

7.10.2 There had been an earlier medieval flying buttress on the western edge of the Main Excavation Area, as the excavation showed, but this had been demolished by Christopher Wren. George Gilbert Scott exposed this footing, composed of ashlar blocks and roughly hewn pieces of Reigate stone and rebuilt the buttress on top of it using the original materials and concreted mid grey cement mortar [528].

7.10.3 In addition to these works new drainage was laid in the yard during from the 19th century into the modern period. Examples include culvert [97], constructed of narrow post Great Fire frogged and unfrogged brick and hard clinker grey mortar (Plate 10). The culvert was seen to truncate pits [196] and [202]. It extended 8.00m east-west by 0.70m north-south by 0.43m deep and was recorded at a maximum height of 4.58m OD. The culvert itself was truncated at its eastern end by a later north-south orientated drain [413], its continuation to the east was recorded as [422] and it was joined, via a tributary connection, to drain [10] to the south. Further drainage, sewage or other similar service works are detailed in the table below:

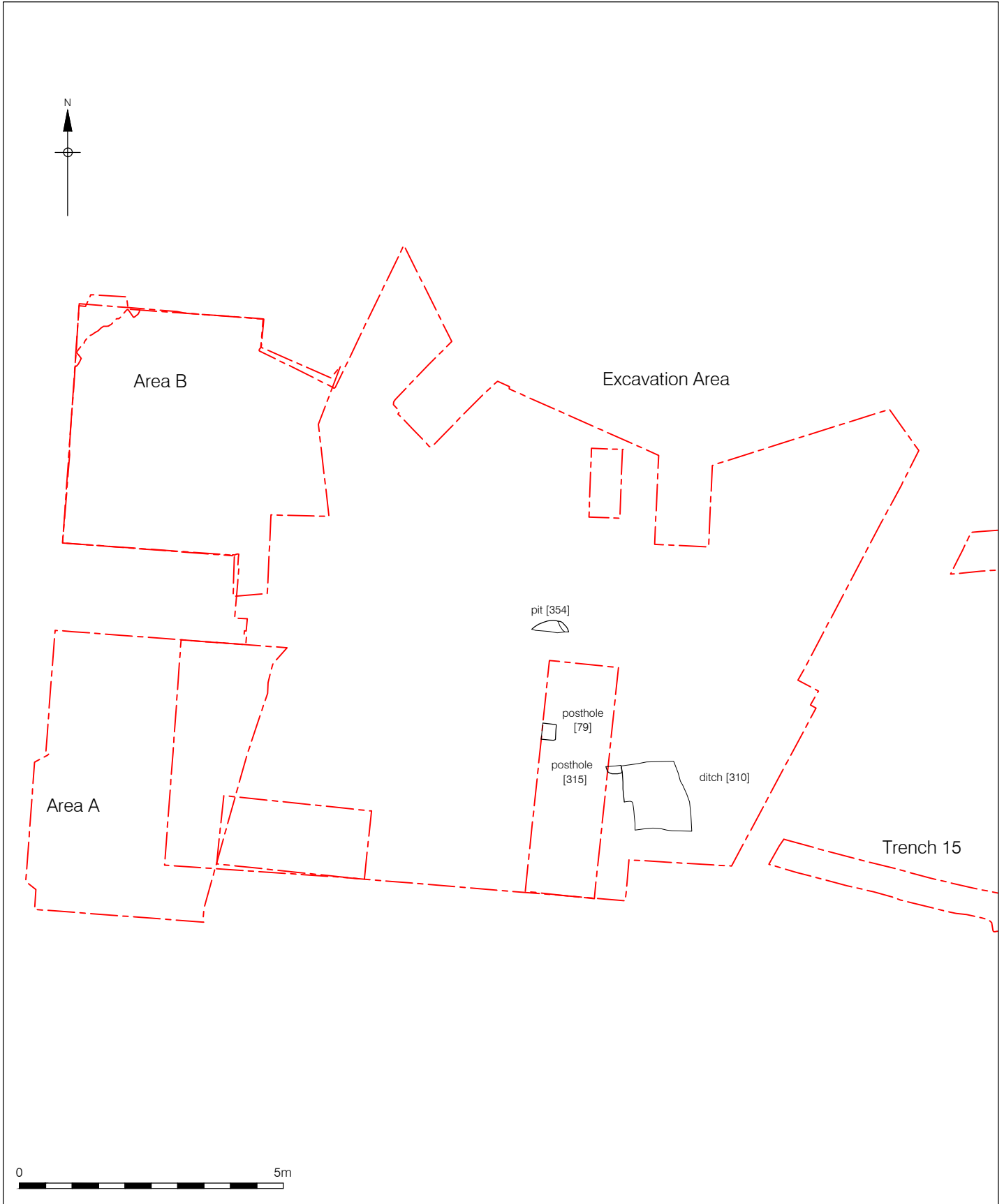
Cut no.	Fill nos.	North-South (m)	East-West (m)	Depth (m)	Maximum Height (m OD)	Location
121	120	1.58	0.70	0.22	4.63	Main Excavation Area
122	114	1.30	0.70	1.13	4.70	Main Excavation Area
237	236	2.10	0.85	0.51	5.03	Main Excavation Area

Cut no.	Fill nos.	North-South (m)	East-West (m)	Depth (m)	Maximum Height (m OD)	Location
657	656, 667	1.22	0.72	-	-	Trench 100
659	658, 666	0.96	0.36	0.26	4.55	Trench 100
668	669,670	2.24	1.20	0.97	4.51	Trench 100
672	671, 673	0.54	0.35	0.36	4.35	Trench 100
683	682	-	-	-	4.35	Trench 100
696	695	-	-	-	4.09	Trench 100
2002	2001	2.00	1.35	0.50	4.79	Area A
2014	2013	4.00	0.40	-	4.57	Area A

7.10.4 A structure comprising wall [131] and floor [182] composed of frogged brick, roof tile and cement mortar in construction cut [133] may also be the remnants of a service structure, possibly an inspection chamber. It covered an area 1.60m north-south by 1.00m east-west by 0.75m deep and was seen at a maximum height of 4.73m OD.

7.10.5 A final drainage feature was sub-circular soakaway [142] constructed of post Great Fire brick, tile and pale grey clinker mortar dating from the middle of the 19th century. It measured 1.06m NE-SW by 0.52m NW-SE by 0.18m deep and seen at a maximum height of 4.48m OD in Area B.

7.10.6 All deposits, structures and features were ultimately sealed beneath the paved and grassed areas of Poets' Corner Yard, the recently demolished public toilet block [+], and, in the case of the Southern Transept Heating Duct the flagstones of Westminster Abbey itself [6000].



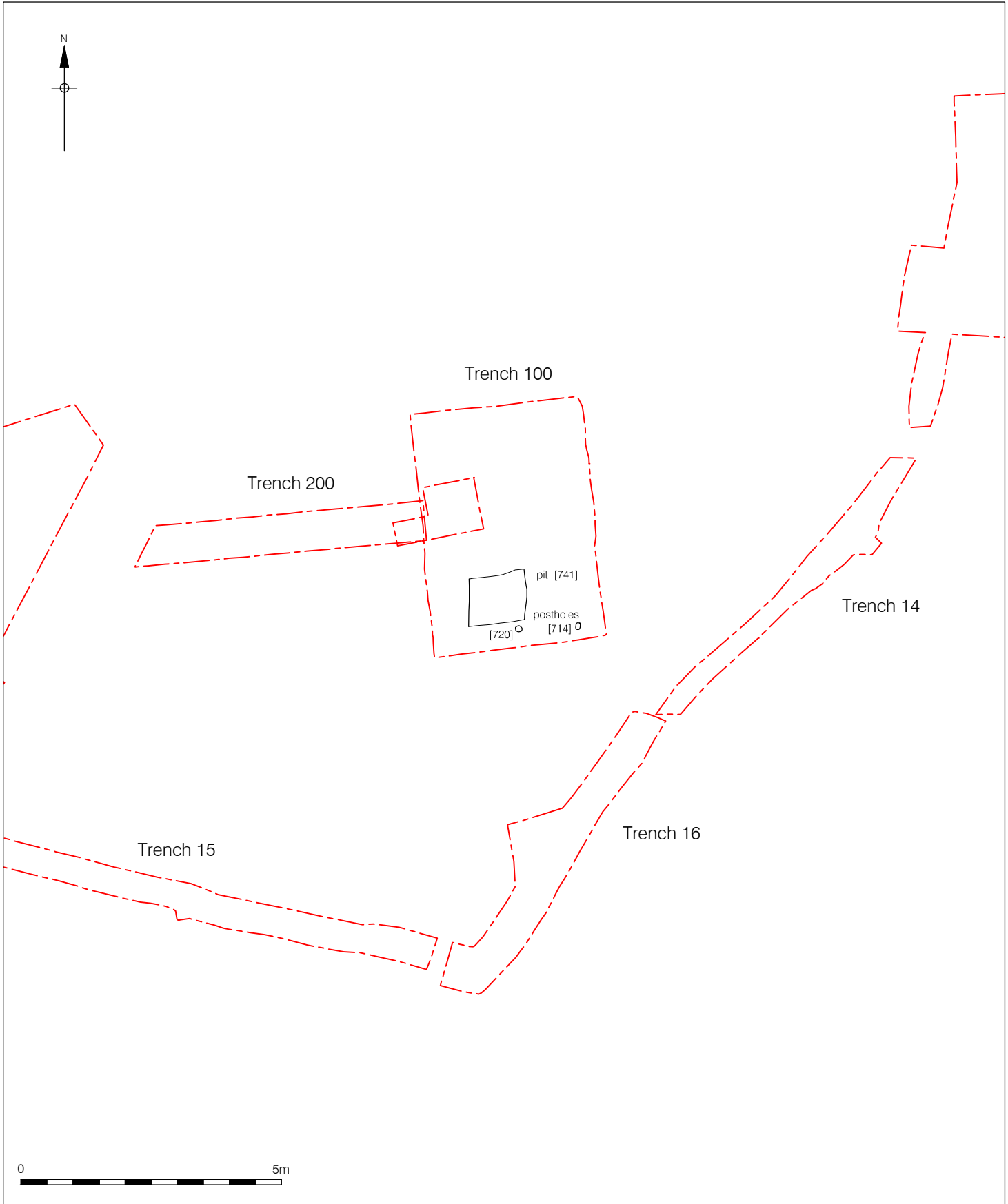
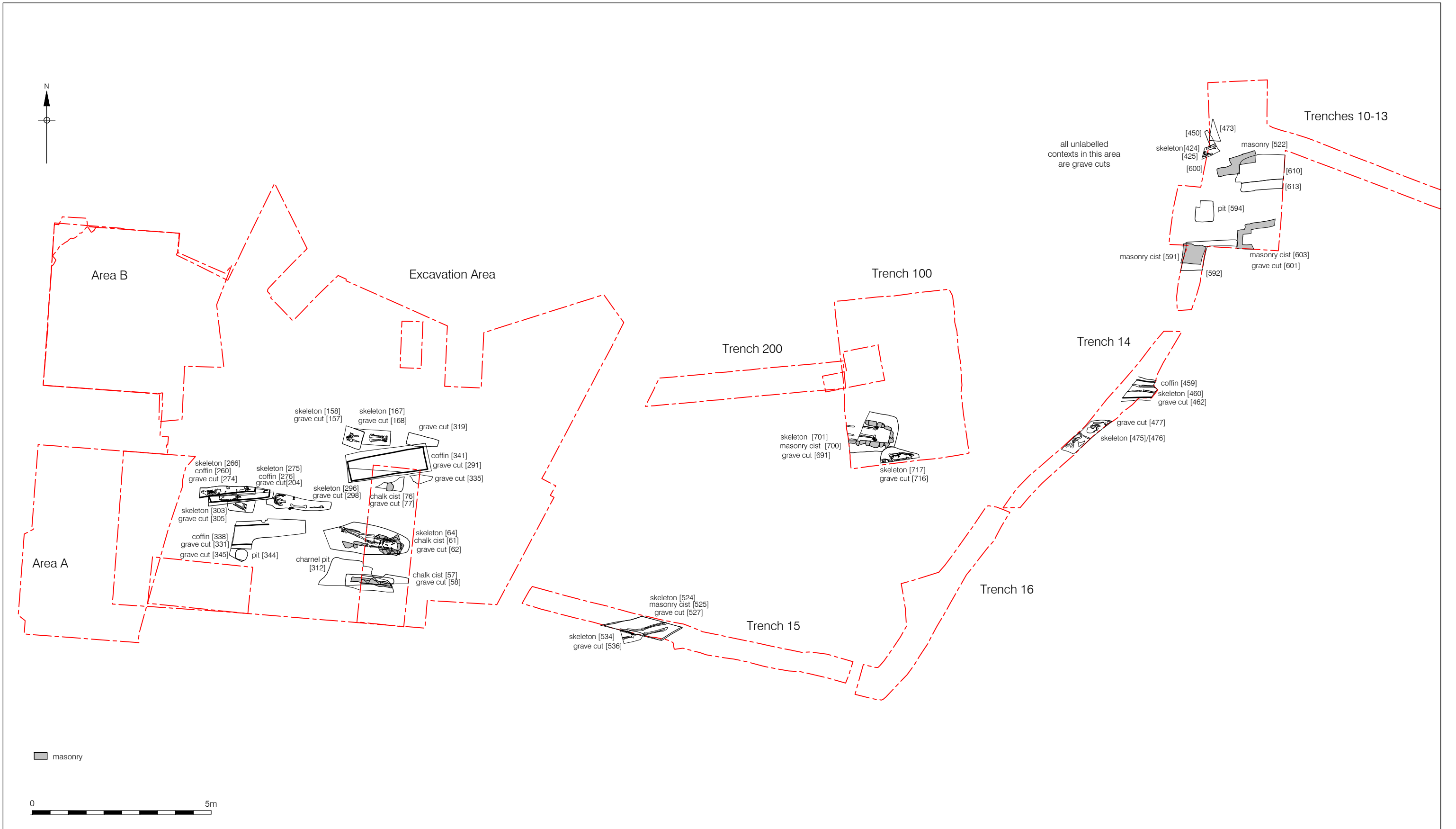
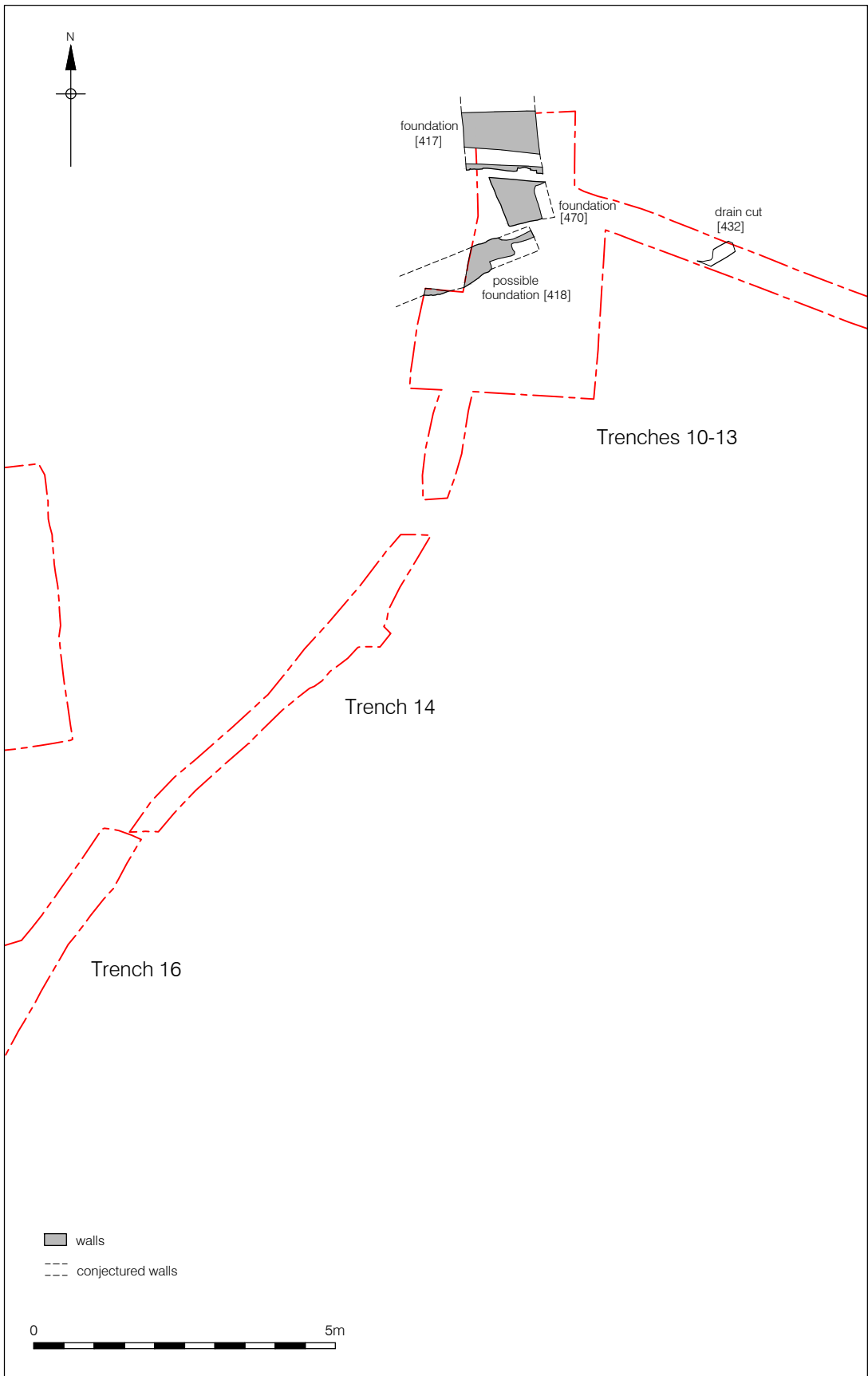


Figure 5
Plan of Phase 3
11th Century
Potential early medieval activity
1:100 at A4

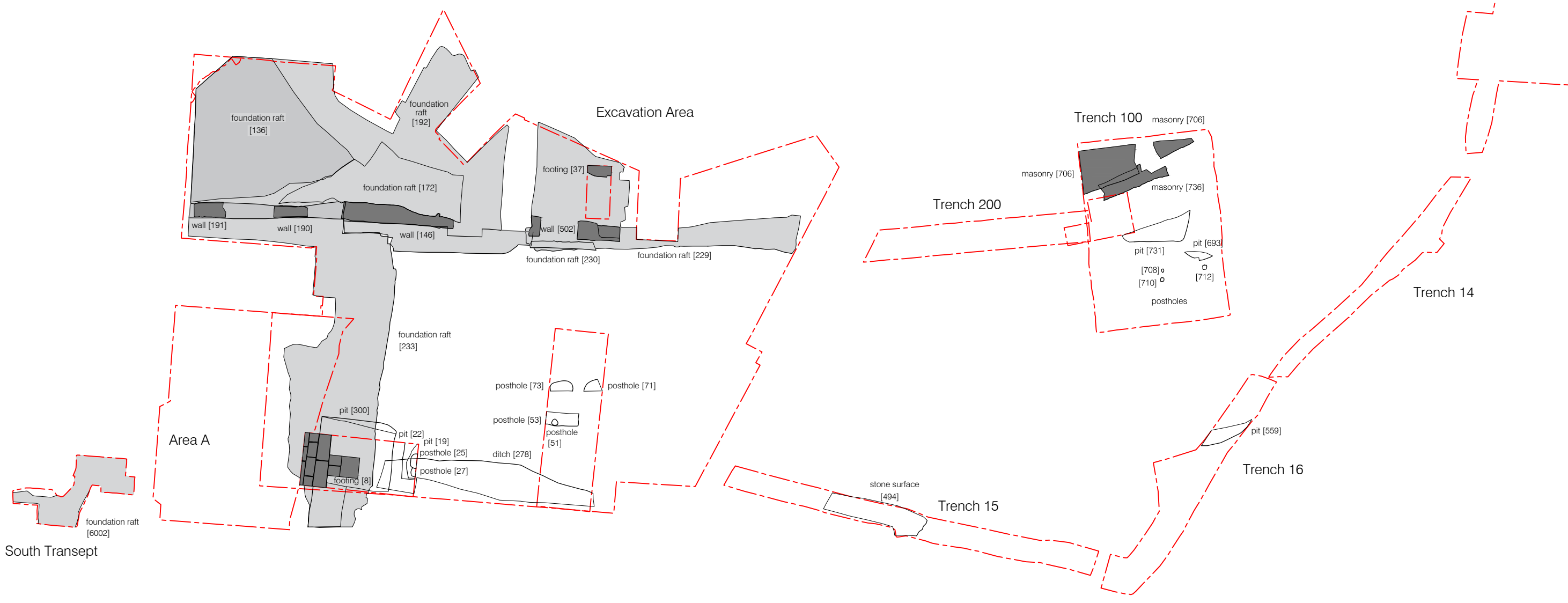




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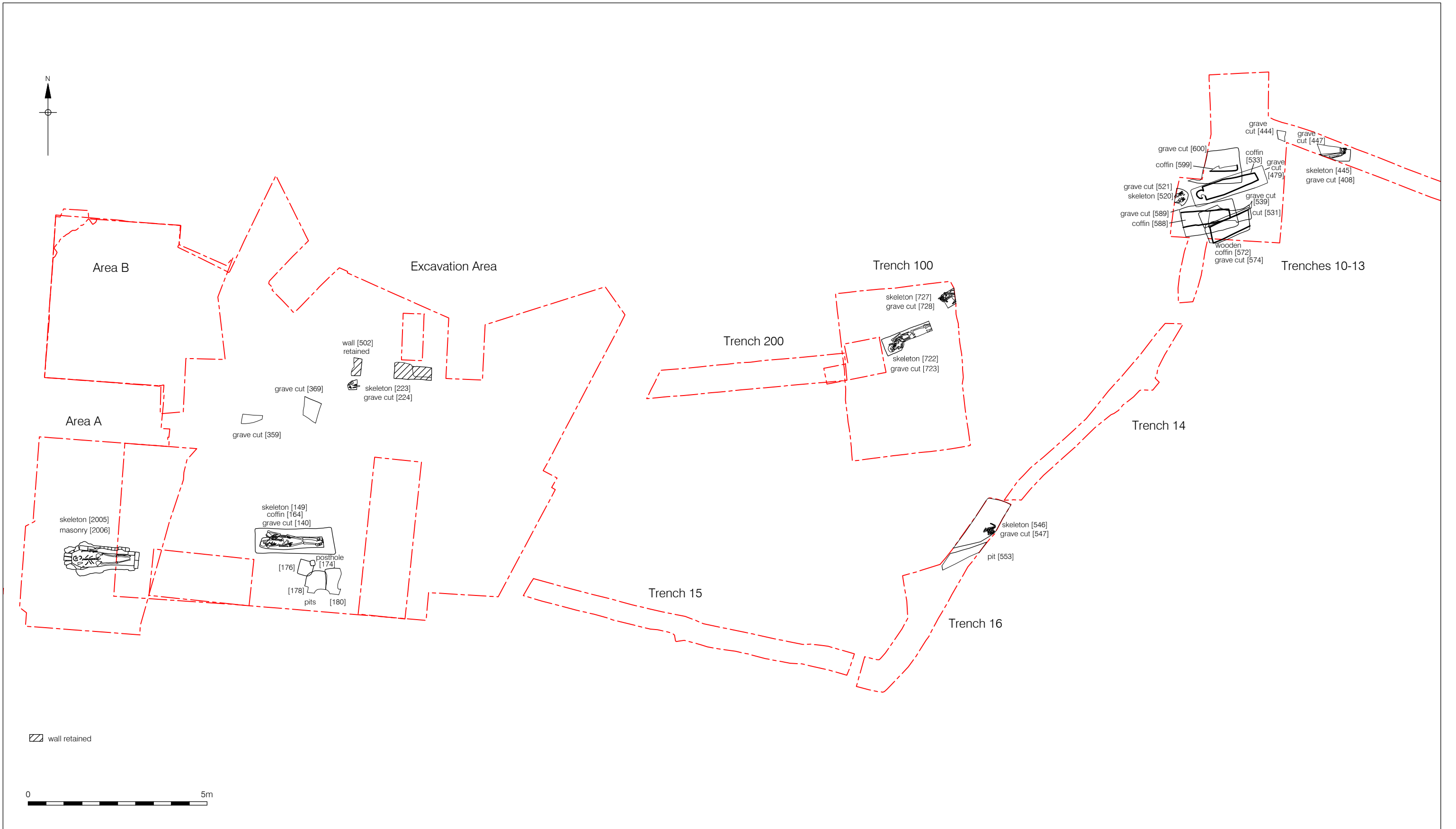
Figure 7
 Plan of Phase 5
 13th Century
 Henry III's Lady Chapel
 1:100 at A4

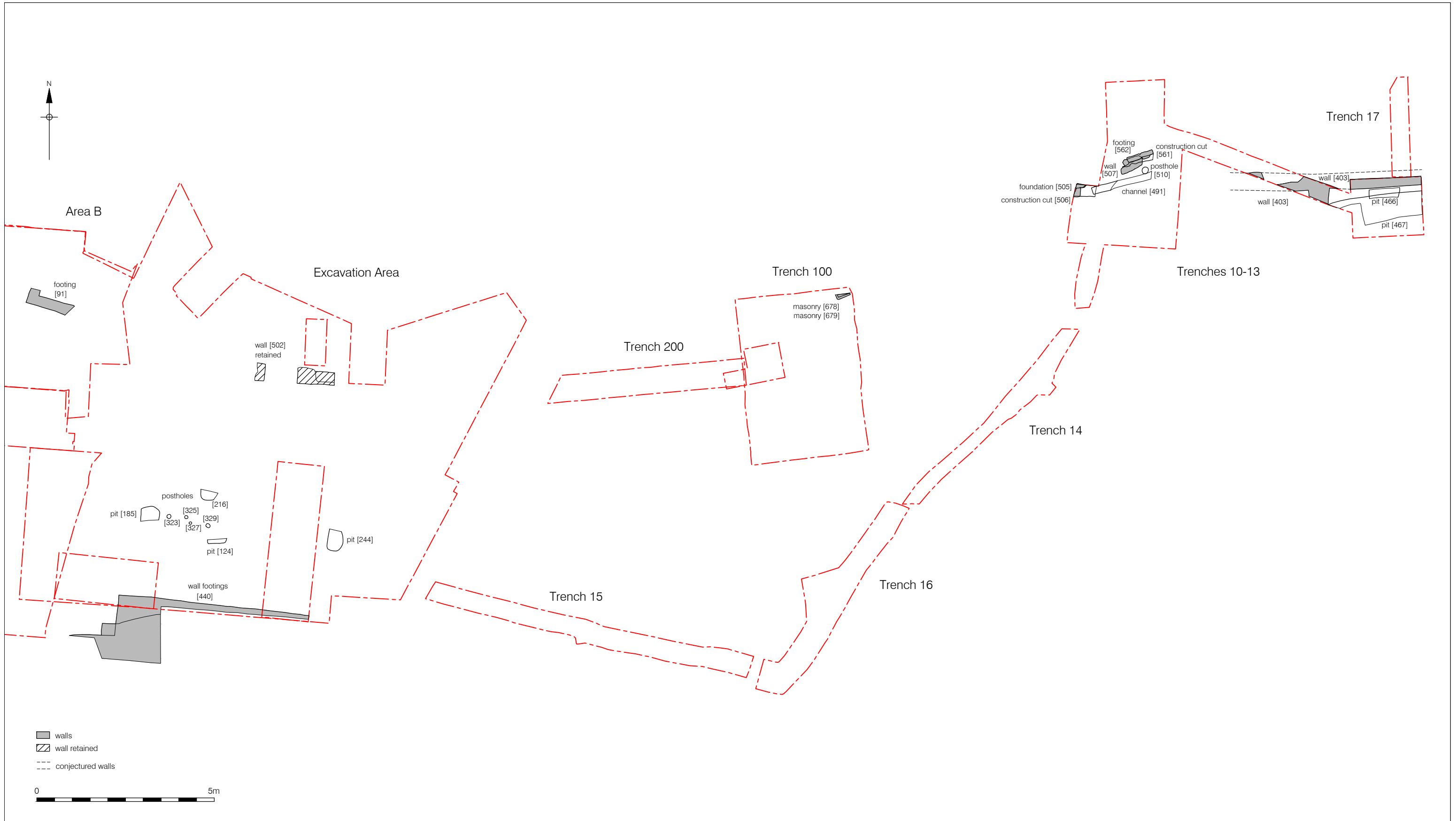


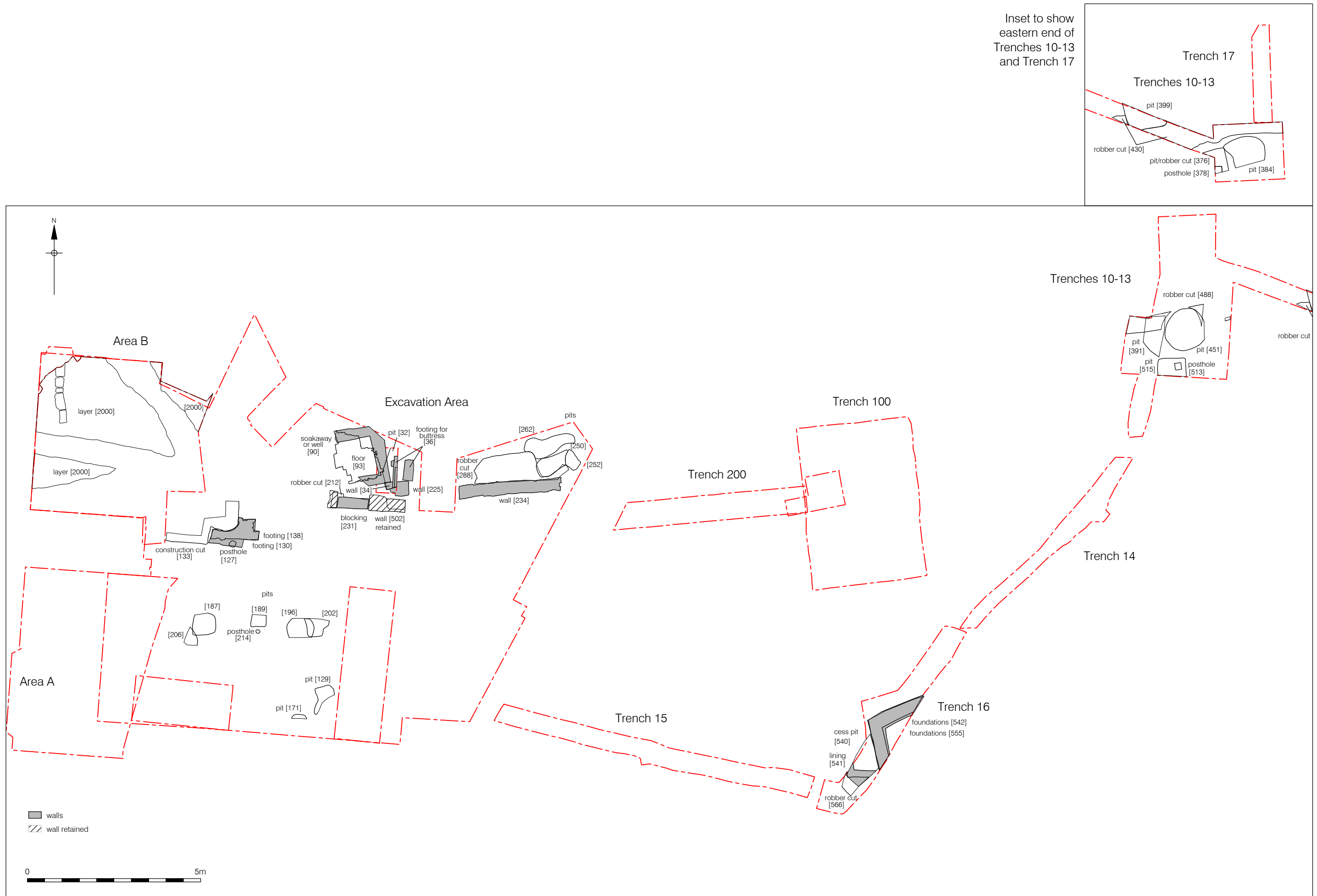
■ walls
■ foundation raft



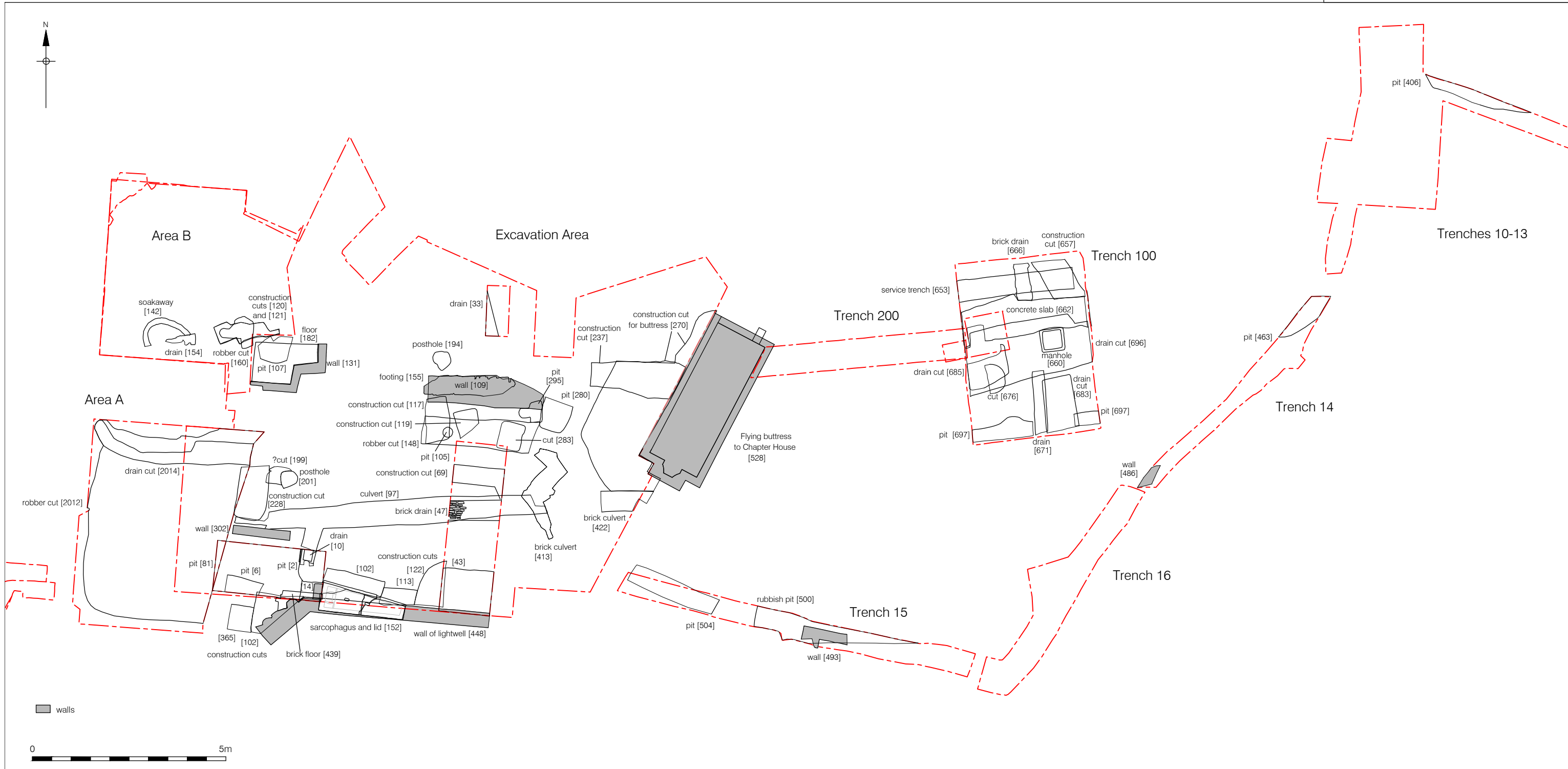
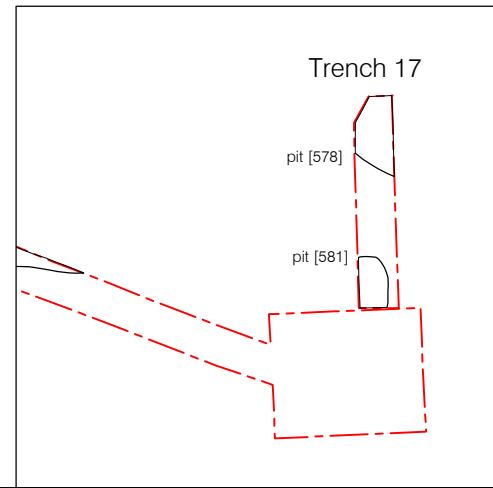
Figure 8
Plan of Phase 6
13th-14th Centuries
Construction of Henry III's Church and Chapter House
1:100 at A3

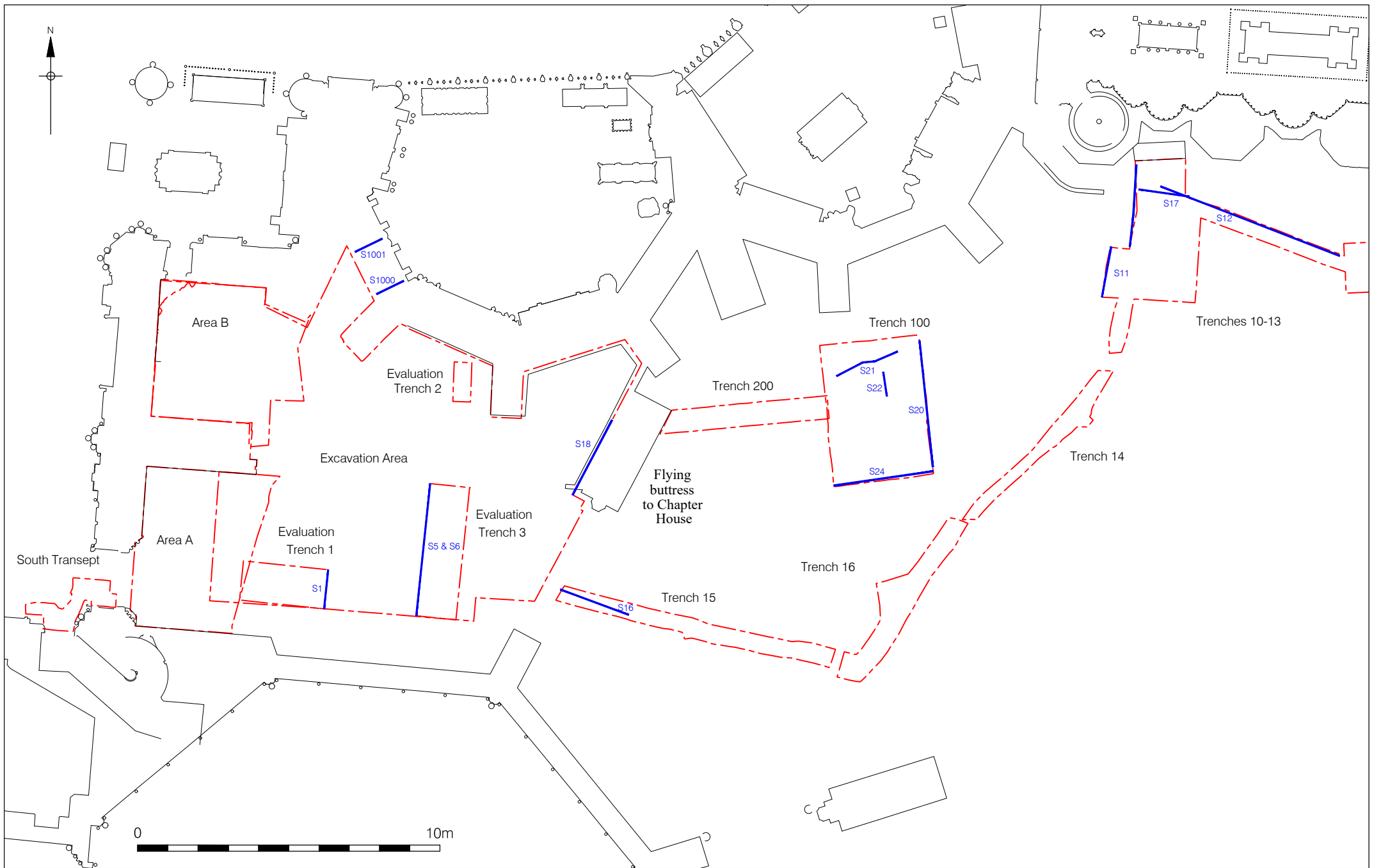






Inset to show eastern end of Trenches 10-13 and Trench 17

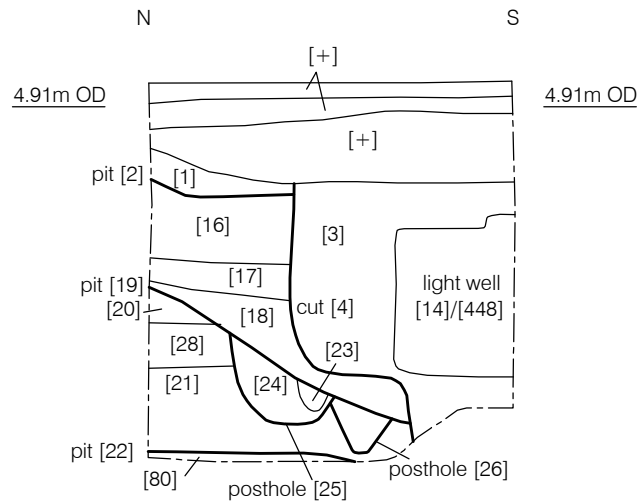




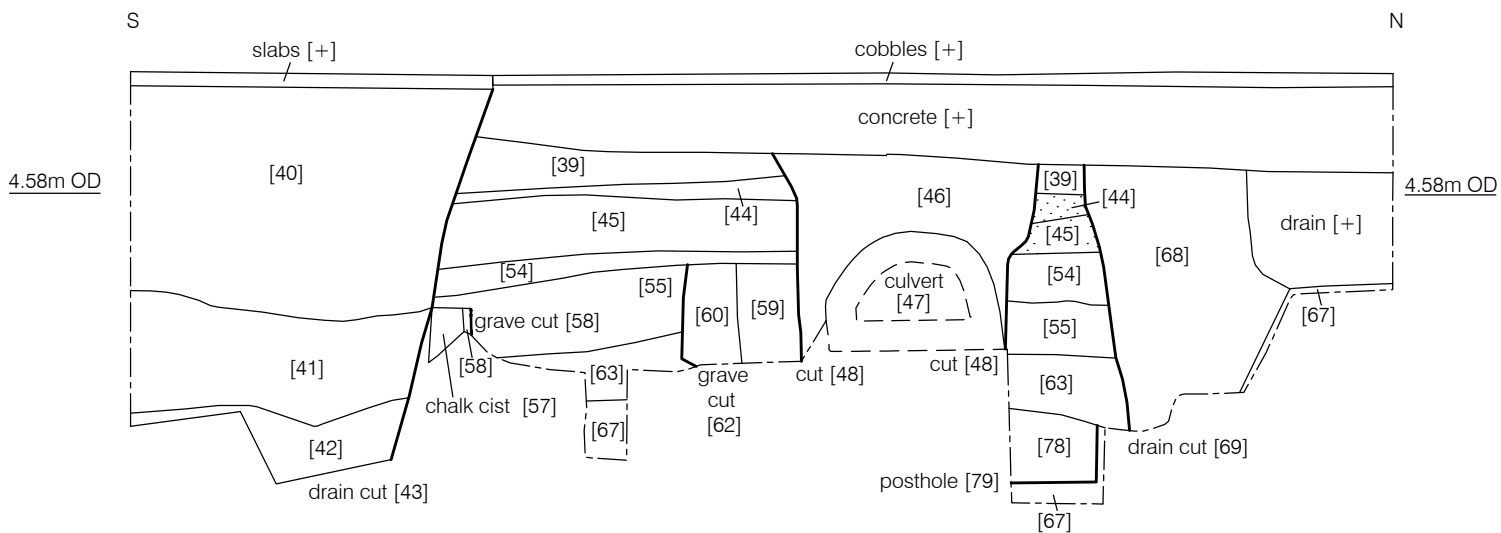
Based on survey drawing WMA-GFP-PS supplied by The Downland Partnership, 2015
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Figure 13
 Section Locations
 1:160 at A4



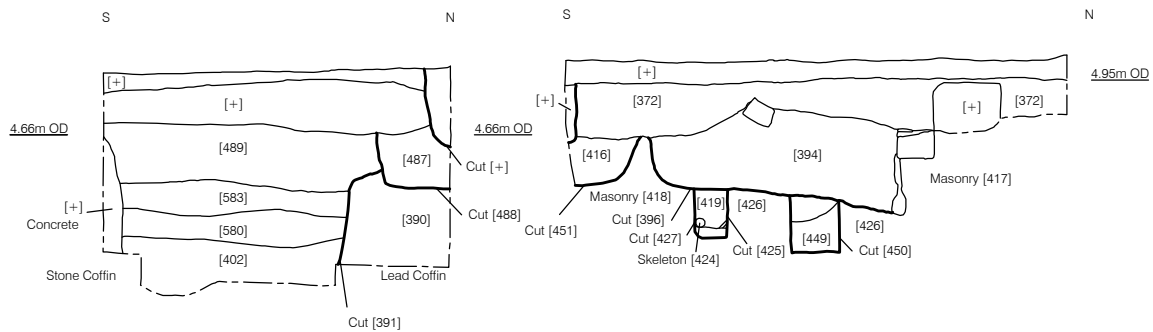
Section 1
Trench 1
West Facing



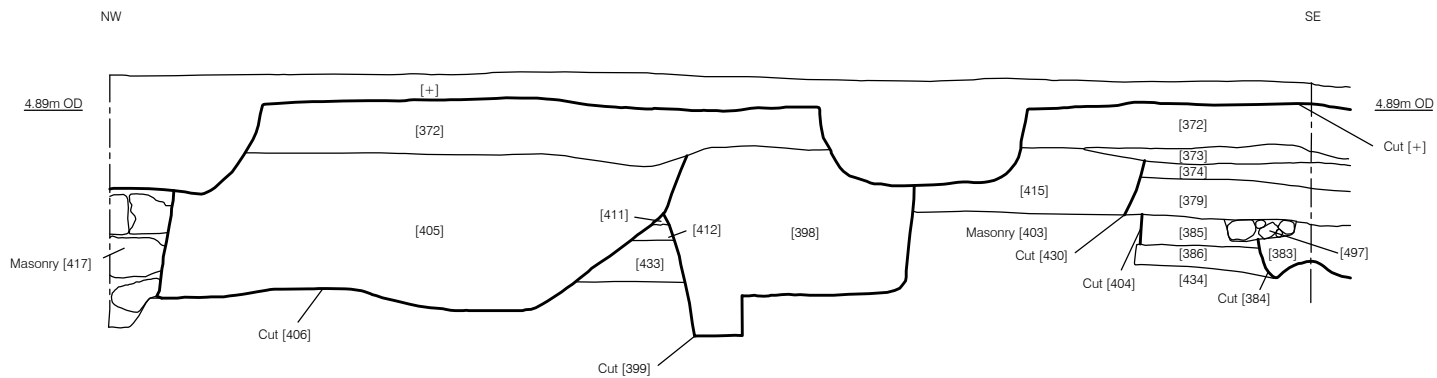
Section 5 & 6
Trench 3
East Facing



Figure 14
Sections 1, 5 and 6
1:25 at A4

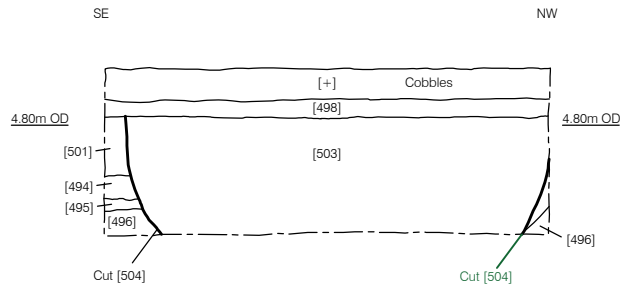


Section 11
Trench 13
East Facing

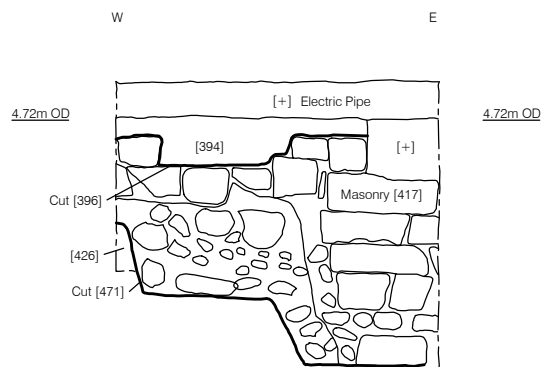


Section 12
Trench 10
South west Facing





Section 16
Trench 15
North east Facing

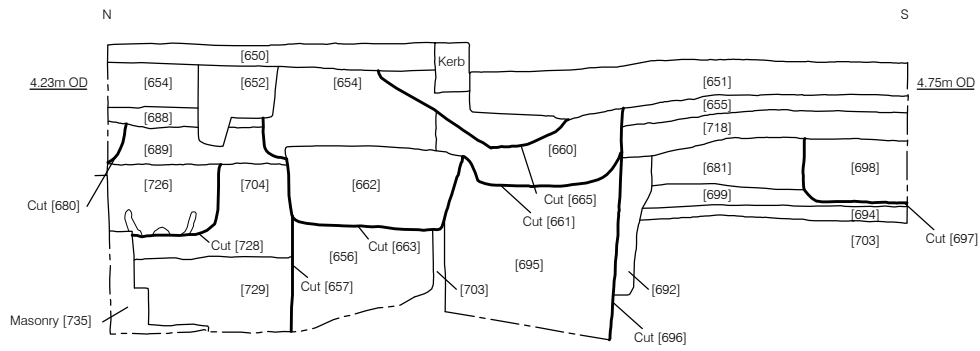


Section 17
Trenches 10-13
South Facing

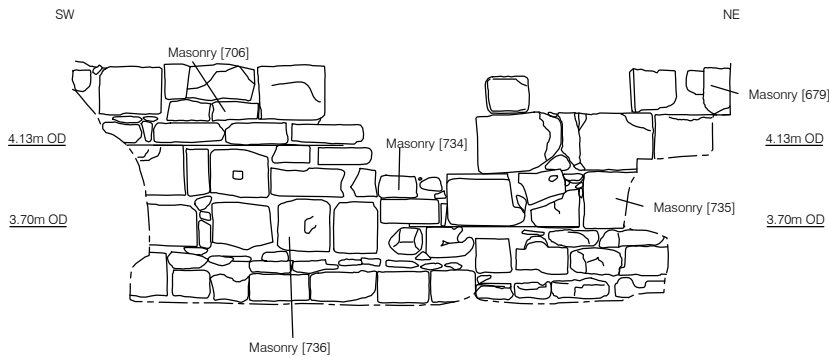


Section 18
Main excavation/Flying buttress of
the Chapter House
North west Facing

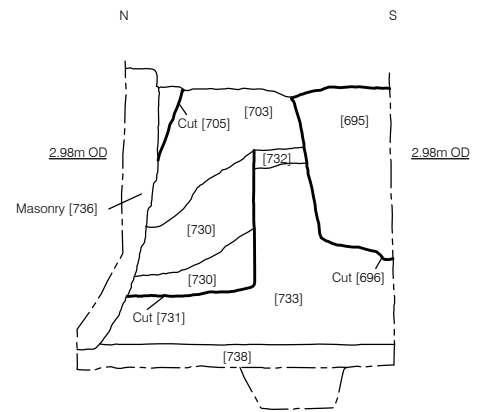




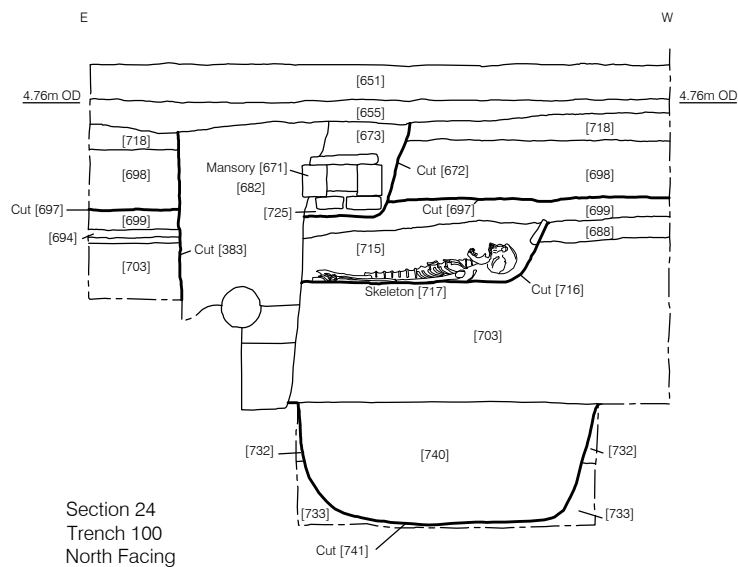
Section 20
Trench 100
West Facing



Section 21
Trench 100
South east Facing

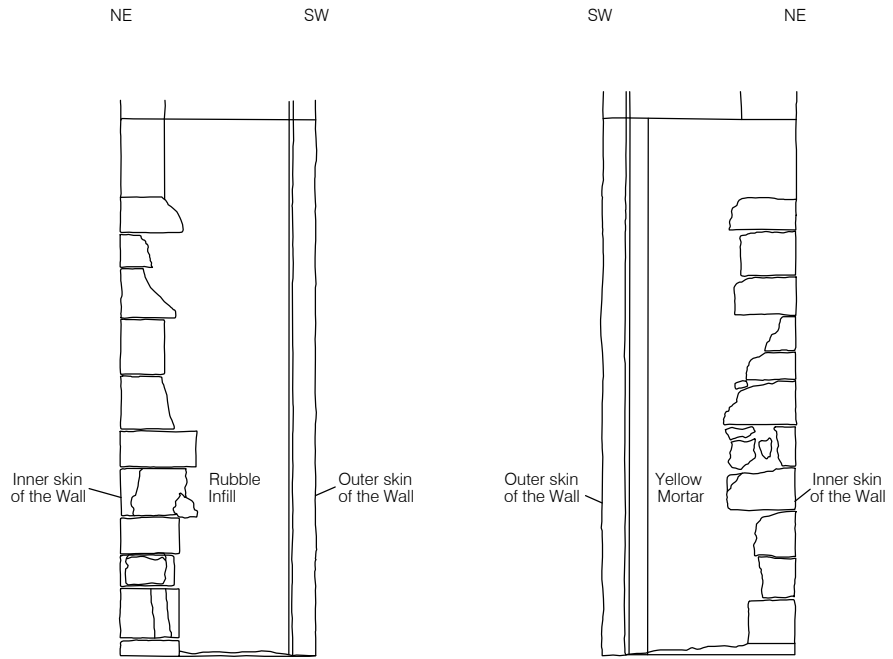


Section 22
Trench 100
West Facing



Section 24
Trench 100
North Facing





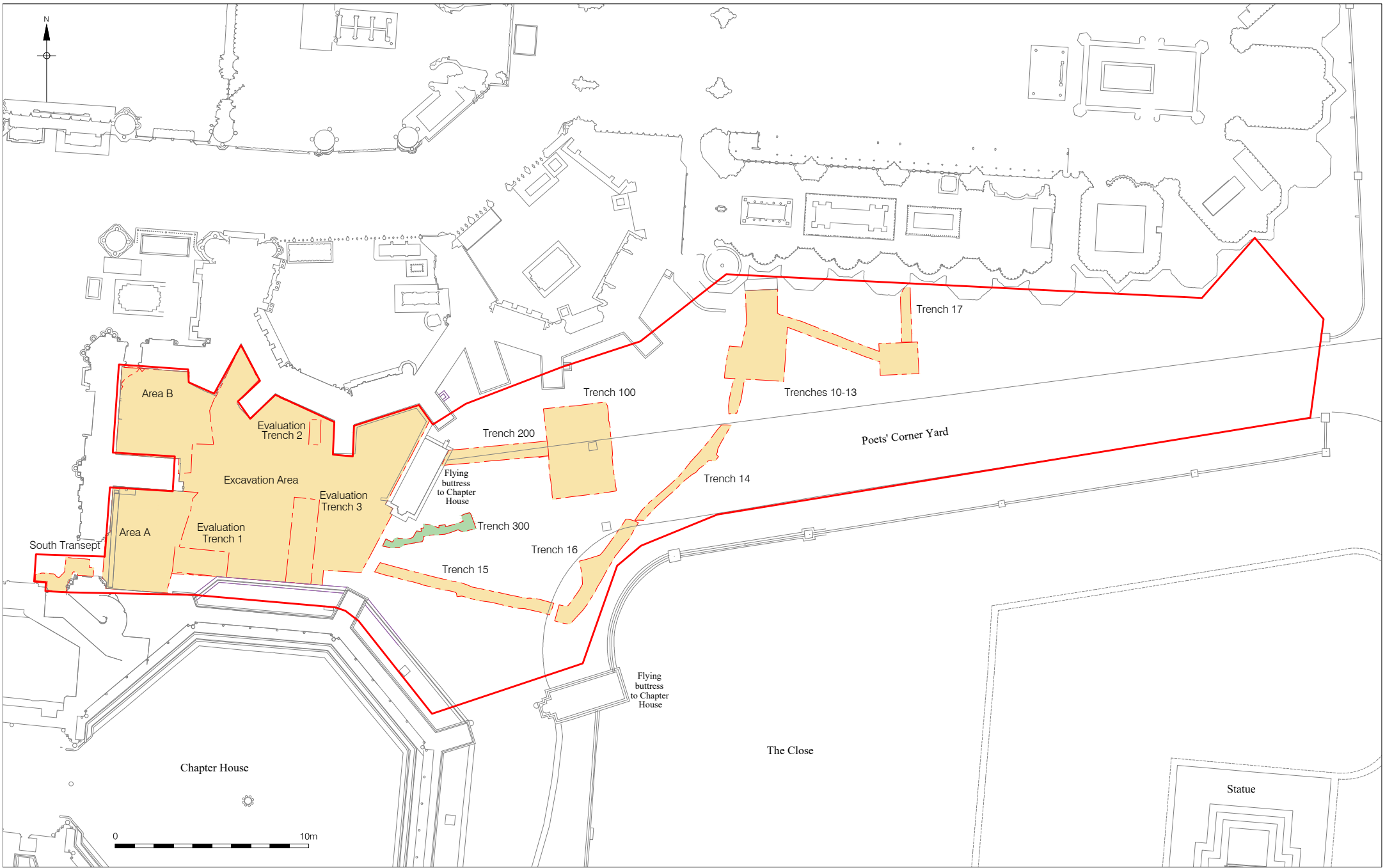
Section 1000
Abbey Wall
North west
Facing

Section 1001
Abbey Wall
South east
Facing



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Figure 18
Sections 1000 and 1001
1:40 at A4



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Figure 19
 Trench Location, to show location of Trench 300
 1:250 at A4

Plate 1: South facing view of Main Excavation Area



Plate 2: West facing view of Skeleton [64] in chalk lined cist burial (1m scale)



Plate 3: South facing view of limecrete raft foundation [233] (1m scale)



Plate 4: North facing view of channel within construction cut for limecrete raft foundation [233]



Plate 5: North-West facing section through wall at Gallery Level within Westminster Abbey



Plate 6: East facing view of South Transept Heating Duct



Plate 7: West facing view of lead coffins [533] and [588] (1m scale)



Plate 8: Detail of design on lead coffin [533] (50mm scale)



Plate 9: South-West facing view of foundation [542] belonging to No. 3 Poets' Corner Yard (1m scale)



Plate 10: West facing view of culvert [97] (1m scale)



Plate 11: South facing view of sarcophagus [152] re-used in 19th-century brick lightwell [448]



Plate 12: North facing view of skeleton [2005] within brick 'coffin' [2006] (0.5m scale)



8 PHASED DISCUSSION

8.1 Phase 1: Natural

8.1.1 The earliest stratum encountered during the investigation was naturally deposited loose, brownish yellow sand occasionally overlying or containing bands or patches of compact gravel. At the layer's highest point, in the Main Excavation Area, it was recorded at 4.18m OD and in Trench 100, the lowest point, it was recorded at 1.99m OD. The relative heights natural sand was encountered at indicated the varying amounts of truncation the natural horizon had suffered resulting from later developments at Poets' Corner Yard.

8.2 Phase 2: Land reclamation deposits (10th-11th centuries)

8.2.1 A variety of layers and features were seen to overlie naturally deposited sand and gravels within Evaluation Trenches 1 and 3, the Main Excavation Area and later Trenches 10-13, 100 and 200. These deposits principally represented episodes of land reclamation.

8.2.2 Dating evidence from the land reclamation deposits principally originated from the Roman period and included such materials as large chunks of brick, occasional tile, *opus signinum* and Hartfield *tegula* fragments; though Iron Age flint and post-medieval brick were also occasionally present in these deposits.

8.2.3 Although suggestive of prehistoric and Roman activity on Thorney Island, previous archaeological investigations within the abbey precincts have identified similar deposits that indicated large scale land reclamation was taking place in order to prepare the site for the construction of Edward the Confessor's church and monastery.

8.3 Phase 3: Potential early medieval activity (11th century)

8.3.1 Evidence was found within Trench 100 which suggested the presence of post-Roman - early medieval activity on the site that pre-dated the construction of any of the elements of the Abbey and possibly the monastic cemetery: a chalk surface [694], levelling layers [703] and [739], as well as postholes, [714] and [720], and a pit [741].

8.4 Phase 4: Monastic Burials (11th-12th centuries)

8.4.1 The principal features attributed to Phase 4 were 30 burials from the monastic cemetery attached to Edward the Confessor's Abbey dating from the 11th century until the early

part of the 13th century. While all inhumations were orientated east-west, they included individuals within wooden and stone coffins, chalk lined cist graves and a number that no longer contained skeletons. The burials were recorded in Trench 3, the Main Excavation Area, Trenches 10-13, and Trenches 14, 15 and 100.

8.5 Phase 5: Henry III's Lady Chapel (13th century)

8.5.1 Several features and deposits within Trenches 10-13 were considered to be associated with Henry III's Lady Chapel, built between 1220-1245 including chalk and Reigate stone wall foundations [418] and [470] and later addition [417]. Drainage ditch [432] was also attributed to this period of construction as well as the deposition of a number of layers composed of sandy mortar and crushed Reigate stone.

8.6 Phase 6: Construction of Henry III's Church and Chapter House (13th-14th centuries)

8.6.1 The investigation revealed a number of activities on site that related to the construction of Henry III's Church and Chapter House within Trenches 1-3, the Main Excavation Area, Trenches 10-13, Trench 15, Trench 16, Trench 100, the South Transept Heating Duct and Areas A and B. These included the foundations for those structures including a limecrete raft, a number of features associated with construction such as postholes and layers composed of dumped materials, in parts forming potential masons' yard surfaces.

8.7 Phase 7: Later Burials (14th-15th centuries)

8.7.1 Following the construction of the Henry III's Church and Chapter House the locale of Poets' Corner Yard was once again used as a burial ground. Seventeen inhumations were found within the Main Excavation Area, Area A, Trenches 10-13, Trench 16 and Trench 100 and all were orientated east-west. These included 3 burials within lead coffins, at least one of which was a decorated, anthropoid casket, a burial within a 'brick' coffin near the entrance to the South Transept and the cut for a possible funerary monument.

8.8 Phase 8: Henry VII's Lady Chapel (16th century)

8.8.1 Both Henry III's Lady Chapel and the possibly detached chapel were demolished in 1502 in order to make room for the new Lady Chapel. The footings for the new chapel were

partially uncovered during the excavation within Trenches 10-13 and following the construction of the new Lady Chapel a row of shops was built along the southern wall of the building. The remains of brick foundations, for either timber or brick built structures, were uncovered in Trenches 10-13, [403] and [505], with the remnants of further buildings of a similar type found in Area B, [91], and Trench 100, [678] and [679].

8.9 **Phase 9: 17th-18th Century**

8.9.1 Further development took place during the 17th and 18th centuries in the area between the chapel of St Edmund and the South Transept. The heavily truncated remains of at least one brick building, a truncated rectangular soakaway were found as well as additions to both the buttresses and the foundation raft.

8.9.2 Additional development occurred in the area to the east of the Chapter House between 1746 and 1792 with the construction of Nos. 1, 2 and 3 Poets' Corner Yard and the footings of one of these, No. 3 Poets' Corner Yard, were exposed during the excavation of Trench 16.

8.10 **Phase 10: 19th Century - Modern**

8.10.1 The principle archaeological remains found during the final phase of activity consisted of evidence of the restoration work on the Chapter House performed under the direction of George Gilbert Scott. Evidence for the works in the Main Excavation Area included trenches excavated for the re-facing of the Chapter House, the construction of brick lightwell [448] and rebuilding of the flying buttress [528]. These works were followed by the implementation of service runs, principally culverts and drains dating from the 19th century until the modern period.

8.10.2 All deposits, structures and features were ultimately sealed beneath the paved surfaces and grassed areas of Poets' Corner Yard, the recently demolished public toilet block and, in the case of the Southern Transept Heating Duct the flagstones of Westminster Abbey itself.

9 RESEARCH OBJECTIVES

9.1 Original research objectives

9.1.1 The following research objectives were set out prior to the investigation commencing:

- To determine / confirm the palaeotopography of the site.

The natural sand of Thorney Island was encountered at heights between 1.99-4.18m OD during the Poets' Corner Yard investigation; principally due to the varying amounts of truncation the natural horizon had suffered resulting from later developments at Poets' Corner Yard. Previous excavations to the west of the present site indicated that the natural terrain sloped down from the higher ground to the north-east into the low-lying marshland towards west and south. During the Song School Relocation Project (Jorgensen & Langthorne 2018) levels of natural sand were recorded between 1.90-2.22m OD and at Dean's Yard (Jorgensen 2010) the maximum height of the sand was reached at 0.64m OD. Despite the truncation the natural sand had suffered the current site would appear to support the conjectured natural horizon.

During the medieval period the ground level was raised across the entire area to provide more or less level ground upon which to build the church and conventual buildings. This predominantly occurred during the 10th and 11th centuries although it may have started as early as the 8th or 9th century as suggested by the potential early medieval features and deposits attributed to Phase 3 of the Poets' Corner Yard investigation and the presence of Middle Saxon deposits to the south-west of the present site (Jorgensen 2014).

- To determine the presence or absence of prehistoric activity.

While there was no indication of a prehistoric activity site or settlement found during the course of the archaeological investigations at Poets' Corner Yard a notable find from the land reclamation deposits was a distinct flint flake that was considered to have been the product of sharpening a tranchet axe.

This find together with traces of further struck and burnt flint and very occasional Neolithic, Bronze Age and Middle-Late Iron Age pottery found occasionally within the deposits was suggestive of prehistoric activity on Thorney Island, The Middle-Late Iron Age pottery particularly is relatively rare in London and the large fragment size and lack of abrasion appeared to indicate it was deposited soon after breakage.

- To determine the date and extent of Roman activity, and its location in relation to the Roman street to the east.

While a potential Roman settlement, industrial site or road surface was not definitively established during the Poets' Corner Yard excavations relicts of Roman activity were found in many features and deposits.

As with the prehistoric material Roman finds were particularly evident within the Phase 2 land reclamation deposits. These finds included such materials as large chunks of brick and occasionally tile from layer [308], *opus signinum* and further brick and tile from layer [313] and Hartfield *tegula* fragments from [595], though this last context also appeared to have been contaminated by a chunk of post-medieval brick.

Furthermore, there were many instances of relict Roman mortar and CBM found adhering to the elements of various Abbey, chapel and Chapter House structures indicative of re-use and might support the idea of Roman activity on Thorney Island. However, it would appear that a selection of Roman material consisting largely of flat pieces with flanges removed has been made which might rather suggest that much of the Roman building material has been quarried from such sites as *Londinium* and reused in Saxon and medieval building works at Westminster Abbey.

- To determine the extent and date of the monastic cemetery.

During the archaeological investigations at Poets' Corner Yard 30 burials, attributed to the monastic cemetery, were encountered extending from Evaluation Trench 3 and the Main Excavation Area to the west with remains present in Trenches 10-13, 14, 15 and 100. No evidence of a boundary for the burial ground, whether a wall or ditch, was found although the limited nature of the excavations beyond the Main Excavation Area necessarily limited the potential for finding a feature of that description.

Despite a good deal of finds contamination due to the graves frequently being truncated or otherwise impinged upon by later buildings, features and services material evidence recovered from grave fills and other contemporary deposits was suggestive of a period of operation for the cemetery dating from the 11th century until the early part of the 13th century.

- To investigate the relationship of the cemetery to the early church, both spatially and temporally.

The monastic cemetery was dated from the 11th century until the early part of the 13th century and was considered to be contemporary with Edward the Confessor's Abbey.

The archaeological investigations at Poets' Corner Yard did not encounter any deposits, structures or features that were directly related to the church built by Edward the Confessor and therefore it was not possible to identify a precise spatial relationship between the early church and the burial ground.

- To determine / confirm the nature and size of the footings for the South Transept of the church

The stepped footings of the South Transept [233] formed part of an extensive raft composed of sections of Reigate stone and ragstone-lined basins which had been filled with lime concrete. Footings [233] as seen during the investigation measured 7.32m north-south by 5.12m east-west extended up to 2.31m deep and were recorded at a maximum height of 4.58m OD.

- To determine / confirm the nature of the footings for the polygonal chapel of St Edmund and one of the supporting buttresses.

The nature of the footings of St Edmund's chapel seen during both the evaluation and the main excavation consisted of part of the aforementioned limecrete raft [38] that was surmounted by a further foundation composed of roughly hewn chalk and Reigate stone [37]. The chalk and Reigate stone foundation [37] was only 0.10m thick and seen at a maximum height of 4.42m OD.

- To establish the date and nature of activity associated with the construction of Henry III's church, vis-à-vis the mason's floors.

Several layers considered to be potential masons' floors were recorded in the Main Excavation Area, Trenches 10-13 and Trench 15 during the archaeological investigations at Poets' Corner Yard. These products of the construction works were typically either composed of mortar or Reigate stone dust and chippings with very occasional flint gravel: [111], [181], [183], [210], [238], [239], [257], [385], [386], [494], [495] and [556].

As well as masonry works finds recovered from within the masons' floors included evidence of lead working, both melting the metal and offcuts from sheets, as seen in layers [181] and [210] as well as the use of ceramics, such as the medieval peg tile retrieved from layers [181] and [556]. Further dating was also provided by the medieval jug fragment of local manufacture, 1225-1350, found within layer [495]. As with the foundations there was also a

trace relict of Roman material such as the fragments of Hampshire Grog and cream yellow Eccles tile taken from layer [257].

- To establish the presence or absence of later medieval activity within the external yard area.

Later medieval activity within Poets' Corner Yard principally concerned the area being employed as a burial ground once again. Seventeen inhumations were found within the Main Excavation Area, Area A, Trenches 10-13, Trench 16 and Trench 100 and all were orientated east-west. The most distinctive burials included 3 high status individuals within lead coffins, at least one of which was a decorated, anthropoid casket, and a burial within a 'brick' coffin near the entrance to the South Transept which could also conceivably denote rank within the society.

- To establish the early to mid post-medieval usage and development of the Yard.

The archaeological investigation revealed footings for a new Lady Chapel the successor to Henry III's Lady Chapel which was demolished in 1502. The new footings were partially uncovered during the excavation within Trenches 10-13 and following the construction of the Henry VII's Lady Chapel a row of shops was built along the southern wall of the building. The remains of brick foundations, for either timber or brick built structures, were uncovered in Trenches 10-13 with the remnants of further buildings of a similar type found in Area B and Trench 100.

Following the construction of Henry VII's Lady Chapel and the row of shops the archaeological excavations found evidence of further development attributed to the 17th and 18th centuries in the area between the chapel of St Edmund and the South Transept. The major features of which included the heavily truncated remains of at least one brick building, a truncated rectangular soakaway and additions to both the buttresses and the foundation raft.

- To establish the extent of past post-depositional impacts on the archaeological resource.

There have been several post-depositional impacts within Poets' Corner Yard from the end of the 18th century until the present time including the construction of Nos. 1, 2 and 3 Poets' Corner Yard, the foundation for No. 3 Poets' Corner Yard, was exposed during the excavation of Trench 16, and the restoration work on the Chapter House performed under the auspices of George Gilbert Scott. Evidence for the restoration works in the Main Excavation Area included trenches excavated for the re-facing of the Chapter House, the construction of a brick lightwell and rebuilding of one of the Chapter House's flying buttresses.

Further impacts primarily consisted of the installation of service runs, principally culverts and drains dating from the 19th century until the modern period and the recently demolished public toilet block.

9.2 Revised Research Questions

- Can comparison with other prehistoric finds (both pottery and lithics) from other archaeological investigations on Thorney Island help to determine the nature, extent and date of prehistoric activity?
- Can comparison with other Roman finds found on Thorney Island help to determine the nature, extent and date of Roman activity?
- Does the Roman material represent *in situ* finds or material that has been quarried from Roman buildings in *Londinium* or elsewhere for reuse in the masonry monastic structures from the Late Saxon period onwards?
- Is there any documentary evidence pertaining to the individuals buried within either the monastic cemetery or the later medieval burial ground, particularly the individuals within the lead coffins?
- Can isotope analysis of the skeleton within the lead coffin help to determine information regarding diet and origins?
- What can further scientific analysis of the skeletal assemblage add to our knowledge of the origins of the monastic population?
- Are there distinctions between the early and later cemetery populations found at the site?
- What comparisons can be made with the inhabitants of other monastic cemeteries in London and Britain as a whole?
- Is it possible to further explicate the foundations of the Church and Chapter House using the information collected by Ptolemy Dean Architects survey or other sources?
- Are the foundations of the Abbey comparable to those of similar sites?
- Can the function of any of the cut features, such as postholes and pits, attributed to the medieval construction of the Church or Chapter House be further clarified either using documentary evidence or comparison with other sites?
- Is there documentary evidence referring to the markets the row of post-medieval shops catered for?

10 CONTENTS OF THE ARCHIVE

10.1 Paper Records

• Contexts		720 sheets
• Plans		c.1000 sheets
• Sections	27 Sections	40 sheets
• Environmental Sheets		33 sheets

10.2 Finds

• Antler		1 box
• Human/Animal Bone		133 boxes
• Ceramic Building Material		14 boxes
• Copper Alloy		3 boxes
• Fired Clay		1 box
• Glass		4 boxes
• Hammerscale		1 box
• Iron		3 boxes
• Ivory		1 box
• Lead		3 boxes
• Leather		1 box
• Lithic		2 boxes
• Marble		1 box
• Mortar		3 boxes
• Plaster		2 boxes
• Pottery		6 boxes
• Render		1 box
• Shell		2 boxes
• Slag		1 box
• Slate		1 box
• Stone		7 boxes
• Tin		1 box
• Clay Tobacco Pipe		4 boxes

10.3 Samples

- Environmental Bulk Samples 33

10.4 Photographs

- Digital Shots 1020

11 IMPORTANCE OF RESULTS, FURTHER WORK & PUBLICATION PROPOSAL

11.1 Importance of the Results

11.1.1 Despite a moderate level of truncation and the limited dimensions of some of the service trenches a relatively complete archaeological sequence emerged in the course of the archaeological investigation that encompassed the potential for prehistoric and Roman activity on Thorney Island, the two active phases of a medieval burial ground, the medieval construction and development of Henry III's Lady Chapel, Church and Chapter House, Henry VII's Lady Chapel, several post-medieval buildings, George Gilbert Scott's restoration work and the many services installed within the Yard's boundaries until the recent demolition of the public toilet block. It should therefore be concluded that the investigation can be seen to make a significant contribution to the understanding of the development and changing use of the area during the medieval and post-medieval periods.

11.2 Further Work

11.2.1 The archaeological investigation at Poets' Corner Yard has produced a wealth of information about the construction and development of various structures that compose Westminster Abbey. A combination of the results of these excavations and other archaeological investigations within the former abbey precinct and those of other sources such as comparable sites, documentary evidence and surveys performed by other contractors may help to clarify the form and function of the various aspects of the architecture encountered during the investigation and potentially the methodology used to construct them.

11.2.2 The excavations within Poets' Corner Yard are only part of a wider range of archaeological investigations that have recently been carried out at Westminster Abbey including work within the Receiver General's property, the Great Cloister and the Cellarium. It is proposed that a synthesis of the results of the current investigation and those could produce the fullest picture of prehistoric and Roman activity on Thorney Island to date, and make a major contribution to our knowledge of the monastic buildings on the site from the 10th century until the present day.

11.2.3 Lithics

The struck flint and burnt stone from the site has been examined and catalogued in detail and no further processing or analytical work is required.

The prehistoric struck flint adds yet further evidence for early activity on Thorney Island, an area where considerable potential for prehistoric activity has previously been demonstrated and had commenced by at least the Mesolithic period. It is therefore recommended that the prehistoric material is described for publication and relevant illustrations prepared, and its densities and distribution plotted in order to elucidate any spatial patterning to the prehistoric occupation at the site.

The historic struck flint adds to knowledge of the constructional history of the Abbey buildings. In addition, as the use of flint as tools is poorly documented for the historic period, the pieces identified here should be illustrated and described for publication. A short description of the overall technological characteristics of the historic building material should also be prepared and included in any publication.

It would be beneficial if this could be undertaken on conjunction with accounts of the prehistoric material recently recovered from other archaeological investigations in and around Westminster Abbey.

11.2.4 Prehistoric Pottery

The small size of the assemblage necessarily limits the potential for further work, although both the fabric identifications (e.g. the possible SUG vessel) and the nature of the stratigraphic contexts require confirmation.

Nevertheless, the coherence of the two small groups from contexts [353] and [703] suggests that these are worthy of publication. It is recommended that a short, written account including full descriptions, illustration and discussion of selected sherds ought to be prepared for incorporation in the site report.

11.2.5 Roman Pottery

The material has no significance beyond dating. There is no need for a formal pottery report in publication, but reference should be made to it in the relevant context.

11.2.6 Post Roman Pottery

The potential of the pottery is to date the features in which it was found in and to provide a sequence for them and a number of vessels would merit illustration or photographing. The Middle Saxon, Late Saxon and early medieval components of the assemblage are important for understanding the early ecclesiastical periods of activity represented on the site, prior to the rebuilding of the Abbey in 1065, as well as the period after this date.

A pottery report is required for the publication of the site and it is recommended that eleven vessels are illustrated and one item is photographed to supplement the text.

11.2.7 Clay Tobacco Pipe

The clay tobacco pipes have the potential to date the contexts they were found in. None of the material merits illustration. Some of the clay tobacco pipes may have been the possessions of labourers working on past building work in Poets' Corner Yard.

A short publication report is recommended on the clay tobacco pipes.

11.2.8 Glass

The glass has some significance at a local level. The Roman/Saxon bowl found in [311] relates to either Roman activity on the area of Thorney Island or the Middle Saxon Minster or the late Saxon abbey of St Dunstan. The medieval-early post-medieval drinking bowl (context [446]) adds to an understanding of the material culture of Westminster Abbey. The window glass and quarries complements the knowledge on the architecture of Westminster Abbey. An important group of window glass was recovered from the Dorter undercroft of Westminster Abbey (Mortimer and Shepherd 1995).

The potential of the glass is to date the features it occurs in. The medieval glass has a small number of items that merit discussion and inform upon activities within Westminster Abbey.

A short publication report is recommended on the glass. Two glass items require illustration to supplement the publication text.

11.2.9 Ceramic Building Material

Overall, the character of the ceramic building material assemblage and range of mortar types (21) is indicative of the longevity of occupation at Westminster. A Ceramic Building Material publication is recommended combining a section on the use and reuse of Roman and medieval ceramic building used in the area of Poets' Corner Yard with the Song School and the Cellarium. It will also include notes on the concrete raft material and on the use of any comparative mortars and illustration of c. 6-10 items of Decorative Floor Tile Designs (Westminster and Penn Tile) and 4 items of Roman ceramic building

11.2.10 Stone

A petrology publication combining a section on the petrology of the stone used in Poets' Corner Yard with that of the Song School and Cellarium excavations to emphasise the Roman and earlier medieval stone building materials from structures within the Abbey as well as the post-medieval replacement materials.

Furthermore comparison with retained stone from the excavations at the Misericorde (Black 1976; 1977) dorter undercroft (Mills 1995) and stone by stone reports from the Pyx Chamber and Refectory wall (Hayward pers obs.) and comparison with reference collection (BM Natural History to verify identifications).

The publication will also include illustration of 6 items of stone moulding (WSN 1-13)

11.2.11 Metal and Small Finds

Metal and small finds potentially provide key elements of domestic material culture and activities related to the investigated site. At Poet's Corner Yard, finds provided information on both burial containers and building construction during the medieval period, while post-medieval assemblages included some dress accessories and a lead token. Among the dress accessories are potentially two belt fittings associated with early modern sword belts (SF 8 and 36), which would be indicative of the social status of their owners. Besides medieval and post-medieval finds, a single-ended bone implement represents a potentially residual Late Saxon object (SF 53), while an unstratified iron knife blade may be of medieval date.

The metal and small finds form an integral part of the archaeological data from the site, and should be included, where relevant, in any further publication. For this purpose, some finds will require x-raying and further identification. These recommendations are set out in the table of finds below and include coffin nails from burial contexts. Following publication, iron nails and undiagnostic metal, unlikely to contribute meaningfully to the understanding of the site, may be discarded.

11.2.12 Lead Coffin

11.2.13 The results of this assessment should be added to any forthcoming publication and should include any additional research. Lead samples have been taken of the lead and solder for potential further analysis.

11.2.14 Human Bone

While only a small number of individuals make up the skeletal assemblage from Poets' Corner Yard and many are only partially complete, they are for the most part in a good or good-moderate condition. Therefore there is an opportunity to derive more demographic and pathological information from the cemetery population.

A full analysis of the skeletons would allow for the creation of complete inventories for each skeleton and fuller recording of extant pathologies as well as the collection of metric and non-metric data and the calculation of statures. Given the small size of the assemblage it is recommended that full analysis be performed on all skeletons regardless of completeness or condition. It may also be possible to re-unite individuals with elements that were removed with the backfill and are currently catalogued as disarticulated bone or combining partial skeletons that have been treated as individuals during the assessment into the single individuals they potentially originally were.

If it does not prove possible to establish the dating of individual articulated skeletons by stratigraphic methods the condition of the bone allows for radiocarbon dating. As well as radiocarbon dating further isotope studies on the assemblage could involve strontium isotope testing. This study would be performed on individuals with both dentition and either a rib shaft or a long bone from which the relevant material could be extracted and tested and would allow investigation into the geographic origin of individuals within the cemetery population.

There is a large quantity of disarticulated human bone from the site, most of which will have resulted from the disturbance of the monastic cemetery. However, with the caveat that it may provide articulated material as previously discussed, it is unlikely that further work on this material will provide any further insights into the cemetery population.

The results of this assessment and any further work should be presented in a publication text and discussed in reference to phasing and spatial distribution, if any patterns become apparent.

11.2.15 Animal Bone

It can be proposed that the earliest collection, despite the broad date, is worthy of further study, here looking at the age and size data as well as a more detailed examination of the partial cattle articulation. The lack of butchery marks to these bones would suggest it represents a discarded carcass, its incomplete state indicating some level of disturbance. While undoubtedly minor quantities, the medieval monastic/Abbey collections do demonstrate some interesting features. In particular there is the presence of deer in Phases 6 and 7, indicative of high status. This is clearly comparable to other excavations at the Abbey, as at the Cellarium and the Song School, these also providing other indications of high status as small cetacean (?porpoise) and a wide range of smaller game. The latest levels, as mentioned, provided a moderately sized collection, their significance heightened by their likely derivation from the nearby 18th-century houses.

The bones from this site are clearly not up to the standard of those recovered from other Abbey excavations, as mentioned above and also including the Dorter Undercroft (Pipe 1995), in terms of quantity or indeed quality, but it nonetheless can provide useful information concerning the earliest (pre or early monastic) and latest (18th and 19th centuries) occupation phases as well as some additional data regarding medieval food usage amongst the ecclesiastical community.

11.2.16 Environmental Sampling

An assessment of the samples from Poet's Corner Yard has shown that preservation of environmental material is generally poor. There is some evidence to suggest that marine

molluscs are being consumed during the medieval and modern periods, however the uncovered assemblages are small and unlikely to provide any further information regarding diet during these phases of occupation. Charcoal has also been identified across the sample set though, again, viable fragments are rare, and are likely to provide useful only for radiocarbon dating in deposits where dateable artefacts are scarce. Dating of charred grain is however preferable, if it can be established that the containing deposits are undisturbed. Weed seeds are present throughout, although the only sample to contain more than one-hundred specimens, sample <8> contains a very limited range of taxa. As a result additional specialist analysis is not suggested on this material.

Due to the generally poor preservation of ecofacts, and the potential for bioturbation in some of these deposits, no further work is suggested; however a summary of this assessment should be included in the final publication.

11.3 **Publication Proposal**

11.3.1 It is currently proposed that the results of the present investigation site will be published as an article in a peer reviewed journal such as the *Transactions of the London and Middlesex Archaeological Society*. Funding has been agreed with the client to undertake such an article.

11.3.2 However, the large number of archaeological investigations in the former precinct of Westminster Abbey within recent years have yielded important new information regarding the abbey and its origins which require more than a single article but instead a synthetic publication of all the sites and their finds. Discussions are ongoing with the clients to determine if the required funding can be secured to publish the results of this archaeological investigation as part of a Westminster Abbey Monograph detailing the results of all archaeological investigations in the former precinct of Westminster Abbey within recent years.

11.3.3 This might include the following sites:

- The Sanctuary (TSA08)
- Cellarium (WYA10)
- The Sanctuary and Dean's Yard Gas Main (SYQ10)
- North Green (WES11)
- Jerusalem Chamber (JCR12)
- Poets' Corner Yard (PSY12)
- Dean's Yard Waste Storage Hut (WSD13)

- Song School (WSA14)
- St Margaret's Church (MCH15)
- The Triforium Finds & Graffiti
- The Roman sarcophagus (WASVA16)
- The Great Cloisters (WMN17)
- Westminster School Gymnasium (WSG14)
- Westminster School Adrian Boult Music Centre (WMT17)

11.3.4 The following themes will be explored:

- Survey of the of natural topography
- Prehistoric finds and activity on Thorney Island
- Roman finds and activity on Thorney Island
- Activity in the area predating Edward the Confessor's Abbey and possibly relating to the Late Saxon Minster or St Dunstan's Abbey.
- Edward the Confessor's Abbey and subsequent monastic buildings including the Cellarium, the Misericorde, the Great Kitchen, the Great Cloisters and the Frater
- The monastic cemetery
- The rebuilding of Henry III
- The rebuilding of Henry VII
- Later post-medieval activity and reuse of the monastic structures in the abbey precinct
- Graffiti found within the Triforium
- The finds relating to the abbey including those found within the Triforium

12 ACKNOWLEDGEMENTS

- 12.1 Pre-Construct Archaeology Limited would like to thank the Dean and Chapter of Westminster Abbey for commissioning and funded the archaeological work. We also thank Professor Warwick Rodwell, OBE, FSA for monitoring the project on behalf of Westminster Abbey, and providing continued advice and assistance.
- 12.2 Thanks are extended to the project team who assisted with advice and support throughout the archaeological project, including: Ptolemy Dean and Kisrtie Robbins of Ptolemy Dean Architects; Neill Fraser and Kevin Oultram of Daedalus Conservation; Fiona Cobb of Price and Myers; Jim Vincent, Susan Jenkins and Vanessa Simeoni of Westminster Abbey; Jason Waddy of Gardner & Theobald.
- 12.3 The author would like to thank Paw Jorgensen, Guy Seddon, Kari Bower, Corso Dominici and Leonardo Penades Clavijo for supervising various aspects of the site and all of the archaeologists over the years for their hard work. In addition the author would like to thank Professor Rodwell for the analysis of the lead coffins, Barry Bishop for the flint assessment, Kevin Rielly for the assessment of the animal bone, Jon Cotton for the assessment of prehistoric pottery, Eniko Hudak for the assessment of the Roman pottery, Chris Jarrett for the assessment of the post-Roman pottery, clay tobacco pipe and the glass, Kevin Hayward for the stone and ceramic building material assessment, Märit Gaimster for the assessment of the metal and small finds and Kate Turner for assessing the environmental samples. Thanks also to Sophie White, Chris Faine, Sevinc Duvarci and all of the finds processors, Chris Cooper, Wayne Richards and John Joyce for logistic support, Josephine Brown for the AutoCAD illustrations, Chris Mayo for project management and Jon Butler for post-excavation management and editing this report.

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APPENDIX 1: CONTEXT INDEX

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
87	Layer	Cobble surface	1.38	1.04	0.1	4.94	4.94	6
88	Layer	Cobble surface	0.88	0.86	0.1	4.96	4.96	6
89	Layer	Made ground						10
90	Masonry	Brick chamber with a floor of reused peg tiles recorded as [93].	1.5	1.1	0.61	4.95	4.94	9
91	Masonry	Base of a stone foundation. Possibly for a timber framed structure	1.43	0.5	0.08	4.8	4.8	8
92	Layer	Deposit filling the interior of brick chamber [90].	1.2	1.2	0.35	4.53	4.53	10
93	Masonry	Brick floor upon which wall [90] was built.	1.45	1.45	0.05	4.37	4.28	9
94	Cut	Construction cut for brick floor [93].	1.65	1.6	0.76	4.98	4.22	9
95	Layer	Possible bedding layer or construction surface.	2.1	0.72	0.16	4.84	4.78	10
96	Fill	Fill of construction cut [98].	8	0.7	0.54	4.64	4.53	9
97	Masonry	Brick culvert truncated to the east by a modern drainage pipe. Beyond this truncation the culvert continues and was recorded as [422]. The internal fill was recorded as [221].	8	0.7	0.43	4.58	4.47	9
98	Cut	Construction cut for brick culvert [97]. The construction cut was truncated to the east by a modern drainage pipe. To the east of the truncation the cut continued and was recorded as [423]. Cut [98] contained the brick culvert [97] and the backfill [96] around the brickwork.	7	0.7	0.54	4.64	4.1	9
99	Layer	Levelling layer truncated by modern drainage. A similar layer, [100], was recorded to the south of one of the drainage pipes and may represent the continuation of [99].	1.82	0.74	0.1	4.71	4.66	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
100	Layer	Levelling layer truncated by modern drainage. A similar layer, [99], was recorded to the north of one of the drainage pipes and may represent the continuation of [100].	1.2	0.56	0.1	4.67	4.67	10
101	Fill	Backfill of construction cut [102].	3.12	0.45	1.9	5.02	4.71	10
102	Cut	Construction cut for 19th century brick lightwell. It is likely the same as [113], which was recorded to the east.	3.12	0.45	1.9	5.02	3.12	10
103	Layer	Demolition layer.	2.4	0.8	0.11	4.82	4.71	10
104	Fill	Fill of posthole [105].	0.2	0.2	0.12	4.38	4.38	10
105	Cut	Posthole.	0.2	0.2	0.12	4.38	4.26	10
106	Fill	Fill of pit [107].	0.84	0.82	0.31	4.74	4.71	10
107	Cut	Pit. Possibly associated with the clearing of the site prior to the construction of the toilets in the 1950s.	0.84	0.82	0.31	4.74	4.43	10
108	Layer	Levelling layer.	2.07	1.8	0.3	4.67	4.66	10
109	Masonry	East-west aligned stone wall built predominantly of roughly hewn Reigate stone blocks. The wall was truncated by the footings for the 1950s toilet block to the west, but beyond this it continued and was recorded as [130]. Wall [109] sits atop footing [155].	2.34	0.48	0.48	4.74	4.51	10
110	Layer	Demolition deposit contained within the small basement/chamber formed by wall [131].	1.7	1.04	0.13	4.7	4.68	10
111	Layer	Mortar bedding layer for an external yard surface.	3.95	3	0.14	4.85	4.77	6
112	Fill	Backfill of the construction cut for 19th century lightwell [448]. To the west the fill was recorded as [101].	0.9	0.4	0.58	4.71	4.71	10
113	Cut	Construction cut for 19th century brick lightwell of the Chapter House.	0.9	0.4	0.58	4.71	4.13	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
114	Fill	Backfill of service trench for lightwell drainage.	1.36	0.7	1.13	4.7	4.7	10
115	Layer	Demolition layer.	3.8	1.04	0.14	4.78	4.68	10
116	Fill	Fill of pit [117].	1.15	0.6	0.45	4.61	4.61	10
117	Cut	Rectangular pit truncated to the west by the footings for the 1950s toilet block.	1.15	0.6	0.45	4.61	4.13	10
118	Fill	Backfill of pit [119].	0.65	0.5	0.23	4.56	4.56	10
119	Cut	Rectangular pit.	0.65	0.5	0.23	4.44	4.29	10
120	Masonry	East-west aligned drain made from reused red bricks, Caen stone and Reigate stone. It was likely designed to channel rain water from the roof away from the walls of the church.	1.7	0.48	0.23	4.64	4.51	10
121	Cut	Construction cut for drain [120].	1.58	0.7	0.22	4.63	4.41	10
122	Cut	Construction cut for a ceramic drain below the base of the 19th century lightwell [448].	1.3	0.7	1.13	4.7	3.57	10
123	Fill	Fill of pit or posthole [124].	0.57	0.1	0.19	4.72	4.72	8
124	Cut	Pit or large posthole. Truncated to the north by [98].	0.57	0.1	0.19	4.72	4	8
125	Layer	Levelling layer	1.1	0.98	0.12	4.7	4.7	9
126	Fill	Fill of posthole [127].	0.18	0.16	0.11	4.59	4.59	9
127	Cut	Posthole. Possibly for scaffolding associated with wall [130].	0.18	0.16	0.11	4.59	4.58	9
128	Fill	Fill of pit [129].	0.9	0.55	0.16	4.69	4.54	9
129	Cut	Pit truncated to the southeast by [122].	0.9	0.55	0.16	4.69	4.53	9
130	Masonry	East-west aligned stone wall built predominantly of roughly hewn Reigate stone blocks. The wall was truncated by the footings for the 1950s toilet block to the east, but beyond this it continued and was recorded as [109]. Wall [130] sits atop footing [138].	1.4	0.48	0.42	4.71	4.69	9
131	Masonry	Brick wall forming a small chamber with a tiled floor [182]. Following the removal of the modern concrete footings it became clear that wall sections [131] and [144] formed part of the same structure.	0.76	0.21	0.75	4.7	4.7	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
132	Fill	Backfill of construction cut [133].	0.91	0.4	0.75	4.7	4.7	9
133	Cut	Construction cut for walls [131] and [144].	2	1.6	0.78	4.7	3.92	9
134	Fill	Backfill of construction cut [135] for wall [130].	1.4	0.2	0.5	4.59	4.59	9
135	Cut	Construction cut for footing [138] and wall [135]. Truncated by modern footings to the east, but beyond this the cut continues. To the east of the truncations the construction cut was recorded as [151].	1.28	1.06	0.87	4.59	3.72	9
136	Masonry	Lime concrete raft of the east end of the church. Same as [172].	3.92	3.66	0.21	4.81	4.6	6
137	Layer	Levelling layer.	0.57	0.24	0.2	4.59	4.59	6
138	Masonry	Reigate stone footing of wall [130]. The footing continues to the east of a modern truncation where it was recorded as [155].	1.18	0.85	0.29	4.35	4.25	9
139	Fill	Backfill of grave cut [140].	2.55	0.7	0.93	4.71	4.59	7
140	Cut	Grave cut containing skeleton [149].	2.55	0.7	0.93	4.71	3.78	7
141	Fill	Backfill of soakaway [142].	0.53	0.8	0.18	4.49	4.49	10
142	Masonry	Brick lined soakaway.	1.06	0.5	0.18	4.48	4.48	10
143	Layer	Demolition layer.	0.53	0.5	0.08	4.21	4.21	9
144	Masonry	Brick wall forming a small chamber with a tiled floor [182]. Following the removal of the modern concrete footings it became clear that wall sections [131] and [144] formed part of the same structure.	1.93	0.25	0.75	4.78	4.73	10
145	Layer	Demolition layer resulting from the demolition of wall [131]/[144].	1.68	1.05	0.61	4.57	4.57	10
146	Masonry	Stone foundation for a timber framed building. Same as [190] and [191].	2.8	0.4	0.13	4.46	4.45	6
147	Fill	Fill of east-west aligned robber cut.	3	0.7	0.68	4.56	4.32	10
148	Cut	Robber cut from the removal of an east-west aligned wall.	3	0.7	0.48	4.56	3.84	10
149	Skeleton	Skeleton in grave cut [140].				3.79	3.72	7

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
150	Fill	Backfill of construction cut [151] for wall [109].	3	0.26	0.43	4.38	4.15	10
151	Cut	Construction cut for footing [155] and wall [109]. Truncated by modern footings to the west, but beyond this the cut continues. To the west of the truncations the construction cut was recorded as [135].	3	1.08	0.43	4.38	3.95	10
152	Coffin	Barnack stone coffin built into one of the 19th century lightwells of the Chapter House.	2.08	0.56	0.52	4.68	4.63	4
153	Skeleton	Adult skeleton contained within Barnack stone coffin [152]. The cranium is missing, but beyond that the skeleton appeared fairly complete.. The skeleton was eventually recorded and removed as [737].						4
154	Masonry	Stone lined drain constructed from reused blocks of Reigate stone and Caen stone. It was truncated to the east by modern drains, but it appeared to extend beyond the truncation where it was recorded as [120].	0.76	0.3	0.19	4.63	4.58	10
155	Masonry	Reigate stone footing of wall [109]. The footing continues to the west of a modern truncation where it was recorded as [138].	3	0.7	0.18	4.26	4.2	10
156	Fill	Backfill of grave cut [157]. To the west the fill was truncated by modern footings and to the north it was partially truncated by [151].	0.63	0.55	0.58	4.36	4.04	4
157	Cut	Grave cut containing chalk cist [620], coffin [165], skeleton [158] and backfill [156].	0.63	0.55	0.58	4.36	3.76	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
158	Skeleton	Skeleton contained within grave cut [157]. It was positioned within a badly decayed wooden coffin [165], which had itself been placed within a chalk cist [620]. Only the feet and part of the tibiae and fibulae survive as the upper part of the skeleton had been truncated by a modern footing. Beyond the footing the upper part of the skeleton was recorded as [368].				3.76	3.73	4
159	Fill	Fill of robber cut [160].	0.88	0.7	0.3	4.45	4.42	10
160	Cut	Robber cut removing part of wall [146].	0.88	0.7	0.3	4.45	4.15	10
161	Fill	Backfill of construction cut [162] for soak-away [142].	1.2	0.73	0.09	4.42	4.42	10
162	Cut	Construction cut for soak-away [142].	1.2	0.73	0.19	4.5	4.31	10
163	Layer	Levelling layer. Possibly the same layer as [137] and [299]. Truncated to the north by [151], to the west by [157], to the south by [148], and to the east by a modern drain.	0.62	0.3	0.16	4.36	4.36	4
164	Coffin	The remains of a heavily decayed wooden coffin. Only the shadow of the base survived along with several coffin nails.	1.8	0.36	0.01	3.86	3.81	7
165	Coffin	The remains of a heavily decayed wooden coffin. Only the lower part of the base, left side and right side survived as a shadow. A few coffin nails survived more or less in situ. The coffin was contained within chalk cist [620].	0.5	0.32	0.04	3.8	3.76	4
166	Fill	Backfill of grave cut [168]. Truncated to the north by [151], to the south by [148], to the west by [157], and to the east by a modern drain.	0.7	0.32	0.14	4.23	4.2	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
167	Skeleton	Truncated remains of a human skeleton. Only the feet, tibias and fibulas survived. The upper part of the skeleton had been truncated by grave cut [157]. While no physical evidence of a coffin was seen the presence of one was implied by the way the feet of the skeleton had collapsed along a straight line. Part of the north side and east end of a chalk cist [621], which once must have surrounded the body survived.				4.23	4.09	4
168	Cut	Grave cut containing chalk cist [621], skeleton [167], backfill of [166].	0.8	0.42	0.14	4.22	4.11	4
169	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	2.83	1.93	0.05	4.71	4.68	7
170	Fill	Fill of posthole [171].	0.4	0.12	0.3	4.69	4.69	9
171	Cut	Posthole truncated to the south by [113].	0.4	0.12	0.3	4.69	4.38	9
172	Masonry	Lime concrete raft of the east end of the church. Same as [136].	4.44	2.12		4.42	4.33	6
173	Fill	Fill of posthole [174].	0.15	0.15	0.21	4.63	4.63	7
174	Cut	Posthole possibly associated with Chapter House scaffolding during construction or restoration.	0.15	0.15	0.2	4.63	4.42	7
175	Fill	Fill of posthole [176].	0.45	0.44	0.24	4.51	4.51	7
176	Cut	Posthole possibly associated with Chapter House scaffolding during construction or restoration.	0.45	0.44	0.24	4.51	4.38	7
177	Fill	Fill of pit [178].	0.65	0.6	0.1	4.69	4.69	7
178	Cut	Heavily truncated pit.	0.65	0.6	0.1	4.69	4.59	7
179	Fill	Fill of pit [180].	0.76	0.6	0.12	4.67	4.67	7
180	Cut	Heavily truncated pit.	0.75	0.6	0.12	4.67	4.55	7
181	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	3.1	2	0.1	4.67	4.58	6
182	Masonry	Tile floor constructed from reused peg tiles. The floor covers the chamber formed by walls [144] and [131].	1.68	1.02	0.06	3.98	3.96	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
183	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	3.1	2	0.1	4.57	4.52	6
184	Fill	Fill of posthole [185].	0.5	0.4	0.2	4.44	4.44	8
185	Cut	Posthole possibly associated with either the construction or restoration of the Chapter House.	0.5	0.4	0.2	4.64	4.44	8
186	Fill	Fill of posthole [187].	0.68	0.64	0.1	4.58	4.58	9
187	Cut	Posthole possibly associated with the construction or restoration of the Chapter House.	0.68	0.64	0.1	4.58	4.49	9
188	Fill	Fill of posthole [189].	0.42	0.3	0.2	4.63	4.42	9
189	Cut	Posthole possibly associated with the construction or restoration of the Chapter House.	0.42	0.3	0.2	4.63	4.42	9
190	Masonry	Stone foundation for a timber framed building. Same as [146] and [191].	0.85	0.3	0.25	4.5	4.5	6
191	Masonry	Stone foundation for a timber framed building. Same as [146] and [190].	0.85	0.37	0.25	4.58	4.47	6
192	Masonry	Lime concrete raft foundation for the east end of the church.	8.1	5.08	2.61	4.89	4.81	6
193	Fill	Fill of posthole [194].	0.5	0.48	0.22	4.25	4.25	10
194	Cut	Posthole, possibly from a scaffold post.	0.5	0.48	0.22	4.25	4.03	10
195	Fill	Fill of pit [196].	0.8	0.6	0.36	4.67	4.62	9
196	Cut	Pit truncated to the north by a modern foundation and to the south by culvert [98].	0.8	0.6	0.36	4.67	4.31	9
197	Fill	Fill of posthole [202].	0.72	0.6	0.39	4.59	4.59	9
198	Fill	Fill of posthole [199].	0.6	0.5	0.22	4.49	4.49	10
199	Cut	Posthole.	0.6	0.5	0.22	4.49	4.27	10
200	Fill	Fill of posthole [201].	0.5	0.45	0.23	4.36	4.36	10
201	Cut	Posthole.	0.5	0.45	0.23	4.36	4.13	10
202	Cut	Posthole.	0.72	0.6	0.39	4.59	4.2	9
203	Fill	Fill of grave [274].	1.65	0.22	0.58	4.57	4.57	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
204	Cut	Grave cut containing coffin [276], skeleton [275], and backfill [273]. To the north the grave had been truncated by another grave [274] and by construction cut [286] to the west.	2	0.58	0.61	4.57	3.95	4
205	Fill	Fill of pit [206].	0.55	0.4	0.1	4.55	4.55	9
206	Cut	Pit truncated to the west by a modern intrusion and to the south by culvert [98].	0.55	0.4	0.1	4.55	4.46	9
207	Fill	Fill of posthole [208].	0.37	0.24	0.26	4.6	4.6	8
208	Cut	Posthole truncated to the south by culvert [98].	0.37	0.24	0.26	4.6	4.34	8
209	Fill	Levelling deposit for floor [93].	1.52	1.34	0.06	4.28	4.28	9
210	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	3	0.75	0.1	4.68	4.58	6
211	Fill	Fill of robber cut [212].	1.1	0.55	0.1	4.27	4.27	9
212	Cut	Robber cut removing part of wall [231].	1.1	0.55	0.1	4.27	4.17	9
213	Fill	Fill of posthole [214].	0.1	0.1	0.09	4.62	4.62	9
214	Cut	Posthole.	0.1	0.1	0.09	4.62	4.53	9
215	Fill	Fill of posthole [216].	0.5	0.26	0.17	4.64	4.64	8
216	Cut	Posthole truncated to the north by a modern intrusion.	0.5	0.26	0.17	4.64	4.47	8
217	Layer	Layer of burnt material. Probably the same layer recorded as [31] during the evaluation.	1.3	0.2	0.44	4.96	4.96	9
218	Fill	Backfill of the north side of construction cut [151] for wall [109].	1.75	0.25	0.26	4.26	4.15	
219	Void	North side of the construction cut for wall [109]. The context is now combined with [151].						
220	Fill	Fill of construction cut [226] for wall [229].	1.65	0.26	0.61	4.26	4.17	6
221	Fill	Deposit filling the interior of culvert [97].	7.42	0.24	0.24	4.48	4.48	10
222	Fill	Backfill of grave cut [224].	0.28	0.26	0.12	4.27	4.27	7

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
223	Skeleton	The very truncated remains of a human skeleton. Only parts of the right hand, the upper part of the right femur, and the lower part of the right pelvis survived.				4.25	4.18	7
224	Cut	Heavily truncated grave cut containing skeleton [223] and backfill [222].	0.28	0.26	0.12	4.27	4.15	7
225	Masonry	Roughly east-west aligned brick wall truncated by modern services to the west.	0.72	0.46	0.34	4.94	4.94	9
226	Cut	Construction cut for footing [230].	1.65	0.26	1.77	4.18	2.41	6
227	Fill	Fill of [228]. The fill is the same deposit as [246] and [301] recorded during different phases of the excavation.	1.48	0.8	0.58	4.46	4.46	10
228	Cut	Pit excavated in the 19th century to locate the extent of the South Transept raft. Probably in preparation to the restoration of the Chapter House. Same as [247] and [300] recorded during different phases of the excavation.	1.48	0.8	0.58	4.46	3.88	10
229	Masonry	Raft footing for St Thomas' Chapel. This is built against the footing [192] for the east end of the church. The footing for St Thomas' Chapel is on a slightly different alignment to the footing for the east end of the church suggesting that the shape of the chapel might have been changed during construction and this necessitated an alteration to the footing design.	5.66	0.6	0.83	4.57	4.55	6
230	Masonry	Rubble foundation for the lime concrete raft [229] of St Thomas' Chapel.	5.66	0.18	0.76	3.72	3.52	6
231	Masonry	Blocking of a doorway in wall [502].	0.9	0.3	0.15	4.22	4.2	9
232	Natural	Natural sand extending across the entire site. Combined with [347].			1.91	4.18	4.01	1

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
233	Masonry	Reigate stone and lime concrete raft for the South Transept of the church.	7.32	5.12	2.31	4.58	4.58	6
234	Masonry	Roughly east-west aligned red brick dwarf wall. Probably built to support a timber framed building.	3	0.4	0.39	4.96	4.95	9
235	Layer	Mortar surface.	1.05	0.65	0.03	4.97	4.96	10
236	Fill	Backfill of construction cut [237] for a ceramic drain pipe.	2.1	0.85	0.51	4.97	4.97	10
237	Cut	Construction cut for a ceramic drainage pipe.	2.1	0.85	0.51	5.03	4.52	10
238	Layer	Mortar surface. Probably related to a phase of construction.	3.04	2.18	0.05	4.48	4.43	6
239	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	1.15	0.45	0.08	4.61	4.59	6
240	Layer	Demolition layer.	2.84	1.42	0.23	4.97	4.94	10
241	Layer	Demolition layer.	1.92	0.68	0.29	4.86	4.71	9
242	Layer	Occupation layer.	1.2	0.9	0.13	4.88	4.81	10
243	Fill	Backfill of posthole [244].	0.6	0.45	0.14	4.64	4.5	8
244	Cut	Posthole truncated to the north by culvert [98].	0.6	0.45	0.14	4.64	4.5	8
245	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	3.62	2.62	0.15	4.98	4.89	9
246	Fill	Fill of [247]. The fill is the same deposit as [227] and [301] recorded during different phases of the excavation.	1.05	0.95	0.15	3.76	3.76	6
247	Cut	Pit excavated in the 19th century to locate the extent of the South Transept raft. Probably in preparation to the restoration of the Chapter House. Same as [228] and [300] recorded during different phases of the excavation.	1.05	0.95	0.15	3.76	3.57	6
248	Fill	Fill of pit [300]	1.05	0.95	0.45	3.57	3.57	6
249	Fill	Fill of pit [250].	0.7	0.65	0.09	4.92	4.92	9
250	Cut	Shallow pit filled with demolition material [249].	0.7	0.65	0.09	4.92	4.83	9
251	Fill	Fill of pit [252].	0.46	0.46	0.1	4.96	4.96	9

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
252	Cut	Pit filled with demolition material [251].	0.46	0.46	0.1	4.96	4.86	9
253	Fill	Fill of pit [254].	0.7	0.5	0.36	4.67	4.67	10
254	Cut	Modern starter pit for borehole.	0.7	0.5	0.36	4.67	4.31	10
255	Fill	Fill of pit [269].	0.98	0.78	0.24	4.9	4.66	9
256	Fill	Fill of construction cut [286] for the South Transept of the church.	2.6	0.32	0.18	3.12	3.07	6
257	Layer	Mortar working surface.	2.86	0.72	0.06	4.58	4.45	6
258	Fill	Fill of pit [262].	1.3	0.3	0.29	5.03	5.03	10
259	Void	Fill of grave [274]. The fill had already been recorded as [203], so context [259] was voided.						
260	Coffin	Heavily decayed timber coffin in grave [274]. The only evidence for the coffin was a dark line outlining the southern side and the foot end of the coffin along with a few ferrous metal coffin nails.	1.6	0.2	0.02			4
261	Layer	Mortar working surface.	2.3	1.8	0.09	4.47	4.42	4
262	Cut	Pit.	1.3	0.94	0.21	4.91	4.7	9
263	Fill	Fill of construction cut [270].	1.7	0.45	0.37	4.93	4.93	9
264	Fill	Backfill of construction cut [270].	5.32	2.24	2.91	4.93	4.56	9
265	Layer	Demolition layer.	1.14	0.76	0.15	4.52	4.39	4
266	Skeleton	Skeleton contained within coffin [260] in grave cut [274]. Only the right side and left hand survived as the grave had been heavily truncated to the north and west.				4.09	4.03	4
267	Layer	Demolition layer.	2.5	0.75	0.13	4.53	4.48	6
268	Layer	Made ground.	3.08	1.68	0.15	4.46	4.37	4
269	Cut	Pit.	0.98	0.78	0.24	4.9	4.66	9
270	Cut	Construction cut for the 19th century building of the flying buttress by George Gilbert Scott.	5.32	2.34	2.91	4.93	2.02	9
271	Fill	Primary fill of pit [262].	1.3	0.94	0.18	4.88	4.74	9
272	Layer	Mortar surface.	1.08	0.66	0.06	4.9	4.85	9
273	Fill	Backfill of grave [204].	2	0.58	0.61	4.57	4.56	4
274	Cut	Grave cut containing coffin [260], skeleton [266], and backfill [203].	1.65	0.22	0.58	4.57	3.99	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
275	Skeleton	Skeleton heavily truncated by a later grave cut [274]. Only the right clavicle, scapula, right arm and hand, and part of the right foot survived.				4.03	4	4
276	Coffin	Heavily decayed remains of a timber coffin. Only staining survived. No coffin nails were seen during the excavation of the coffin.	1.7	0.25	0.18	4.18	4	4
277	Fill	Upper fill of the construction cut [278] for the Chapter House.	5.3	1.3	0.93	4.34	4.24	6
278	Cut	Construction cut for 13th century Chapter House.	5.3	1.3	1.36	4.34	2.87	6
279	Fill	Fill of pit [280].	0.8	0.76	0.82	4.45	4.34	10
280	Cut	Rectangular pit.	0.8	0.76	0.82	3.45	3.63	10
281	Fill	Demolition material filling robber cut [288].	2.62	1.46	0.23	4.88	4.83	9
282	Fill	Fill of posthole [283].	0.7	0.62	0.13	4.48	4.47	10
283	Cut	Posthole.	0.7	0.62	0.16	4.48	4.32	10
284	Fill	Lower fill of the construction cut [278] for the Chapter House.	5.3	0.4	0.54	3.41	3.35	6
285	Fill	Charnel deposit placed on the lower steps of the foundation raft [233] for the South Transept. This was contained within the construction cut [286] for the foundation raft [233], so must have been the deliberate redeposition of the bones on top of the foundations of the South Transept before the backfilling proper of the construction cut. To the south the charnel deposit was truncated by pit [300].	3.52	1	0.83	3.95	3.92	6
286	Cut	Construction cut for the foundation raft for the South Transept. The width recorded is that from the eastern edge of the cut to the east wall of the South Transept, but it must logically be greater than this.	6.14	5.72	2.21	4.48	2.27	6
287	Layer	Demolition layer.	0.92	0.55	0.13	4.55	4.55	6
288	Cut	Robber cut.	2.62	1.46	0.23	4.93	4.7	9

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
289	Fill	Lower fill of robber cut [148]. It is possible that the compacted rubble and mortar of which the fill is composed actually represents the lower part of the footing that [148] is robbing.	2.8	0.68	0.2	4.04	4.04	10
290	Fill	Backfill of grave [291].	2.3	0.76	0.64	4.39	4.39	4
291	Cut	Grave containing coffin [341], skeleton [342], and backfill [290].	2.3	0.96	0.64	4.39	3.75	4
292	Masonry	Reigate stone blocks deliberately placed in a line. They may have served as the supports for a floor associated with [234].	1.39	0.22	0.2	4.92	4.91	9
293	Layer	Dump layer.	1.2	0.66	0.1	4.48	4.4	10
294	Fill	Fill of posthole [295].	0.66	0.59	0.16	4.45	4.34	10
295	Cut	Posthole.	0.66	0.59	0.16	4.45	4.29	10
296	Skeleton	Skeleton in grave cut [298]. Does not appear to have been buried in a coffin. The grave is heavily truncated and only the torso, hands and right leg survived.				4.31	4.24	4
297	Fill	Backfill of grave cut [298]	1.8	0.4	0.08	4.23	4.23	4
298	Cut	Grave cut containing skeleton [296] and backfill [297].	1.8	0.4	0.08	4.23	4.15	4
299	Layer	Levelling layer.	1.2	0.35	0.15	4.38	4.37	4
300	Cut	Pit excavated in the 19th century to investigate the footings of the South Transept and the Chapter House. It was probably done in relation to the restoration work carried out by George Gilbert Scott. Brick retaining wall [302] was built against the northern edge of the cut. This may have been to underpin culvert [97].	2.9	1.92	1.67	4.86	3.19	6
301	Fill	Backfill of pit [300]	2.9	1.92	1.67	4.86	4.86	6
302	Masonry	Retaining wall built against the northern edge of pit [300]. This was possibly done to underpin culvert [97].	1.48	0.22	0.92	4.17	4.16	6

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
303	Skeleton	Heavily truncated remains of a human skeleton. Only the right tibia and fibula, the lower part of the left tibia and parts of both feet survived.				4.2	4.16	4
304	Fill	Fill of grave cut [305].	0.75	0.45	0.13	4.19	4.19	4
305	Cut	Heavily truncated grave cut containing skeleton [303] and backfill [304].	0.75	0.45	0.13	4.19	4.06	4
306	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	1.26	0.84	0.13	4.65	4.62	8
307	Layer	Mortar demolition or construction surface.	1.24	0.82	0.05	4.52	4.49	8
308	Layer	Dark brown land reclamation layer.	0.98	0.38	0.17	4.43	4.41	2
309	Fill	Fill of north-south aligned ditch [310].	1.24	1.02	0.51	4.47	4.47	2
310	Cut	North-south aligned ditch containing fills [321] and [309].	1.24	1.02	0.51	4.47	3.94	2
311	Fill	Upper fill of charnel pit [312].	2.1	0.8	0.42	4.26	4.15	4
312	Cut	Charnel pit filled by [332] and [311].	2.1	0.8	0.72	4.43	3.69	4
313	Layer	Dark brown land reclamation layer.	0.72	0.42	0.35	4.47	4.47	2
314	Fill	Fill of posthole [315].	0.2	0.1	0.34	4.47	4.47	2
315	Cut	Posthole	0.2	0.1	0.35	4.47	4.12	2
316	Fill	Backfill of grave [319].	1	0.34	0.15	4.37	4.34	4
317	Skeleton	Skeleton of a child contained within coffin [318] in grave [319].				4.25	4.16	4
318	Coffin	Heavily decayed remains of a timber coffin for child burial [319]. The base, part of the right and left sides and the ends survived as dark shadows rather than actual timber.	1	0.35	0.2	4.37	4.19	4
319	Cut	Grave cut containing coffin [318], skeleton [317] and backfill [316]	1	0.35	0.2	4.34	4.14	4
320	Layer	Dark brown land reclamation layer.	2.75	0.4	0.24	4.45	4.26	6
321	Fill	Lower fill of ditch [310].	1.24	0.44	0.49	4.43	4.21	2
322	Fill	Fill of posthole [323].	0.12	0.12	0.13	4.19	4.19	3
323	Cut	Posthole.	0.12	0.12	0.13	4.19	4.19	8
324	Fill	Fill of posthole [325].	0.08	0.08	0.15	4.09	4.09	8
325	Cut	Posthole.	0.08	0.08	0.15	4.09	3.94	8

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
326	Fill	Fill of posthole [327].	0.07	0.07	0.09	4	4	8
327	Cut	Posthole.	0.07	0.07	0.09	4	3.91	8
328	Fill	Fill of posthole [329].	0.1	0.1	0.1	4	4	8
329	Cut	Posthole.	0.1	0.1	0.1	4	3.9	8
330	Fill	Fill of grave [331].	2	0.6	0.23	4.21	4.21	4
331	Cut	Grave cut containing coffin [338], skeleton [337] and backfill [330].	2	0.6	0.23	4.21	3.98	4
332	Fill	Lower fill of charnel pit [312].	1.4	0.3	0.13	3.95	3.93	4
333	Fill	Backfill of grave [335].	0.76	0.42	0.1	4.36	4.34	4
334	Skeleton	Heavily truncated remains of a human skeleton. Much of the torso survived along with the upper part of the right humerus.				4.36	4.29	4
335	Cut	Heavily truncated grave containing skeleton [334] and backfill [333].	0.76	0.42	0.1	4.32	4.25	4
336	Void							
337	Skeleton	Truncated skeleton contained within coffin [338] in grave [331].				4.09	4.05	4
338	Coffin	The remains of a heavily decayed timber coffin.	0.96	0.52	0.08	4.1	4.02	4
339	Layer	Dark brown land reclamation layer.	1.72	0.4	0.2	4.34	4.22	4
340	Layer	Dark brown land reclamation layer	0.78	0.4	0.2	4.25	4.25	2
341	Coffin	Heavily decayed coffin base upon which was skeleton [342].	2.12	0.58	0.02	3.75	3.75	4
342	Skeleton	Truncated adult skeleton. Much of the left side of the skeleton was missing.				3.81	3.75	4
343	Fill	Fill of pit [344].	0.3	0.2	0.27	4.16	4.16	4
344	Cut	Pit containing disarticulated human bones. It seems to contain the remains of a single individual.	0.3	0.2	0.27	4.16	3.99	4
345	Cut	Rectangular pit.	0.4	0.34	0.12	4.21	4.05	4
346	Fill	Fill of [345].	0.4	0.34	0.12	4.21	4.21	4
347	Natural	Natural sand.	9.76	6.2	1.94	4.18	4.12	1
348	Layer	Levelling layer	1.2	0.35	0.15	4.39	4.39	2
349	Layer	Dark brown land reclamation layer.	1.45	0.8	0.18	4.34	4.31	4
350	Layer	Subsoil horizon.	1.66	0.38	0.07	4.17	4.14	4
351	Cut	Charnel pit.	0.69	0.4	0.21	4.1	3.89	4
352	Fill	Fill of charnel pit [351].	0.69	0.4	0.21	4.1	4.1	4
353	Fill	Fill of pit [354].	0.7	0.2	0.4	4.1	4.1	2

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
354	Cut	Pit.	0.7	0.2	0.4	4.1	3.7	2
355	Layer	Dark brown land reclamation layer.	1.02	0.38	0.15	4.26	4.25	2
356	Layer	Subsoil horizon.	0.98	0.64	0.1	4.11	4.1	2
357	Fill	Fill of grave cut [359].	1	0.5	0.1	4.1	4.1	7
358	Skeleton	Heavily truncated skeleton in grave [359].				4.08	3.92	7
359	Cut	Grave cut containing skeleton [358] and backfill [357].	0.5	0.5	0.1	4.1	4	7
360	Fill	Charnel fill of construction cut for the South Transept footing. This is now combined with [285].	3.52	1	0.83	3.95	3.92	6
361	Cut	Construction cut for the South Transept footing. This context has now been combined with [286].	6.14	5.72	2.21	4.48	2.27	6
362	Layer	Levelling layer. Combined with [137].	0.57	0.24	0.2	4.59	4.59	6
364	Fill	Fill of construction cut [365].	0.8	0.66	0.82	5.02	5.02	10
365	Cut	Construction cut for the refacing of the Chapter House.	0.8	0.66	0.82	5.02	4.2	10
366	Fill	Fill of pit [300]. This context is now combined with [301].	2.9	1.92	1.67	5.02	5.02	9
367	Fill	Backfill of grave [369].	0.55	0.35	0.19	3.91	3.91	7
368	Skeleton	Heavily truncated skeleton in grave cut [369]. It is very probable that it is the same skeleton recorded to the east as [158].				3.92	3.86	7
369	Cut	Truncated grave cut containing skeleton [368] and backfill [367]. The cut is truncated to the east by a modern footing, but east of this the cut was recorded as [157].	0.55	0.52	0.19	3.91	3.72	7
370	Fill	Backfill of the construction cut [371] of the ambulatory of the church.	2.62	1.3	1.56	3.84	3.7	6
371	Cut	Construction cut for the Ambulatory of the church.	2.62	1.3	1.56	3.84	2.28	6
372	Layer	Demolition layer.	2	1	0.3	5	4.92	10
373	Layer	Mortar surface or construction layer.	0.65	0.55	0.08	4.67	4.64	9
374	Layer	Gravel surface.	1.7	0.7	0.2	4.65	4.6	8
375	Fill	Fill of robber cut [376].	0.7	0.35	0.46	4.65	4.65	9

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
376	Cut	Robber cut.	0.7	0.35	0.46	4.65	4.19	9
377	Fill	Fill of posthole [378].	0.19	0.18	0.46	4.65	4.65	9
378	Cut	Posthole.	0.19	0.18	0.46	4.65	4.19	9
379	Layer	Construction layer.	1.7	0.7	0.26	4.6	4.49	8
380	Layer	Dark brown land reclamation layer.	0.94	0.54	0.16	4.21	4.19	2
381	Void							
382	Void							
383	Fill	Fill of pit [384].	0.85	0.6	0.3	4.25	4.25	9
384	Cut	Pit.	0.85	0.6	0.3	4.25	3.95	9
385	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	2.8	0.82	0.14	4.29	4.2	6
386	Layer	Mortar surface.	2.8	1.14	0.13	4.2	4.1	6
388	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	1.3	1.18	0.09	4.57	4.55	10
389	Layer	Mortar surface.	1.3	1.18	0.03	4.5	4.48	10
390	Fill	Fill of pit [391]	1.22	0.56	0.43	4.4	4.4	8
391	Cut	Pit.	1.22	0.56	0.43	4.4	3.97	9
392	Void							
393	Layer	Dark brown land reclamation layer	1.34	1.18	0.3	4.48	4.47	10
394	Fill	Backfill of robber cut [396].	1.96	1.74	1.27	4.78	4.63	10
395	Layer	Made ground.	1.7	0.6	0.31	4.27	4.21	8
396	Cut	Robber cut removing building material from [417].	1.64	1.3	1.27	4.78	3.51	5
397	Layer	Cobbled surface.	1	0.4	0.1	4.36	4.34	8
398	Fill	Fill of pit [399].	1.1	0.5	0.78	4.66	4.66	9
399	Cut	Pit. Possibly a robber cut removing part of wall [403].	1.1	0.5	0.78	4.66	3.88	9
400	Void							
401	Layer	Dark brown dumped deposit.	1.3	1.18	0.3	4.48	4.47	9
402	Layer	Dump layer.	1.68	0.64	0.18	4.05	3.96	4
403	Masonry	Roughly east-west aligned late medieval/early post-medieval brick footing. Probably part of a row of shops built against Henry VII's Lady Chapel in the early 16th century.	5	0.8	0.35	4.51	4.17	8
404	Cut	Construction cut for wall [403].	5	0.8	0.34	4.51	4.17	8
405	Fill	Backfill of robber cut [406].	2.6	0.36	0.72	4.55	4.55	10
406	Cut	Robber cut.	2.6	0.36	0.72	4.55	3.83	10
407	Fill	Backfill of grave [408].	0.7	0.35	0.74	4.39	4.39	7

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
408	Cut	Grave cut containing skeleton [445] and backfill [407].	0.7	0.35	0.74	4.39	3.65	7
409	Natural	Natural gravel under the natural sand [347]. The gravel was only recorded in two small sondages excavated against the church footings.	1	1	0.22	2.28	2.28	1
410	Natural	Natural gravel under the natural sand [347]. The gravel was only recorded in two small sondages excavated against the church footings.	1	1	0.2	2.24	2.24	1
411	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	0.55	0.5	0.09	4.39	4.39	5
412	Layer	Mortar surface.	0.55	0.5	0.17	4.3	4.3	5
413	Masonry	Concrete foundation for a brick culvert.	2.2	0.66	0.41	4.57	4.26	10
414	Cut	Construction cut for [413].	2.2	0.66	0.1	4.26	4.16	10
415	Fill	Fill of robber cut [430].	2.3	0.8	0.3	4.62	4.62	9
416	Fill	Fill of cesspit/soakaway [451].	1.1	1.1	0.42	4.44	4.44	9
417	Masonry	Reigate and lime concrete raft for Henry VII's Lady Chapel.	1.7	1.1	1.1	4.79	4.78	5
418	Masonry	East-west aligned chalk block wall. Possibly associated with the lead coffins.	1.4	0.6	0.35	4.49	4.38	5
419	Fill	Backfill of grave [425].	1.52	0.2	0.22	4.34	4.34	4
420	Layer	Demolition layer.	0.24	0.18	0.09	3.87	3.87	4
421	Fill	Backfill of construction cut [423] for brick culvert [422].	1.34	0.52	0.45	4.62	4.6	10
422	Masonry	Brick culvert.	1.34	0.52	0.45	4.62	4.6	10
423	Cut	Construction cut for brick culvert [422].	1.34	0.52	0.4	4.55	4.15	10
424	Skeleton	Heavily truncated human skeleton. Only the lower part of the torso, parts of the pelvis and femurs survive. Skeleton not lifted as it extended into the western LOE of the trench.				4.34	4.12	4
425	Cut	Grave cut containing skeleton [424].	0.52	0.28	0.22	4.34	4.12	4
426	Fill	Backfill of grave [615].	0.6	0.34	0.37	4.44	4.44	4
427	Cut	Construction cut for footing [418].	2.04	0.66	0.27	4.38	4.11	5

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
428	Coffin	Truncated lead coffin. Same as [588].	0.64	0.6	0.37	4	3.77	7
429	Coffin	The same context as [591].						
430	Cut	Robber cut removing a part of wall [403].	4.92	1.04	0.3	4.62	4.32	9
431	Fill	Fill of gully [432].	0.5	0.2	0.23	4.13	4.13	5
432	Cut	Gully.	0.5	0.2	0.23	4.13	3.9	5
433	Layer	Dark brown land reclamation layer.	0.68	0.37	0.1	4.39	4.39	5
434	Layer	Dark brown land reclamation layer.	1.2	1.1	0.1	4.07	3.99	5
435	Layer	Demolition layer.	1.3	0.56	0.33	4.72	4.72	
436	Layer	Demolition layer.	1.3	0.55	0.18	4.42	4.42	8
437	Void	Same context as [590].						
438	Void	Same context as [592].						
439	Masonry	Brick floor of Chapter House lightwell.	1.12	0.62	0.15	3.61	3.6	10
440	Masonry	Stepped footing of the Chapter House.	5.34	0.24	0.56	3.46	3.46	8
441	Fill	Rubble fill of construction cut [102].	5.34	0.24	0.32	3.46	3.46	10
442	Layer	Mortar surface.	0.4	0.2	0.01	4.23	4.23	7
443	Fill	Backfill of grave cut [444]. Only the west end of the grave survived; the rest having been truncated by various intrusions. The only skeletal remains that survived were the upper part of the skull. These skull fragments were bagged and labelled with the fill number rather than given a skeleton number.	0.2	0.2	0.38	4.23	4.23	7
444	Cut	Very heavily truncated grave cut.	0.2	0.2	0.38	4.23	3.85	7
445	Skeleton	Truncated human skeleton. The remains were not lifted as the skeleton extended beyond the limits of the excavation.				3.9	3.8	7
446	Fill	Heavily truncated fill of a possible grave, [447]. Not fully excavated.	0.6	0.2	0.23	3.65	3.65	7
447	Cut	Heavily truncated rectangular cut. It is most likely a grave, but this cannot be confirmed with certainty as the fill was not fully excavated to reveal the skeleton.	0.6	0.2	0.23	3.88	3.65	7

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
448	Masonry	Yellow brick lightwell on the north side of the Chapter House.	5.6	0.4	1.8	5.4	5.38	10
449	Fill	Fill of [450].	0.42	0.18	0.38	4.34	4.34	4
450	Cut	Probably a heavily truncated grave cut, although this could not be confirmed as the cut was not fully excavated during the current investigation. If it is a grave cut then the skeleton is below the level at which the current excavation was halted.	0.42	0.18	0.38	4.34	3.96	4
451	Cut	Possible cess pit or soak-away.	1.1	1.1	0.48	4.44	4.02	9
452	Cut	Construction cut for [417].	1.7	1.1	1.1	4.79	3.69	5
453	Layer	Dark brown land reclamation layer.	1.94	0.88	0.13	4.48	4.47	2
454	Fill	Rubble fill of [463]. Not fully excavated.	1	0.5	0.1	4.13	4.13	10
455	Layer	Dump layer/Made ground.	4.37	0.4	0.62	4.13	4.13	9
456	Layer	Dark brown land reclamation layer.	2.5	0.75	0.16	4.4	4.35	4
457	Layer	Dark brown land reclamation layer.	0.55	0.24	0.21	4.39	4.39	2
458	Fill	Fill inside coffin [459].	0.84	0.32	0.26	3.99	3.99	4
459	Coffin	Barnack stone coffin without a lid.	0.82	0.48	0.24	3.99	3.97	4
460	Skeleton	Skeleton in stone coffin [459]. Only the legs and the right hand were within the service trench. The skeleton was not lifted as it could not be fully excavated due to the size of the trench.				3.81	3.75	4
461	Fill	Backfill of grave cut [462].	0.82	0.61	0.1	3.99	3.97	4
462	Cut	Grave cut containing a stone coffin, [459].	0.82	0.61	0.24	3.99	3.73	4
463	Cut	Pit full of stone rubble. Possibly a robber cut. Not fully excavated.	1	0.5	0.1	4.13	4.03	10
465	Fill	Fill of pit [466].	0.9	0.2	0.35	4.25	4.25	8
466	Cut	Heavily truncated pit.	0.9	0.2	0.35	4.25	3.9	8
467	Cut	Robber cut.	2.6	0.8	0.37	4.62	4.25	8
468	Layer	Rubble layer	2	0.6	0.26	4.62	4.38	8
470	Masonry	North-south aligned chalk foundation. Possibly part of one of the side chapels of Henry III's Lady Chapel.	0.9	0.85	0.76	4.19	3.56	5
471	Cut	Construction cut for foundation [470].	0.85	0.65	0.76	4.19	3.56	5
472	Void							
473	Cut	Heavily truncated east-west aligned rectangular pit. Probably a grave cut. Not fully excavated.	0.6	0.3	0.1	4.02	4.02	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
474	Fill	Backfill of grave [477] containing skeletons [475] and [476]. It is likely the same deposit as [545] to the south.	1.95	0.58	0.1	4.08	4.08	4
475	Skeleton	Remains of a human skeleton partially exposed during the excavation for a new service duct. Skeleton not lifted as it was below the impact level of the new service ducts.				4.08	4.06	4
476	Skeleton	Remains of a human skeleton partially exposed during the excavation for a new service duct. Skeleton not lifted as it was below the impact level of the new service ducts.				4.05	3.98	4
477	Cut	Grave cut containing skeletons [475] and [476]. The southern edge of the cut was not exposed. It is, however, likely that this is the same cut as [547] to the south and that they form a group burial containing at least five skeletons.	1.95	0.58	0.1	4.08	3.98	4
478	Fill	Backfill of grave [479].	2.14	0.56	0.61	4.33	4.28	7
479	Cut	Grave cut containing anthropoid lead coffin [533].	2.14	0.56	0.61	4.33	3.72	7
480	Layer	Levelling layer forming the bedding for current cobbled road surface.	7.02	0.58	0.32	4.83	4.77	10
481	Layer	Sandy dump layer.	2.55	0.58	0.16	4.63	4.51	10
482	Fill	Rubble fill of pit [463].	1	0.5	0.1	4.13	4.13	10
483	Fill	Rubble fill of pit [484].	0.65	0.58	0.77	4.65	4.63	10
484	Cut	Pit containing rubble fill [483] and gravel fill [485].	0.65	0.58	0.87	4.65	3.78	10
485	Fill	Gravel fill of pit [484]	0.58	0.53	0.08	3.88	3.84	10
486	Masonry	East-west aligned Kentish ragstone footing.	0.52	0.42	0.64	4.43	4.43	10
487	Fill	Fill of robber cut [488].	3	0.5	0.2	4.5	4.48	9
488	Cut	Robber cut removing part of wall [505].	3	0.5	0.2	4.5	4.3	9
489	Layer	Levelling layer.	1.48	0.62	0.1	4.51	4.49	8
490	Fill	Fill of gully [491].	1.6	0.22	0.2	4.43	4.3	8
491	Cut	Possible gully.	1.6	0.22	0.2	4.43	4.12	8
492	Fill	Fill of possible grave cut [473].	0.6	0.3	0.1	4.02	4.02	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
493	Masonry	Foundation made from reused bricks. Possibly for the boundary wall of No 3 Poets' Corner.	1.14	0.54	0.21	4.7	4.65	10
494	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	2.51	0.4	0.1	4.45	4.35	6
495	Layer	Mortar surface.	2.59	0.4	0.1	4.41	4.23	6
496	Layer		0.9	0.4	0.22	4.2	4.2	1
497	Cut	Construction cut for footing [234].	3	0.4	0.25	4.95	4.7	9
498	Layer	Made ground/bedding for the current cobbled road surface.	9.2	0.4	0.12	4.89	4.89	10
499	Fill	Backfill of robber cut [500].	4.28	0.4	0.6	4.75	4.74	10
500	Cut	Robber cut removing part of footing [493].	4.28	0.4	0.6	4.75	4.15	10
501	Layer	Made ground.	1.28	0.4	0.51	4.85	4.73	10
502	Masonry	Reigate stone and Caen stone wall built on top of footing [229].	2.24	0.42	0.77	4.71	3.94	6
503	Fill	Fill of pit [504].	2.36	0.4	0.63	4.85	4.85	10
504	Cut	Large pit.	2.36	0.4	0.63	4.85	4.22	10
505	Masonry	Truncated brick foundation. Probably the western extension of footing [403].	0.23	0.17	0.15	4.59	4.52	8
506	Cut	Construction cut for footing [505].	0.6	0.34	0.22	4.52	4.3	8
507	Masonry	East-west aligned chalk block wall.	0.6	0.5	0.13	4.51	4.38	8
508	Layer	Mortar surface.	0.65	0.6	0.1	4.43	4.33	5
509	Fill	Fill of posthole [510]	0.2	0.2	0.08	4.43	4.43	8
510	Cut	Posthole	0.2	0.2	0.08	4.43	4.35	8
511	Layer	Mortar surface.	0.86	0.8	0.13	4.57	4.54	9
512	Fill	Fill of posthole [513].	0.2	0.2	0.67	4.57	4.57	9
513	Cut	Posthole.	0.2	0.2	0.67	4.57	3.9	9
514	Fill	Fill of pit [515].	0.8	0.5	0.67	4.57	4.57	9
515	Cut	Square pit.	0.8	0.5	0.67	4.57	3.9	9
516	Layer	Levelling layer.	2.17	1.3	0.1	4.53	4.51	8
517	Fill	Fill within cist [525].	0.8	0.45	0.26	3.98	3.98	4
518	Fill	Backfill of grave [521].	0.5	0.46	0.38	4.47	4.47	7
519	Coffin	Thin dark brown lens at the bottom of the grave cut representing the decayed remains of the base of a timber coffin.	0.5	0.46	0.02	4.11	4.11	7

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
520	Skeleton	Partially exposed human skeleton. Only the lower legs and the feet were within the limits of the trench. As the skeleton could not be fully exposed and it was not at risk it was left in situ.				4.19	4.09	7
521	Cut	Grave cut containing coffin [519], skeleton [520] and backfill [518].	0.5	0.46	0.38	4.47	4.09	7
522	Masonry	Probably the remains of the base of a tomb monument. Perhaps once inside a side chapel of Henry III's Lady Chapel. It probably marked the location of grave [600].	1.05	0.8	0.15	4.34	4.31	4
523	Cut	Construction cut for tomb monument base [522].	1.2	0.66	0.21	4.13	3.92	4
524	Skeleton	The remains of the skeleton of an adult. Only part of the legs and feet were within the narrow service trench. As the skeleton could not be fully excavated and as it was not at risk it was left in situ.				3.87	3.83	4
525	Coffin	Chalk cist containing skeleton [524].	0.84	0.86	0.24	4.08	4.05	4
526	Fill	Backfill around chalk cist [525]. Deposit not excavated.	0.84	0.88	0.23	4.21	4.21	4
527	Cut	Grave cut containing chalk cist [525], skeleton [524] and fills [517] and [526].	0.84	0.88	0.23	4.21	3.98	4
528	Masonry	Footing for the flying buttress rebuilt by George Gilbert Scott in the 19th century.	3.12	0.8	1.04	4.42	4.36	9
529	Masonry	Heavily truncated cobble surface. Possibly a marker for grave [539].	1.68	0.33	0.13	4.48	4.44	7
530	Fill	Backfill of construction cut [531].	1.2	0.4	0.13	4.35	4.32	9
531	Cut	Construction cut for [529]. Possibly to mark the location of grave [539] directly below the cut.	1.2	0.4	0.13	4.35	4.19	7
532	Fill	Backfill of grave cut [601].	1.08	0.92	0.59	4.16	4.16	4
533	Coffin	Highly decorated anthropoid lead coffin likely dated to 1400-1475.	1.87	0.45	0.27	3.99	3.81	4
534	Skeleton	Partially exposed remains of an adult human skeleton. Only the lower legs and feet were within the excavated limits of the trench. The remains were left in situ.				3.97	3.92	4
535	Fill	Backfill of grave cut [536].	0.62	0.38	0.29	4.21	4.21	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
536	Cut	Grave cut containing skeleton [534] and backfill [535].	0.62	0.38	0.29	4.21	3.92	4
537	Fill	Backfill of grave [539].	1.46	0.44	0.38	4.38	4.16	7
538	Skeleton	Truncated remains of an adult human skeleton. A single sea shell was found on the chest, but unfortunately this was damaged during excavation.				4.17	4.05	7
539	Cut	Grave cut containing skeleton [538] and backfill [537]. It is possible that the patch of cobbles in [531] directly above the grave were used to mark grave [539].	1.46	0.44	0.38	4.38	4	7
540	Layer	Dump layer contained between wall [542] and [541].	0.7	0.56	0.16	4.54	4.51	9
541	Masonry	Brick wall.	0.72	0.3	0.24	4.59	4.57	9
542	Masonry	Brick wall of No. 3 Poets' Corner.	1.2	0.48	0.4	4.94	4.87	9
543	Layer	Mortar surface. Wall [541] appears to have been built directly on the surface.	1.02	0.72	0.16	4.41	4.36	9
544	Layer	Bedding layer for a now extinct floor surface within No. 3 Poets' Corner.	1.26	0.76	0.1	4.66	4.61	9
545	Fill	Fill of group burial [547].	1.6	0.4	0.35	4.41	4.39	7
546	Skeleton	Partially exposed adult human skeleton. Not lifted.				4.23	4.14	7
547	Cut	Grave cut containing skeletons [546], [548] and [549]. The southern edge of the cut was not exposed. It is, however, likely that this is the same cut as [477] to the south and that they form a group burial containing at least five skeletons.	1.6	0.4	0.32	4.41	4.09	7
548	Skeleton	Only three articulated vertebrae remained of this skeleton.				4.41	4.35	7
549	Skeleton	Skeleton immediately below skeleton [546]. Only partially exposed.				4.19	4.1	7
550	Layer	Mortar surface.	1.31	0.86	0.08	4.41	4.41	7
551	Layer	Made ground under the current paving slabs.	2.99	2.46	0.19	4.6	4.57	9
552	Fill	Fill of pit [553].	1	0.44	0.17	4.34	4.33	7
553	Cut	Rectangular pit.	1	0.44	0.17	4.34	4.17	7
554	Layer	Made ground.	1	0.2	0.17	4.34	4.33	6

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
555	Masonry	Chalk rubble foundation for wall [542].	1.2	0.48	0.24	4.6	4.52	9
556	Layer	Masons' working surface consisting of compacted Reigate stone dust and chippings.	1.32	0.84	0.17	4.34	4.3	6
557	Layer	Demolition layer.	1	1.14	0.1	4.17	4.04	6
558	Fill	Fill of pit [559].	1	0.5	0.13	4.17	4.17	6
559	Cut	Sub-circular pit.	1	0.5	0.13	4.17	4.04	6
560	Fill	Backfill of construction cut [561] for wall [562].	0.3	0.18	0.3	4.35	4.35	8
561	Cut	Construction cut for wall [562].	0.3	0.3	0.3	4.35	4.05	8
562	Masonry	Reigate stone footing. Possibly an alteration to the tomb monument base [522].	0.77	0.13	0.35	4.31	4.31	8
563	Layer	Mortar surface.	2.38	2.19	0.19	4.38	4.27	4
564	Layer	Dump layer consisting of furnace waste.	0.88	0.58	0.16	4.81	4.8	9
565	Layer	Metalled surface.	0.88	0.58	0.16	4.7	4.65	9
566	Cut	Robber cut. Perhaps relating to the demolition of an earlier phase of No. 3 Poets' Corner.	0.88	0.54	0.26	4.7	4.44	9
567	Fill	Demolition backfill of robber cut [566].	0.88	0.54	0.26	4.7	4.69	9
568	Layer	Bedding layer for surface [565].	1.42	0.78	0.2	4.54	4.53	9
569	Layer	Working/construction surface.	1.42	0.78	0.1	4.21	4.2	9
570	Layer	Made ground.	1.42	0.78	0.22	4.43	4.33	9
571	Fill	Backfill of grave [574].	1.4	0.6	0.69	4.4	4.37	7
572	Coffin	Heavily decayed remains of a timber coffin. Only the shadow of the base survived along with ferrous metal coffin nails.	1.2	0.45	0.26	4.02	3.76	7
573	Skeleton	Truncated remains of an adult human skeleton in grave cut [574]. Lower legs were removed by an earlier drainage trench.				4.08	4	7
574	Cut	Grave cut containing coffin [572], skeleton [573] and backfill [571].	1.4	0.6	0.69	4.4	3.71	7
575	Layer	Demolition layer.	2.58	0.5	0.18	4.77	4.79	10
576	Layer	Demolition layer	2.58	0.5	0.2	4.61	4.59	10
577	Fill	Fill of pit [578].	1.06	0.5	0.32	4.4	4.39	10
578	Cut	Pit.	1.06	0.5	0.32	4.39	4.07	10
579	Fill	Backfill of construction cut [427].	2.04	0.66	0.27	4.38	4.28	8

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
580	Layer	Levelling layer.	2.38	2.19	0.18	4.27	4.14	4
581	Cut	Possible robber cut.	0.68	0.36	0.38	4.67	4.29	10
582	Fill	Backfill of robber cut [581].	0.68	0.36	0.38	4.67	4.61	10
583	Layer	Working surface.	2.08	0.5	0.31	4.4	4.29	10
584	Layer	Levelling layer.	2.08	0.5	0.2	4.27	4.24	10
585	Fill	Backfill of construction cut [523].	1.2	0.66	0.21	4.19	4.19	4
586	Layer	Levelling layer.	2.8	2.66	0.1	4.17	4.1	4
587	Fill	Backfill of grave [589].	1.6	0.8	0.32	4	3.99	7
588	Coffin	Heavily compressed lead coffin with cable moulded cross decoration on the chest. The coffin was truncated just above the patibulum of the cross. Large iron nails found at the corners of the grave cut suggest that there was a wooden outer casket protecting the lead coffin.	1.36	0.42	0.17	3.85	3.77	7
589	Cut	Grave cut containing lead coffin [588] and backfill [587].	1.6	0.8	0.32	4	3.68	7
590	Fill	Backfill of grave cut [592]. Same as [437].	1.46	0.82	0.39	4.16	4.16	4
591	Coffin	Chalk cist with a Barnack stone lid. Not fully exposed and the coffin was not opened. The lid of the coffin seems reused. Very weathered decoration of the lid.	0.64	0.6	0.3	4.07	4	4
592	Cut	Grave cut containing coffin [591] and backfill [590]. Truncated to the west by a modern concrete chamber.	1.46	0.82	0.26	4.03	3.77	4
593	Fill	Fill of pit [594].	0.6	0.42	0.15	3.72	3.72	4
594	Cut	Rectangular pit filled with a slag and charcoal rich deposit, [593].	0.6	0.42	0.15	3.72	3.57	4
595	Layer	Dark brown land reclamation layer.	3.04	1.74	0.69	3.76	3.6	2
596	Natural	Natural sand.	0.3	0.3	0.2	2.93	2.93	1
597	Fill	Fill of robber cut [604].	0.95	0.56	0.53	3.6	3.6	4
598	Fill	Backfill of grave cut [600].	1.46	0.34	0.26	3.72	3.72	7
599	Coffin	Lead coffin. Partially excavated.	0.76	0.18	0.25	3.82	3.56	7
600	Cut	Grave cut containing lead coffin [599] and backfill [598].	1.46	0.52	0.25	3.82	3.56	7
601	Cut	Grave cut containing chalk cist [603], skeleton [618], fill [532]	1.08	0.92	0.79	4.16	3.37	4
602	Void	Already recorded as (532).						
603	Coffin	Chalk cist.	1.02	0.88	0.26	3.83	3.83	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
604	Cut	Robber cut truncated by chalk cists.	0.96	0.56	0.53	3.6	3.07	4
605	Fill	Fill of grave [606]	0.74	0.51	0.36	3.88	3.72	4
606	Cut	Grave cut containing skeleton [619] and fill [605].	0.74	0.51	0.36	3.88	3.52	4
607	Fill	Backfill of grave cut [610].	1.34	0.74	0.26	4.02	4.02	4
608	Fill	Backfill between the edge of the grave cut and the edge of the cist.	1.34	0.04	0.27	3.76	3.76	4
609	Coffin	Partially exposed chalk cist.	1.34	0.12	0.27	3.76	3.76	4
610	Cut	Grave cut containing chalk cist [609], and fills [607] and [608].	1.34	0.74	0.53	4.02	3.49	4
611	Fill	Backfill of grave cut [613].	1.14	0.24	0.63	4.16	3.91	4
612	Skeleton	Truncated remains of an adult human skeleton contained within chalk cist [626] in grave cut [613]. Only the right arm was exposed.				3.3	3.29	4
613	Cut	Grave cut containing skeleton [612], chalk cist [626], and backfill [611].	1.14	0.24	0.88	4.16	3.28	4
614	Layer	Levelling layer.	0.54	0.53	0.12	4.12	4.12	4
615	Cut	Heavily truncated cut. Possibly a grave cut. The cut was not fully excavated, so the presence of human remains could not be confirmed.	0.6	0.34	0.37	4.44	4.07	4
616	Layer	Levelling layer	0.4	0.22	0.19	4.44	4.44	4
617	Fill	Backfill of construction cut [452].	1.63	0.1	1.1	4.4	4.4	5
618	Skeleton	Skeletal remains of an adult. Only the skull, upper vertebrae and clavicles exposed. Skeleton left in situ.				3.57	3.57	4
619	Skeleton	Partially exposed human skeleton. Left in situ.				3.72	3.72	4
620	Coffin	Chalk cist in grave [157].	0.58	0.64	0.18	4.02	4.01	4
621	Coffin	Chalk cist in grave [168].	0.78	0.37	0.13	4.23	4.09	4
622	Cut	Construction cut for buttress foundation [36]	0.31	0.29	0.44	4.81	4.37	9
623	Cut	Construction cut for possible brick wall [225]	0.74	0.47	0.37	4.8	4.57	9
624	Cut	Construction cut for yard surface [493]	1.16	0.49	0.35	4.69	4.34	10
625	Cut	Construction cut for chalk foundation [555]	2.44	0.56		4.6		9
626	Other	Chalk cist lining in cut [613]	0.42	0.12		3.67	3.67	4

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
627	Layer	Made ground						
628	Layer	Land reclamation layer						
650	Layer	Topsoil	3.2	1.71	0.11			10
651	Layer	Bedding layer for cobbled surface	3.2	1.28	0.02			10
652	Fill	Fill of service trench [653]	3.2	0.7				10
653	Cut	Service trench	3.2	0.7				10
654	Layer	Made ground	3.2	1.74				10
655	Layer	Bedding layer under cobbled surface				4.66	4.6	10
656	Fill	Backfill of drain cut [657]	1.22	0.72				10
657	Cut	Construction cut for drain pipe						10
658	Fill	Backfill of construction cut for drain [666]				4.7	4.53	10
659	Cut	Construction cut for drain [666]				4.7	4.1	10
660	Fill	Modification of earlier drain [670]	0.66	0.56	0.02	4.71	3.99	10
661	Fill	Modification to earlier drain	1.4	0.6	0.2	4.66	3.99	10
662	Masonry	Concrete slab	3.2	1.06		4.41	4.41	10
663	Cut	Construction cut for concrete slab.				4.41	4.41	10
664	Masonry	Modern concrete kerb	2.18	0.8	0.2	4.94	4.94	10
665	Cut	Cut for modern kerb [664]	2.18	0.8	0.2	4.94	4.82	10
666	Masonry	Brick box drain	0.96	0.36	0.26	4.55	4.49	10
667	Fill	Ceramic drain pipe						10
668	Cut	Construction cut for drainage	2.24	1.2	0.97	4.51	3.54	10
669	Fill	Backfill in drainage cut [668]				4.51	4.51	10
670	Masonry	Base for drainage	0.8	0.32	0.07	3.99	3.99	10
671	Masonry	Drainage				3.77	3.14	10
672	Cut	Construction cut for drainage	0.54	0.35	0.36	4.35	3.99	10
673	Fill	Backfill of construction cut [672]	0.54	0.34	0.37	4.35	4.31	10
674	Fill	20th century drainage system						10
675	Fill	Backfill of drainage [696]	1.28	0.25	0.15	4.51	4.31	10
676	Cut	Shallow 'L' shaped feature	0.96	0.4	0.71	4.51	3.8	10
677	Fill	Fill of [676]	0.96	0.4	0.24	4.51	4.51	10
678	Masonry	East west aligned wall	0.36	0.06	0.1	4.65	4.65	8
679	Masonry	Wall foundation for wall [678]	0.4	0.16		4.55	4.55	8
680	Cut	Construction cut for wall [678]	0.4	0.16		4.55	4.55	8
681	Layer	Made ground/rubble layer				4.31	4.31	9
682	Fill	Fill of drain cut [682]				4.35	4.35	10
683	Cut	Drain cut				4.35	3.49	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
684	Fill	Fill of modern cut for repairing drain				4.6	4.6	10
685	Cut	Modern cut for repairing drain.			1.03	4.6	3.57	10
686	Layer	Heavily truncated dump deposit.	0.94	0.52	0.61	4.25	4.25	10
687	Cut	Small square pit	0.96	0.52	0.61	4.25	3.64	10
688	Layer	Demolition layer	1	0.42	0.1	4.65	4.65	8
689	Layer	Mortar surface	0.8	0.4		4.55	4.55	8
690	Fill	Backfill of grave cut [691]	0.88	0.2		4.04	4.04	4
691	Cut	Grave cut for cist burial.	1.44	1.1	0.2	4.04	3.77	4
692	Fill	Fill in small pit [693]	0.7	0.18		4.09	4.09	6
693	Cut	Small circular pit	0.7	0.18		4.09	3.91	6
694	Layer	Chalk floor in the south end of Tr. 100.				4.15	3.91	3
695	Layer	Made ground constructed of various lenses of fine silty sand with sandy patches.				4.09	3.04	10
696	Cut	Construction cut for drainage						10
697	Cut	Pit [681]	3.3		0.22	4.4	4.18	10
698	Fill	Fill of shallow pit [697]	2.2		0.18	4.4	4.38	10
699	Layer	Demolition layer	3.35	1.48		4.22	4.16	9
700	Masonry	Chalk cist lining of grave [691]	1.14	0.76	0.33	4.09	3.76	4
701	Skeleton	Skeleton in grave cut [691]				3.81	3.6	4
702	Fill	Backfill in grave [691]				4.09	4.03	4
703	Layer	Land reclamation layer	3.6	3.4	0.9	4	3.93	3
704	Layer	Layer against Abbey footings	3.25	1.9	0.48	4.55	4.31	7
705	Cut	Construction cut for Abbey footings.				3.93		6
706	Masonry	Phase 2 Henry III Abbey foundation				4.63	4.25	6
707	Fill	Fill of posthole [708]				4.05	4.04	6
708	Cut	Posthole			0.11	4.05	3.94	6
709	Fill	Fill of posthole [710]				4.05	4.05	6
710	Cut	Posthole			0.08	4.05	3.97	6
711	Fill	Fill of posthole				4.03	4	6
712	Cut	Posthole				4	3.73	6
713	Fill	Fill of posthole [714]	0.11	0.08	0.08	4.05	3.98	3
714	Cut	Posthole	0.11	0.08	0.08	3.98	3.9	3
715	Fill	Fill of grave cut [716]	1.07	0.37	0.3	4.03	4.01	2
716	Cut	Grave cut for skeleton [717]	1.07	0.37	0.3	4.02	3.77	4
717	Skeleton	Skeleton in grave cut [716]				3.95	3.79	4
718	Layer	Gravel and sand layer	3.7	1.4	0.12	4.57	4.52	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
719	Fill	Fill of posthole [720]	0.11	0.12	0.13	4.03	4.03	3
720	Cut	Posthole	0.11	0.12	0.13	4	3.91	3
721	Fill	Fill of grave [723]	1.58	0.4	0.35	3.93	3.93	7
722	Skeleton	Skeleton in grave cut [723]				3.72	3.68	7
723	Cut	Grave cut containing skeleton [722]	1.58	0.4	0.35	3.93	3.6	7
724	Fill	Backfill of drain [666]	1	0.17	0.07	4.41	4.37	10
725	Fill	Fill of drainage [671]	1.4	0.17	0.07			10
726	Fill	Fill of grave [728]	0.56	0.43	0.4	4.35	4.35	7
727	Skeleton	Skeleton within grave [728]				4.03	4.01	7
728	Cut	Grave cut containing [727]	0.4	0.5	0.4	4.35	3.98	7
729	Fill	Backfill of construction cut for Abbey footing				3.93	3.85	6
730	Fill	Fill of pit [731]			1.1	3.93	3.85	6
731	Cut	Pit	1.62	0.6	0.1	2.87	2.26	6
732	Layer	'Dirty' sand layer		0.25	0.1	3.16	3.04	2
733	Natural	Natural sand deposit	3			2.86	2.86	1
734	Masonry	Phase 4 Abbey Foundation				4.18	3.67	6
735	Masonry	Reused stone blocks				4.3	4.05	6
736	Masonry	Henry III Abbey foundation	3	0.5	1.6	4.03	3.53	6
737	Skeleton	Skeleton originally referred to as [153].				4.35	4.3	4
738	Natural	Natural gravel deposit				1.99	1.99	1
739	Layer	Levelling layer/potential surface	0.8	0.4	0.5	4.05	4	3
740	Fill	Fill of cut [741]	1.58		0.62	3.17	3.17	3
741	Cut	Cut possibly related to [731]	1.58		0.62	3.17	2.53	3
742	Layer	Land reclamation layer	5.52	0.7	0.42	4.02	3.59	2
2000	Masonry	Abbey footing				4.9	4.9	9
2001	Fill	Fill of modern sewer cut [2002]	2	1.35	0.5	4.79	4.79	10
2002	Cut	Modern sewer cut	2	1.35	0.5	4.79	4.25	10
2003	Masonry	Slab covering grave [2006]	2.05	0.7	0.05	4.56	4.56	10
2004	Fill	Backfill of grave	1.71	0.54	0.18	4.42	4.42	10
2005	Skeleton	Skeleton in grave [2009] near doorway to Abbey.				4.42	4.28	7
2006	Masonry	Masonry lining/cist burial?				4.57	4.52	10
2007	Cut	Grave cut	2.1	0.8	0.3	4.57	4.24	10
2008	Fill	Backfill in grave [2009]				4.42	4.42	7
2009	Cut	Grave cut containing skeleton [2005]	2.2	0.8	0.25	4.42	4.24	7
2010	Masonry	Bedding layer				4.78	4.52	6
2011	Fill	Fill of possible robber cut [2012]. Not excavated.				4.57	4.36	10

Context	Type	Description	Length	Width	Depth	Levels high	Levels low	Phase
2012	Cut	Possible robber cut	5	3.53		4.78	4.36	10
2013	Fill	Backfill of drain cut [2014]				4.48	4.32	10
2014	Cut	19th century (?) drain cut. Not excavated.	4	0.4		4.57	4.57	10
6000	Masonry	Flagstones - current floor of Westminster Abbey	2.9	1.77		4.9	4.9	10
6001	Layer	Bedding layer/rubble beneath floor surface [6000].			0.3	4.86	4.86	6
6002	Masonry	Probable limecrete raft upon which Westminster Abbey is constructed.				4.66	4.66	6

APPENDIX 2: LITHIC ASSESSMENT

Barry Bishop

Introduction

The excavations at the above site resulted in the recovery of a moderately sized assemblage of struck flint and a small quantity of unworked burnt stone.

This report provides a brief description of the main characteristics of the assemblage, discusses its archaeological significance and potential to contribute to the further understanding of the nature and chronology of the activities identified during the project, and recommends any further work required for it to achieve its full research potential. This text should be read in conjunction with the catalogue which provides further details of each piece, including context, raw material and condition.

Quantification

Type	No.
Decortication flake	2
Flake	15
Prismatic blade	4
Non-prismatic blade	5
Flake fragment > 15mm	4
Flake fragment < 15mm	1
Long-end scraper	1
Transverse axe sharpening flake	1
Core-tool	1
Core: flake	2
Conchoidal chunk	4
Burnt stone (no.)	34
Burnt stone (wt:g)	356

Table 1: Quantification of the lithic material from Poet's Corner, Westminster Abbey

Burnt stone

The unworked burnt stone all consisted of flint fragments that had been burnt intensely, causing it to become fire crazed and attain a grey-white colour. The fragments are all small and many retain remnants of cortex that is thin and worn, suggesting that they comprise alluvial pebbles. These were presumably either present as natural clasts in the original soils at the site or, as with the raw materials used for the struck flint, were gathered from the local river terrace gravels. Once removed from the soil matrix unworked burnt flint intrinsically undateable but it is perhaps most commonly found on prehistoric sites, sometimes in very large quantities, where it may have been deliberately heated for purposes such as cooking. It has also been occasionally used in some industrial activities, such as glass making, during

the historic period and this remains a possibility for the presence of this material at the site. However, the small quantities and low densities present here would perhaps be more compatible with accidental burning from ground-set hearths.

Burnt flint has been recovered from many of the archaeological investigations conducted at Westminster Abbey, often in conjunction with prehistoric struck flint, and adds to the mounting evidence for prehistoric activity on the Thorney eyot.

Struck Flint

The struck flint assemblage can be divided into two basic industries; prehistoric flake and blade production and medieval / post-medieval flint construction material. It is not possible to place every piece into one or other of these categories although considerations of criteria such as raw materials, condition and technological traits means that the majority can be confidently assigned.

The prehistoric material itself may also be the product of different periods of activity in the area. It was made from a variety of different coloured flints but all have a hard and weathered cortex; it is likely that the raw materials were gathered from the terrace gravels that are common in the vicinity. Its condition is variable but many pieces show some edge damage and rubbing, consistent with it being residually deposited. The only diagnostic piece is the distinctive flake struck to resharpen a tranchet axe that was recovered from context [732] and which can be dated to the Mesolithic period. None of the other prehistoric pieces are as chronologically diagnostic although at least some, notably the prismatic blades, derive from a systematic, blade-based reduction system which is characteristic of Mesolithic or Early Neolithic industries. The only retouched piece recovered during the investigations, the long-end scraper / knife from context [697], is also most likely to date to the Mesolithic or Early Neolithic. The only other evident tool is a natural 'potlid' spall that appears to have been retouched along part of one edge to make a heavy-duty cutting or chopping implement. Such 'core-tools' were made throughout the prehistoric period but are most commonly found in later prehistoric industries, particularly those dating to the later second and first millennia BC. Some of the other prehistoric flakes are quite thick and short, with wide obtuse striking platforms, being similar to Martingell's (1990; 2003) 'squat flakes' which are also most characteristic of later prehistoric industries.

The remainder of the material, accounting for around half of the assemblage is likely to represent the working of flint as a construction material and date to the medieval or post-medieval periods.

It consists of flakes and nodules manufactured from a translucent black flint with frequent grey 'swirly' inclusions and a rough white cortex. There is some evidence of thermal fracturing and it would be typical of nodular flint present in superficial deposits located on and adjacent to the parent chalk, the flints' colour and cortex being particularly reminiscent of North Downs flint. The two cores from the site are likely to have been flaked down to form dressed cobbles suitable for wall building although similar pieces are sometimes used as road metalling. Most of the flakes are likely to be waste pieces from dressing the cobbles. Although some of these flakes do show skill in their detachment, others have splintered or have very noticeable Hertzian cones, and the bulbs of percussion are often very pronounced and hinged distal terminations are common; as may be expected, the shape and size of the finished cobble rather than the detached flakes was the main focus of attention. Of particular interest is the possible 'retouch' shown on one or two of the flakes; such use of flint as tools is largely undocumented but similar traces were found on medieval / post-medieval cobble dressing flakes from Bermondsey Abbey in Southwark (Bishop 2010). It should, perhaps, not be surprising that on occasion the products generated from the dressing of building materials were used in an *ad hoc* fashion by the flint knappers when the need for sharp and sturdy cutting edges arose.

Significance and Recommendations

The struck flint and burnt stone from the site has been examined and catalogued in detail and no further processing or analytical work is required.

The prehistoric struck flint adds yet further evidence for early activity on Thorney Island, an area where considerable potential for prehistoric activity has previously been demonstrated (e.g. see Wilkinson *et al.* 2000), and had commenced by at least the Mesolithic period. It is therefore recommended that the prehistoric material is described for publication and relevant illustrations prepared, and its densities and distribution plotted in order to elucidate any spatial patterning to the prehistoric occupation at the site.

The historic struck flint adds to knowledge of the constructional history of the Abbey buildings. In addition, as the use of flint as tools is poorly documented for the historic period, the pieces identified here should be illustrated and described for publication. A short description of the overall technological characteristics of the historic building material should also be prepared and included in any publication.

It would be beneficial if this could be undertaken on conjunction with accounts of the prehistoric material recently recovered from other archaeological investigations in and around Westminster Abbey.

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APPENDIX 3: PREHISTORIC POT ASSESSMENT

Jon Cotton

Introduction

A total of 22 sherds weighing 306g and representing a minimum of 18 individual vessels from nine separate contexts were presented for assessment. The material is summarised in Table 1 (below).

The ceramic assemblage

Apart from a single sherd of early medieval pottery from context [729] (Jacqui Pearce, pers comm), all the material examined is likely to be of prehistoric date.

The bulk of the small assemblage is composed of body sherds in a diverse range of different fabrics. The principal tempering agents are typical for the wider region and include crushed burnt flint (FLIN), quartz sand (SAND), fired clay (GROG) and various burnt out organic components (ORG).

The assemblage mainly comprises small plain body sherds, but does include a few larger feature sherds in the form of three rims (one with tooled decoration) together with several body sherds bearing traces of impressed and incised decoration.

Only two contexts, [353] and [703], produced sherds of any size, weighing 153g and 68g respectively. The first of these contexts comprises the fill of pit [354].

Cxt No	Sherd count	ENV	Weight (g)	Fabric	Comment	Suggested date
21	2	1	4	GROG/ ORG	BS, plain	IA?
55	1	1	2	SAND	BS, plain, worn	IA?
70	1	1	5	SAND/ FLIN/ GROG	BS, plain, worn	IA?
285	1	1	11	FLIN/ORG	BS, impressed dec; laminated fabric; contraction cracks on int wall	N?
353	1	1	20	SAND	Rim of upright jar/bowl, brittle	M/LIA

Cxt No	Sherd count	ENV	Weight (g)	Fabric	Comment	Suggested date
					fabric; burnt residue on ext wall	
	1	1	125	GROG (SUG?)	Large rim of round shouldered jar, smoothed surfaces and shallow tooled dec of shallow arcs and diag strokes	M/LIA
	2	1	8	GROG/ SAND/ FLIN	BS, weakly shouldered jar/bowl, smoothed surfaces	M/LIA
695	1	1	15	FLIN	BS, plain	LBA/EIA?
703	3	2	32	FLIN	BS, plain	LBA/EIA?
	2	1	16	SAND/ GROG	BS, globular bowl with smooth surfaces; ext tooling/wiping	M/LIA
	2	2	15	SAND/ FLIN	Rim, outward flaring	M/LIA
	1	1	5	SAND/ FLIN/ORG	Shouldered jar/bowl with diagonal slashed dec at carination	E/MIA?
729	1	1	14	FLIN/ SAND	BS, plain	IA?
	1	1	21	SAND	BS, Early Surrey Ware	AD 1050-1150
730	1	1	1	FLIN	BS, poss ext imp dec	LBA/EIA?
	1	1	12	FLIN/ SAND	BS, plain, worn	LBA/EIA?
Total	22	18	306	-	-	-

Table 1: All ceramics from all contexts

Dating and affinities

As noted above, all but one sherd of this small assemblage is likely to be of prehistoric date.

The prehistoric elements comprise a single FLIN/ORG sherd from context [285] bearing a group of faint elongated oval impressions on its exterior wall. The inclusions and decoration, together with the laminated nature of the fabric and the presence of contraction cracks on the interior surfaces suggest that this could be of Neolithic date. A handful of stray sherds of Neolithic-Bronze Age pottery have been recorded from Thorney Island previously (e.g. Thomas et al 2006, fig 13, 22).

The remaining sherds appear to be of later prehistoric origin, and include several FLIN sherds of possible LBA/EIA type, together with later SAND and GROG sherds of M/LIA type. The small groups from contexts [353] (fill of pit [354]) and [703] are of most interest. That from [353] included a large sherd of a round-shouldered jar of possible East Sussex grog-tempered ware (designated as SUG in London assemblages (e.g. Davies *et al* 1994, 117)) bearing traces of tooled exterior decoration in the form of shallow 'eye-brows' and short diagonal strokes above, while context [703] included two sherds of a smoothed, thin-walled globular bowl in a fine SAND fabric, with traces of worn tooled/incised decoration on its exterior surface.

Both groups are generally datable to the 2nd cent BC -1st cent BC/AD, although a single small sherd in a FLIN fabric and a second sherd of a small carinated jar/bowl in a mixed SAND/FLIN/ORG fabric with oblique slashing at the shoulder - both from [703] - could be somewhat earlier in date.

The single sherd of Early Surrey Ware from context [729] is attributable to the period AD 1050-1150 (Jacqui Pearce pers comm), and suggests that the shattered prehistoric sherd from the same context could be residual.

Potential for further work

The small size of the assemblage necessarily limits the potential for further work, although both the fabric identifications (e.g. the possible SUG vessel) and the nature of the stratigraphic contexts require confirmation.

Nevertheless, the coherence of the two small groups from contexts [353] and [703] suggests that these are worthy of publication. It is recommended that a short, written account including full descriptions, illustration and discussion of selected sherds ought to be prepared for incorporation in the site report.

Significance of the assemblage

Although small the PSY12 assemblage is relatively coherent, and it includes two groups of M/LIA date incorporating large and/or fresh sherds, at least one of which (context [353]) appears to have been stratified in a sealed and presumably contemporary context.

As far as the writer is aware, no similar groups of M/LIA ceramics have been recorded on Thorney Island, Westminster hitherto, and they are generally rare in central London (but see Sidell *et al.* 2002, fig 39, 42 for comparable material across the river in North Southwark and Lambeth). As such the assemblage takes on a rather greater significance than its small size would initially seem to indicate.

Acknowledgements

Thanks are due to Jacqui Pearce and Fiona Seeley for commenting on the Early Surrey Ware sherd from context [729].

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APPENDIX 4: ROMAN POTTERY ASSESSMENT

Eniko Hudak

The excavations at Poet's Corner Yard, Westminster Abbey (PSY12) produced a single residual sherd of Romano-British pottery weighing five grams found in pit [254]. It is a slightly abraded fragment of an Oxfordshire Red Colour-Coated vessel with rouletted decoration dated to AD 270-400+, but the fragment is too small for the exact form of the vessel to be identified.

The material has no significance beyond dating. There is no need for a formal pottery report in publication, but reference should be made to it in the relevant context.

APPENDIX 5: POST ROMAN POTTERY ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the sites (five boxes). The pottery dates from the Saxon, medieval and post-medieval periods. By sherd count, only 1.6% of the pottery shows evidence for abrasion and so the assemblage was probably deposited fairly rapidly after breakage under mostly secondary depositional circumstances. The pottery consists of mostly sherd material and only two vessels have a complete profile and one 19th-century vessel is intact. The pottery was quantified by sherd count (SC) and estimated number of vessels (ENV's), besides weight. Pottery was recovered from 97 contexts and as only small sized groups (fewer than 30 sherds).

The assemblage consists of 236 sherds/ 218 ENV/3.919kg, of which three sherds/3 ENV/152g was unstratified. The assemblage was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in a database format, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology (2014). The pottery is discussed by types and its distribution.

The Pottery Types

The quantification of the pottery for each archaeological period represented is as follows:

Middle Saxon: four sherds, 4 ENV, 59g

Medieval (including late Saxon wares): 110 sherds, 102 ENV, 1.1408kg

Post-medieval: 120 sherds, 115 ENV, 2.520kg

Uncertain: two sherds, 2 ENV, 5g

The range of pottery types and the forms that occur in these wares is shown in Table 1 and quantified by sherd count, estimated number of vessels and weight.

A small number of Middle Saxon pottery sherds occur as Ipswich fine ware (IPSF), dated c. 730-850 and Shell-tempered ware (MSS), dated c. 770-850 (Blackmore 2012). Both wares occur in the form of jars and were residual in deposits dated 970-1050 (context [740]) and 1270-1500 (context [703]). The only possible import form this period is a sherd of German Badorf ware (BADO), which has a long period of production and could even be medieval in date.

Late Saxon pottery types (Vince and Jenner 1992) are also well represented in the assemblage, particular in the form of late Saxon shelly ware (LSS), dated c. 900-1050 as well as smaller quantities of early medieval flint-tempered (EMFL) and sandy (EMS) wares, both dated c. 970-1100, besides sand- and shell-tempered ware (EMSS), dated 1000-1150. The forms recorded in these wares are jars or cooking pots except for an EMSS flared dish (layer [703]). Small quantities of early medieval wares (Vince and Jenner 1991) are also noted, such as early medieval shell-tempered ware (EMSH), besides the Surrey wares EMIS and ESUR, dated c. 1050-1150.

Pottery types associated more so with the 12th century is not so frequent in the assemblage and include a handful of unsourced London-area coarseware (LOCO) and wheel-thrown shelly-sandy ware (SSW) jars (Blackmore and Pearce 2010). The long-lived London-type ware (LOND) industry, which appeared c. 1080 (Pearce *et al.* 1985), occurs only in the form of jugs and are found in deposits dated mostly to the 13th and early 14th century.

The mid 13th-early 14th-century component of the assemblage consists mostly of Kingston-type ware and LOND jugs. There is a small quantity of good quality Essex made Mill Green ware jugs, dated c. 1270-1350 (Pearce *et al.* 1982) and single sherds unsourced sandy orange ware (SOWX) and Harlow medieval sandy ware (HARM). The latter, rarely identified in London, occurred as a small but notable quantity at the Westminster Abbey Song School (WSA14: Jarrett 2014). The only imported sherd of pottery is an early Rouen ware (ROUE), dated c. 1170-1300+, which was residual in a post-medieval context: [40]. This good quality pottery type was noted previously at The Cellarium excavation (WYA10: Jarrett 2013).

Typically for the London area, the late medieval assemblage is dominated by Surrey whitewares (Pearce and Vince 1988), and found particularly as coarse Surrey-Hampshire border ware (CBW), which first appears in London from c. 1270 and dominates assemblages from the mid 14th century (Pearce and Vince 1988, fig.9). Identifiable forms in this ware are mostly jugs and noted as sherd material, although a c. 1340-1500 dated large rounded jug (unstratified) and a lobed cup (context [203]) of the same date are also recorded. A small quantity of Cheam (white) ware (CHEA), dated c. 1350-1500 also occurs and includes a residual jug sherd (context [658]).

Early post-medieval wares are mostly found as the local redware (PMRE), dated c. 1480-1600, besides a sherd of the slipware version (PMRSRY), dated c. 1480-1650 (Nenk and Hughes 1999). The PMRE could only be identified in the form of carinated bowls and a cauldron. Non-local wares are noted as a Cistercian ware (CSTN) cup (context [209]) and two sherds of Wealden buff ware (WEALD: unstratified, context [545]). Imported wares from this period consist of the odd sherd of German stoneware from Siegburg (SIEG) and Raeren (RAER) (Hurst *et al.* 1985), which occur in the form of drinking vessels.

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Uncertain						
Miscellaneous undated pottery	MISC	900-1500	2	2	5	Unidentified
Middle Saxon						
Ipswich fine ware	IPSF	730-850	3	3	50	Jar, unidentified
Shell-tempered ware	MSS	770-850	1	1	9	Jar
Medieval						
Badorf ware	BADO	900-1200	1	1	11	Unidentified
Coarse Surrey-Hampshire border ware	CBW	1270-1500	10	10	65	Jug, lobed cup, unidentified
Coarse Surrey-Hampshire border ware large rounded jug	CBW LGR	1340-1500	1	1	131	
Cheam whiteware	CHEA	1350-1500	3	3	36	Jar, jug, unidentified
Dutch red earthenware	DUTR	1300-1650	1	1	5	Unidentified
Early medieval sandy ware with calcareous inclusions	EMCALC	1000-1150	1	1	17	Jar
Early medieval flint-tempered ware	EMFL	970-1100	4	4	37	Jar
Early medieval Surrey iron-rich sandy ware	EMIS	1050-1150	1	1	17	Unidentified
Early medieval sandy ware	EMS	970-1100	2	2	8	Jar, unidentified
Early medieval shell-tempered ware	EMSH	1050-1150	3	3	29	Unidentified
Early medieval sand- and shell-tempered ware	EMSS	1000-1150	6	6	90	Flared dish, unidentified
Early Surrey ware	ESUR	1050-1150	1	1	8	Jar
Harlow sandy ware	HARM	1200-1500	1	1	9	Jug
Kingston-type ware	KING	1240-1400	15	15	137	Bowl or dish, jar, jug (baluster), unidentified
Kingston-type ware in the highly decorated style	KING HD	1240-1300	2	2	15	Jug
Un sourced London-area coarseware	LOCO	1080-1200	2	2	12	Unidentified
London-type ware	LOND	1080-1350	13	9	305	Jug, unidentified
Late Saxon shelly ware	LSS	900-1050	16	15	144	Jar (squat cylindrical), unidentified
Mill Green ware	MG	1270-1350	3	3	22	Jug
Mill Green ware with white slip decoration	MG WSD	1290-1350	1	1	10	Jug
Miscellaneous un sourced medieval/post-medieval pottery	MISC	900-1500	3	3	55	Jar, jug
Miscellaneous un sourced medieval/post-medieval whiteware	MISC WW	900-1500	1	1	16	Unidentified
St Neots ware	NEOT	970-1100	15	12	195	Jar (rounded), unidentified

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
North French unglazed ware	NFRE	900-1200	1	1	5	Unidentified
Early Rouen ware	ROUE	1170-1300	1	1	5	Jug
Essex unsourced sandy orange ware	SOWX	1200-1550	1	1	12	Unidentified
Shelly-sandy ware	SSW	1140-1220	2	2	14	Unidentified
Post-medieval						
Agate ware	AGAT	1730-1780	1	1	8	Unidentified
Blackware	BLACK	1600-1900	1		140	Jar
Surrey-Hampshire border whiteware with green glaze	BORDG	1550-1700	6	6	173	Bowl or dish, flared dish, unidentified
Surrey-Hampshire border whiteware with clear (yellow) glaze	BORDY	1550-1700	11	8	160	Tripod pipkin, unidentified
Chinese blue and white porcelain	CHPO BW	1590-1900	1	1	1	Unidentified
Chinese porcelain with Kraak decoration	CHPO KRAAK	1580-1650	1	1	20	Rounded dish
Creamware	CREA	1740-1830	3	3	11	Unidentified
Cistercian ware	CSTN	1480-1600	1	1	6	Cup
Derbyshire stoneware	DERBS	1700-1900	2	2	8	Unidentified
Dutch tin-glazed ware	DTGW	1512-1800	1	1	227	Bowl (medium rounded)
Dutch red earthenware	DUTR	1300-1650	1	1	53	Unidentified
Dutch slipped red earthenware	DUTSL	1300-1650	1	1	4	Unidentified
Dyed-bodied refined earthenware	DYE	1820-1900	2	1	9	Tea cup
Early Surrey-Hampshire border whiteware	EBORD	1480-1550	1	1	1	Unidentified
English brown salt-glazed stoneware	ENGS	1700-1900	1	1	9	Tankard
English stoneware with Bristol glaze	ENGS BRST	1830-1900	1	1	302	Jug (squat shouldered)
Frechen stoneware	FREC	1550-1700	14	12	228	Jug (rounded)
Unsourced German stoneware	GERST	1480-1900	2	2	16	Seltzer mineral water bottle, unidentified
London stoneware	LONS	1670-1926	4	4	42	Bottle or jar, jug, unidentified
Majolica	MAJO	1850-1900	1	1	2	Unidentified
Miscellaneous unsourced medieval/post-medieval pottery	MISC	900-1500	3	3	16	Flower pot, unidentified
Midlands purple ware	MPUR	1400-1750	1	1	7	Unidentified
Pearlware with transfer-printed decoration	PEAR TR	1770-1840	3	3	23	Dish (rounded), plate (dinner)
Essex-type post-medieval black-glazed redware	PMBL	1580-1700	1	1	8	Unidentified
Essex-type post-medieval fine redware	PMFR	1580-1700	4	4	49	Dish, unidentified
London-area post-medieval redware	PMR	1580-1900	12	12	350	Flower pot, unidentified

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
London-area early post-medieval redware	PMRE	1480-1600	8	8	144	Bowl (carinated : type 1), cauldron, unidentified
London-area post-medieval slipped redware with clear (yellow) glaze	PMSRY	1480-1650	1	1	12	Unidentified
Portuguese faience	POTG	1600-1700	1	1	8	Bowl or dish
Raeren stoneware	RAER	1480-1610	1	1	6	Jug
Surrey-Hampshire border redware	RBOR	1550-1900	1	1	89	Bowl (medium rounded)
Refined white earthenware	REFW	1805-1900	5	4	34	Bowl (rounded), jar (cylindrical), saucer, unidentified
Refined white earthenware with slip decoration	REFW SLIP	1805-1900	1	1	6	Jug
Siegburg stoneware	SIEG	1300-1630	1	1	20	Unidentified
Staffordshire-type mottled brown-glazed ware	STMO	1650-1800	1	1	2	Mug (rounded)
Dipped white salt-glazed stoneware	SWSL	1710-1760	1	1	9	Tankard
English tin-glazed ware	TGW	1570-1846	3	2	8	Bowl (rounded), unidentified
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze	TGW A	1570-1650	1	1	73	Charger,
London tin-glazed ware with manganese-mottled glaze	TGW B	1630-1680	1	1	1	Unidentified
London tin-glazed ware with plain white glaze	TGW C	1630-1846	1	1	16	Porringer
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze	TGW D	1630-1680	3	1	34	Albarello
London tin-glazed ware with pale blue glaze and dark blue decoration	TGW H	1680-1800	4	4	16	Plate, unidentified
Refined whiteware with under-glaze transfer-printed decoration	TPW	1780-1900	2	2	16	Plate (tea)
Wealden buff ware	WEAL	1480-1900	2	2	20	Unidentified
Westerwald stoneware	WEST	1590-1900	1	1	13	Chamber pot
Yellow ware	YELL	1820-1900	2	2	36	Bowl, unidentified

Table 1: PSY12. Quantification of Saxon, medieval and post-medieval pottery types by sherd count (SC), estimated number of vessels (ENV) and weight in grams (Wt (g)).

Late 16th to 17th-century dated pottery is well represented by the Surrey-Hampshire border whitewares (BORDG/Y) (Pearce 1992) which are only identified in the form of bowls and dishes, besides BORDY tripod pipkins (deposits [35] and [567]). A small quantity of Essex fine redwares occur mostly in the PMFR fabric and includes a dish sherd (context [99]), although fragments of drinking forms are present, and includes a black-glazed (PMBL) item (deposit [211]). The London area coarse red earthenware (PMR) is in a largely fragmentary state and the only identifiable form is flower pots (also made in miscellaneous redware fabrics), which mainly occur in late 18th- and 19th-century dated deposits. A small quantity of mid 17th-century tin-glazed ware is represented: single sherds of TGW B, TGW C (as a porringer sherd), both found in layer [568] and a TGW D albarello (deposit [30]).

Imported pottery (Hurst *et al.* 1985) dating to the late 16th and particularly the 17th century are more frequent than the earlier periods. Fragments of Frechen stoneware (FREC) rounded jugs are well represented in the assemblage. Pottery from the Low Countries consists mostly of fragmentary redwares (DUTR) and a sherd of slipware (DUTSL): these sherds could be medieval in date, however the material occurs in 17th century and later dated deposits and are probably residual. An early 17th-century Dutch-tin-glazed ware (DTGW) medium rounded bowl with a geometrical and floral design was noted with a contemporaneous English tin-glazed (TGW A) charger with a geometrical design (both occurred in deposit [597]), but should equally be considered as Anglo-Netherlands wares. A sherd of an early 17th-century Portuguese faience (POTG) bowl or dish was noted in deposit [279]. Two sherds of Chinese porcelain occur and include a fragment of ubiquitous 18th-century blue and white ware (CHPO BW) found in deposit [254]. However, much rarer is an early 17th-century Kraak porcelain (CHPO KRAAK) vessel surviving as the base of a rounded dish that has a central design featuring a lozenge containing a bird that is about to take flight (context [7]). This would have represented a prestige item.

Eighteenth-century pottery is represented by fragmentary sherds of TGW H that includes plates (contexts [96] and [372]). There are a handful of English stonewares, which comprises London made items (LONS), such as an 18th-century bottle or jar (context [90]) and an 18th/19th-century dated jug rim (deposit [656]). Tankards occur in SWSL (context [96]) and a late 19th-century English brown salt-glazed stoneware example (context [654]).

Factory made refined wares, such as creamware (CREA), pearlware (PEAR) and refined whiteware, either plain or decorated using different methods (Hildyard 2005), occur as table and tea wares. One of the later imports is a German stoneware seltzer bottle represented by a shoulder stamped 'R.../9...'. The item dates to the late 18th-19th century and was found in deposit [699].

Distribution

The distribution of the pottery is shown in Table 2, which conveys for each context containing pottery what feature it fills (if applicable) and a description, its phasing, size, the number of sherds (SC) and ENV, besides weight. Additionally, the date range of the latest pottery is shown (Context ED and LD) and a considered deposition date (spot date). The pottery was recovered from Phases 2 and 4-10.

Context cut	Fill of Description	Phase	Wt		Context		Context	Pottery types	Spot date	
			SC	ENV (g)	ED	LD				
1	2	Fill of pit	-	2	2	1550	1700	BORDY, PMRE	1550-1700	
7		Layer	-	7	7	189	1805	1900	CHPO KRAAK, LOND, PMR, PMRE, REFW	Late 19th century
9	11	Fill of construction cut for drain [10]	-	2	2	4	1805	1900	PMR, REFW	1805-1900
21	22	Lower fill of grave	-	1	1	3	0	0	MISC	0
30	32	Fill of pit	-	5	3	68	1630	1680	FREC, TGW D	1630-1680
35		Garden soil	-	5	2	102	1550	1700	BORDY	1550-1700
39		Layer	-	2	2	20	1805	1900	PMR, REFW	1805-1900
40	43	Fill of drain	-	2	2	10	1740	1830	CREA, ROUE	1740-1830
41	43	Fill of drain	-	1	1	7	1580	1900	PMR	1580-1900
44		Layer	-	1	1	6	1480	1900	GERST	1480-1900
55		Layer	-	3	3	16	1000	1150	EMSS, MISC, NFRE	1000-1150
72	73	Fill of posthole	-	1	1	1	1000	1150	EMSS	1000-1150
89		Made ground	10	3	3	52	1550	1700	FREC, MG, MG WSD	1550-1700
92	90	Infilling of the interior of brick chamber	10	1	1	5	1550	1700	FREC	1550-1700
96	98	Fill of construction cut	9	9	9	74	1710	1760	DERBS, KING, LONS, SWSL, TGW H, WEST	1710-1760
99		Levelling layer	10	1	1	12	1580	1700	PMFR	1580-1700
100		Levelling layer	10	4	2	54	1550	1700	FREC	1550-1700
116	117	Fill of pit	10	2	2	11	1850	1900	HARM, MAJO	1850-1900
139	140	Backfill of grave cut	7	5	4	57	1240	1400	KING, LOCO, LOND	1240-1350
147	148	Fill robber cut	10	1	1	9	1240	1400	KING	1240-1400
150	151	Backfill of construction cut for wall [109]	10	1	1	7	1550	1700	BORDG	1550-1700
175	176	Fill of posthole	7	1	1	2	1550	1700	FREC	1550-1700
184	185	Fill of posthole	8	1	1	8	1240	1400	KING	1240-1400
186	187	Fill of posthole	9	1	1	39	1550	1700	FREC	1550-1700
195	196	Fill of pit	9	1	1	3	1670	1923	LONS	1670-1923
197	202	Fill of posthole	9	1	1	1	1680	1700	TGW H	1680-1700
198	199	Fill of posthole	10	1	1	4	1240	1400	KING	1240-1400

Context	Fill of	Description	Phase	SC	ENV (g)	Wt	Context	Context	Pottery types	Spot date
cut						ED	LD			
203	274	Fill of grave	4	4	4	24	1820	1900	CBW, KING, YELL	1820-1900
209	94	Levelling deposit for floor [93].	9	3	3	33	1550	1700	CSTN, EMIS, FREC	1550-1600
211	212	Fill of robber cut	9	1	1	8	1580	1700	PMBL	1580-1700
217		Layer	9	2	2	6	1550	1700	BORDY, FREC	1550-1700
218	151	Backfill of construction cut		1	1	12	1550	1700	FREC	1550-1700
221	98	Deposit filling the interior of culvert [97].	10	2	2	309	1830	1900	ENGS BRST, TPW	Late 19th century
245		Masons' working surface	9	1	1	4	1240	1400	KING	1240-1400
249	250	Fill of pit	9	1	1	5	1550	1700	BORDG	1550-1700
251	252	Fill of pit	9	1	1	6	1240	1400	KING	1240-1400
254		Modern starter pit for borehole	10	1	1	1	1590	1900	CHPO BW	18th century
255	269	Fill of pit	9	2	2	2	1770	1840	CREA, PEAR TR	1789-1830
271	262	Primary fill of pit	9	1	1	5	1740	1830	CREA	1740-1830
277	278	Upper fill of the construction cut for the Chapter House	6	1	1	17	1000	1150	EMCALC	1000-1150
279	280	Fill of pit	10	2	2	16	1600	1800	MISC, POTG	18th/19th century
281	288	fill of robber cut	9	1	1	5	1240	1400	KING	1240-1400
285	286	Charnel deposit	6	4	4	73	1240	1300	KING HD, LOND, SSW	1240-1300
313		land reclamation layer	2	2	2	24	900	1050	LSS	900-1050
316	319	Backfill of grave	4	2	2	14	900	1050	LSS	900-1050
320		reclamation layer	6	1	1	7	970	1100	EMFL	970-1100
350		Subsoil	4	1	1	7	900	1050	LSS	900-1050
364	365	Fill of construction cut	10	1	0	10	1805	1900	REFW	Late 19th century
370	371	Backfill of the construction cut of the ambulatory of the church	6	1	1	83	1080	1350	LOND	C. 1225-1350
372		Demolition layer	10	11	11	200	1770	1840	BORDG, BORDY, DUTR, KING, MPUR, PEAR TR, PMR, TGW, TGW H	1789-1840
377	378	Fill of posthole	9	1	1	10	1480	1600	PMRE	1480-1600
379		Construction layer	8	4	4	60	1480	1550	EBORD, PMRE, RAER	1480-1550
390	391	Fill of pit	8	1	1	46	1080	1350	LOND	C. 1225-1350
393		land reclamation layer	10	1	1	9	1780	1900	TPW	1830-1900
394	396	Backfill of robber cut	10	3	2	218	1600	1900	BLACK, DUTR, PMR	C. 1650-1900
398	399	Fill of pit	9	3	3		1480	1600	EMS, PMRE	1480-1600
401		dumped deposit	9	5	4	45	1080	1350	LOND, LSS	1080-1350
412		Mortar surface.	5	1	1	5	1240	1300	KING HD	1240-1300
416	451	Fill of cesspit/soakaway	9	3	3	89	1580	1700	BORDY, PMFR, PMR	1580-1700
419	425	Backfill of grave	4	1	1	1	1240	1400	KING	1240-1400
454	463	Rubble fill of [463]. Not fully excavated	10	1	1	89	1550	1900	RBOR	1550-1900
495		Mortar surface	6	3	1	77	1080	1350	LOND	C. 1225-1350

Fill of		Wt		Context		Context		Pottery types	Spot date	
Context cut	Description	Phase	SC	ENV (g)	ED	LD				
503	504	Fill of pit [504]	10	3	3	23	1730	1780	AGAT, CBW, PMSRY	1730-1780
517	527	Fill within cist [525]	4	1	1	7	1080	1200	LOCO	1080-1200
545	547	Fill of group burial	7	1	1	8	1480	1900	WEAL	1480-1900
551		Made ground	9	2	1	9	1080	1350	LOND	1080-1350
564		Dump layer consisting of furnace waste	9	3	2	6	1670	1846	PMFR, TGW	Late 18th c
567	566	Demolition backfill of robber cut	9	1	1	16	1550	1700	BORDY	1550-1700
568		Bedding layer for surface [565]	9	9	9	95	1660	1800	BORDY, DUTSL, MISC, PMFR, PMR, STMO, TGW B/C	1660-1680
593	594	Fill of pit	4	1	1	7	1	1	EMFL	970-1100
595		Land reclamation layer.	2	1	1	10	900	1050	LSS	900-1050
597	604	Fill of robber cut	4	4	4	472	1570	1846	BORDG, DTGW, SIEG, TGW A	Early 17th century
650		Topsoil	10	1	1	5	1820	1900	DYE	1820-1900
652	653	Fill of service trench	10	2	1	11	1820	1900	DYE, MISC	1820-1900
654		Made ground	10	4	4	45	1805	1900	ENGS, PEAR TR, PMR, REFW SLIP	Late 19th century
655		Bedding layer	10	3	3	64	1270	1400	CBW, KING	1270-1400
656	657	Backfill of drain cut	10	1	1	11	1670	1900	LONS	18th-19th century
658	659	Backfill of construction cut for drain	10	3	3	40	1480	1600	CBW, CHEA, PMRE	1480-1500
662	663	Concrete slab	10	2	2	31	1820	1900	BORDG, YELL	1820-1900
669	668	Backfill in drainage cut	10	2	2	34	1270	1350	CBW, NEOT	1270-1350
677	676	Fill of [676]	10	1	1	21	970	1050	LSS	970-1050
681		Made ground/rubble layer	9	1	1	6	1270	1500	CBW	1270-1500
684	685	Fill of modern cut for repairing drain	10	1	1	12	1200	1550	SOWX	1200-1550
686		Truncated dump deposit.	10	2	2	18	1550	1700	CHEA, FREC	1550-1700
690	691	Backfill of grave cut [691]	4	1	1	9	1050	1150	EMSH	1050-1150
695		Made ground	10	7	7	73	1550	1700	BORDG, CBW, MG, MISC, NEOT, SSW	1550-1700
697		Pit [681]	10	1	1	3	1270	1500	CBW	1270-1500
699		Demolition layer	9	2	2	18	1480	1900	ESUR, GERST	Late 18th - 19th century
702	691	Backfill in grave [691]	4	4	4	36	1000	1150	EMS, EMSS, NEOT	1000-1100
703		Land reclamation layer	2	21	18	271	1050	1150	BADO, CBW, EMSH, EMSS, IPSF, LSS, MISC, MISC WW, MSS, NEOT	Mid 12th century
715	716	Fill of grave cut [716]	2	2	2	35	970	1100	MISC, NEOT	970-1100

Fill of		Wt		Context	Context			
Context cut	Description	Phase	SC	ENV (g)	ED	LD	Pottery types	Spot date
722	723 Skeleton in grave cut [723]	7	1	1 2	1240	1400	KING	1240-1400
730	705 Fill of pit [731]	6	1	1 19	970	1100	NEOT	970-1100
732	'Dirty' sand layer	2	1	1 49	970	1100	NEOT	970-1100
739	Levelling layer/potential surface	2	2	2 10	1000	1150	EMSS, LSS	1000-1050
740	741 Fill of cut [741]	2	4	4 40	970	1100	EMFL, IPSF, LSS	970-1050
2008	2009 Backfill in grave [2009]	7	1	1 1	1270	1350	MG	1270-1350

Table 2: PSY12: distribution of pottery types showing the phase, the size/number of sherds (SC), ENV, weight in grams, the date range of the latest pottery type and a spot date for each context pottery occurred in.

Phase 2

The phase produced 33 sherds/30 ENV/439g of pottery, of which St Neots-type ware (NEOTS), found as 27.3% SC/20% ENV/27.8% weight and late Saxon shelly ware (LSS), noted as 24.2% SC/26.7% ENV/13.4% weight were the main pottery types. A small quantity of residual middle Saxon Ipswich (IPSF) ware and shell-tempered ware (MSS) occur, besides a sherd of Badorf-type ware (BADO) probably of this date, further supports the evidence of the 8th-10th century religious settlements located on Thorney Island.

Trench 100

From Trench 100 a sequence of pottery is recorded. Layer [732] produced only the rim sherd of a St Neots ware (NEOT) jar, dated c. 970-1100. Cut into the latter, pit [741] produced in its fill [740] sherds of jars made in residual Ipswich ware (IPSF) and contemporaneous late Saxon shelly ware (LSS) and early medieval flint-tempered ware (EMFL) and together these wares indicate a deposition date of c. 970-1050. Sealing the latter, layer [703] produced the largest quantity of pottery in this phase (21 sherds/18 ENV/271g), which consisted of residual middle Saxon wares (IPSF and MSS and possibly BADO) and late Saxon/early medieval wares: particularly LSS and smaller quantities of early medieval shell and sand (EMSS) and shell-tempered ware (EMSH). Sealing layer [703], layer [739] produced small sherds of Late Saxon shelly ware (LSS) and early medieval sand- and shell-tempered ware (EMSS), indicating a deposition date of c. 1000-1050. A later grave [716] contained in its fill sherds of St Neots ware (NEOT) and a miscellaneous ware (MISC), indicating a deposition date of c. 970-1100.

Main excavation

The land reclamation layer deposits [313] and [595] solely contained sherds of late Saxon shelly ware (LSS).

The main contemporaneous forms recorded in this phase were jars or cooking pots made in EMFL, LSS, NEOT, besides an EMSS flared dish and an intrusive jug sherd in CBW.

Phase 4

The phase produced 19 sherds/19 ENV/577g of pottery and no one pottery type was significantly more frequent than another one. Both medieval and post-medieval pottery types occur, the later wares possibly being intrusive. The majority of the pottery in this phase was recovered from grave fills.

Trenches 10-13

Fill [593], from pit [594] produced only the rim sherd of an early medieval flint-tempered ware (EMFL) jar, dated 970-1100. The robber cut [604] produced in its fill [597] a single sherd of plain Siegburg stoneware (SIEG), the complete profile of a Surrey-Hampshire border whiteware with green glaze (BORDG) flared dish, dated 1550-1700 and two tin-glazed wares. The first is a Dutch (DTGW) medium rounded bowl dated to the second half of the 17th century (Korf 1980) and dates the deposit. The second delftware item is a charger with blue on white decoration consisting of feathery motifs and stacked line pyramids and has been assigned the code TGW A. Both of the tin-glazed ware vessels should be considered as Anglo-Netherlands wares.

Trench 10/11/12/13

Grave [425], has recorded solely in its backfill [419] a small sherd of a Kingston-type ware (KING) jug, dated c. 1240-1400.

Trench 15

The cist burial [525] contained in its fill [517] a single sherd of local coarse ware (LOCO), dated c. 1080-1200.

Trench 100

A sequence of stratified pottery was found in Trench 100 and began with grave cut [691] and the backfill [690] produced a single sherd of early medieval shell-tempered ware (EMSH), dated 1050-1150. The latter was truncated by a chalk cist ([700], containing skeleton [701]) and it contained in its fill [702] four small sherds of early medieval wares: early medieval sandy ware (EMS), early medieval sand- and shell-tempered ware (EMSS) and St Neots type ware (NEOTS), indicating a deposition date of c. 1000-1100.

Main excavation

A subsoil horizon [350], produced a single sherd of late Saxon shelly ware (LSS), dated 900-1050. Grave [319] contained in its fill [316] a single small sherd of LSS, dated 900-1050, which is possibly residual. Another interment, [274], produced in its fill [203] mostly late medieval wares in the form of coarse Surrey-Hampshire border ware and a lobed cup (CBW LOB) and possibly a sherd of a bunghole jar with red slip decoration. There is a sherd of earlier Kingston-type ware (KING) and a later sherd of 19th-century yellow ware, which gives a deposition date of c. 1820-1900. However, if the latter is intrusive, then the other pottery indicates a deposition date of c. 1380-1400/1500.

Phase 5

A single sherd of pottery was found in this phase and consist of a jug made in Kingston-type ware in the highly decorated style (KING HD), dated c. 1240-1300 and has rouletted strip decoration and green glaze. The item was found in the mortar surface deposit [412].

Phase 6

The phase produced eleven sherds/9 ENV/276g of pottery, all of which is dated to the medieval period. London-type ware (LOND), dated 1080-1200, provided the only significant quantity of pottery (54.5% SC/44.4% ENV/78.3% weight) and all of the other wares in this deposit were represented by single sherds.

Main area

Pit [731] contained in its fill [730] a single sherd of St Neots ware (NEOT). The land reclamation layer [320] produced the rim of an early medieval flint-tempered ware (EMFL) jar. Both pottery types are dated c. 970-1100. The mortar surface [495] produced only a jug fragment made in London-type wares and survives as a rim with a vertical loop rod handle,

dated c. 1225-1350. A similar London-type ware jug was noted in the backfill [370] of the construction cut [371] for the ambulatory of the church. Stratigraphically later than this was the charnel deposit [285] placed on the lower steps of the foundation raft [233] for the South Transept. This deposit produced the largest quantity of pottery in this phase: four sherds. The pottery consisted of a single sherd of sandy shelly ware (SSW), dated 1140-1220, two sherds from different London-type ware jugs, while the latest pottery type is a c. 1240-1300 dated Kingston-type ware in the highly decorated style (KING HD) and probably represents a family sherd of the vessel found in Phase 5, deposit [412]. The construction cut [278] for the Chapter House contained in its upper fill [277] the rim sherd of a jar made in early medieval sandy ware with calcareous inclusions (EMCALC), dated 1000-1150 and the vessel is residual.

Phase 7

Nine sherds of pottery, representing 8 MNV and weighing 70g were recovered from features dated to this phase. The majority of the pottery consists of medieval wares and only one or two sherds date to the post-medieval period. Three sherds of the pottery consist of London-type ware and two sherds occur as Kingston-type ware, otherwise the other pottery types occur as single sherds.

Main excavation

The posthole [176] produced in its fill [175] a small body sherd of a Frechen stoneware (FREC) rounded jug, dated 1550-1700. Stratigraphically later, grave [140] contained in its fill [139] four sherds of medieval pottery consisting of unsourced London-area coarseware (LOCO), dated c. 1080-1200, a sherd of a London-type ware (LOND) and two sherds of Kingston-type ware, which includes a fragment of a jug. The pottery types indicate a deposition date of c. 1240-1350, although the finds are almost certainly residual. Two other graves contained pottery in their fills. Grave [2009] produced in its backfill [2008] a single sherd of a Mill Green ware jug dated 1270-1350. The group burial [547] has recorded in its fill [545] a sherd of Wealden buff ware (WEALD), dated c. 1480-1900.

Trench 100

The skeleton [722] (found in grave cut [723]) has associated with it a sherd of a Kingston-type ware (KING) jug, dated c. 1240-1350.

Phase 8

Six sherds of pottery, representing the same number of vessels and weighing 114g were found in this phase and recovered from three deposits. The majority of the pottery consists of post-medieval wares dating to the period c. 1480-1550/1600 and no one pottery type occurs significantly more than another.

Main excavation area

Posthole [185] contained in its fill [184] a single sherd of Kingston-type ware (KING), dated c. 1240-1400.

Trenches 10/11/12/13

Pit [391] produced in its fill [390] a sherd of a white-slipped green-glazed jug with a vertical loop rod handle made in London-type ware (LOND), which is dated c. 1225-1350. The construction layer [379] produced four sherds of pottery that consisted of a sherd of early Surrey-Hampshire border whiteware (EBORD), a strap handle from a Raeren stoneware (RAER) jug and two carinated bowls made in London-area early post-medieval redware (PMRE). Together the pottery types and forms suggest a deposition date of c. 1480-1550.

Phase 9

A larger quantity of pottery (56 sherds/53 ENV/524g) was recovered from this phase compared to previously. The majority of the pottery is dated to the post-medieval period (73.2% SC/75.5 % MNV/ 80% weight) and the rest consists of residual medieval wares. Each of the different pottery types occur as four sherds or less and do not reflect accurately the ceramic profile noted on other London archaeological excavations.

Main area

Layer [217] contained two sherds of pottery in the form of a Frechen stoneware (FREC) rounded jug sherd and a sherd of BORDY: both wares are contemporaneous during the period 1550-1700. A later levelling deposit [209] for floor [93] produced contemporaneous sherds of a cup in Cistercian ware (CSTN) and a rounded jug in FREC, indicating a possible formation date of c. 1550-1600. The primary fill [271] of pit [262] produced only a sherd of creamware (CREA), dated c. 1740-1830. A later robber cut [288] contained in its fill [281] a sherd of residual medieval Kingston-type ware, which was the only pottery type found in the later masons' working surface layer (context [245]). A subsequent pit [269] produced in its fill

[255] single sherds of creamware and a plate made in pearlware with transfer-printed decoration as the Willow pattern, dated to after c. 1789. Truncating the latter, pit [250] (fill [249]) produced part of a residual Surrey-Hampshire border whiteware with green glaze (BORDG) dish, and this feature was in turn truncated by pit [252] (fill [251]), which contained a residual sherd of a KING jug.

The bedding floor surface [568] contained nine sherds of pottery, consisting of BORDY, Dutch slipped red earthenware (DUTSL), a miscellaneous fine sandy redware (MISC), two sherds of Essex-type post-medieval fine (PMFR), London-area post-medieval redware (PMR) and tin-glazed earthenwares with styles dating to after c. 1630: TGW B with manganese-mottled glaze and as a plain white glazed ware TGW C in the form of a porringer. The latest pottery type represented is a sherd of Staffordshire-type mottled brown-glazed ware (STMO) and in the form of a mug. The latter, with the other pottery types indicated a deposition date of c. 1660-80. A later dump layer of furnace waste [564] produced single sherds of residual PMFR and a small sherd of tin-glazed ware with a late 18th-century design. A robber cut truncating the latter contained in its fill [567] a residual sherd of a BORDY tripod pipkin dated c. 1550-1700.

Posthole [202] produced in its fill [197] a small sherd of London tin-glazed ware with pale blue glaze and dark blue decoration (TGW H), dated 1680-1800. The feature was in turn truncated by pit [196] and its fill [195] has recorded for it a sherd of London stoneware (LONS), dated 1670-1900. The construction cut [98] produced nine sherds of pottery in its fill [96] that consisted of a residual sherd of medieval KING, while the contemporaneous pottery was found as two sherds of LONS, a sherd of a dipped white salt-glazed stoneware (SWSL) tankard, two sherds of TGW H, that includes a plate and a Westerwald stoneware (WEST) chamber pot. Together the pottery indicates a deposition dated of c. 1710-1760.

Residual medieval pottery was noted in two deposits. Firstly, layer [401] produced four sherds of late Saxon shelly ware (LSS) derived from two different jars, besides two small sherds of London-type ware. Secondly, two sherds of a London-type ware jug were found in the made ground layer [551].

Two discrete features occur without a stratigraphic relationship to other deposits containing pottery. Fill [186] of posthole [187] produced a base sherd of a rounded jug made in Frechen stoneware (FREC), dated 1550-1700. The robber cut [212] produced in its fill [211] the splayed base of a drinking form made in Essex-type post-medieval black-glazed redware (PMBL), dated 1580-1700.

Trenches 10/11/12/13

Three deposits in this area produced pottery and none of these have a stratigraphic relationship. The posthole [378] contained in its fill [377] a sherd of London-area early post-medieval (PMRE), dated 1480-1600. Two sherds of the latter type of pottery were found in fill [398] of pit [399], together with a residual jar rim of EMS. The cesspit/soakaway [451] has recorded three sherds of contemporaneous pottery (BORDY, PMFR and PMR) indicating a deposition date of c. 1580-1700.

Trench 100

In this location two deposits produced pottery. The demolition layer [699] contained a sherd of residual medieval early Surrey ware (ESUR) and a sherd of an unsourced German stoneware seltzer bottle stamped 'R.../9...' dated to the late 18th-19th century. Sealing the latter, layer [681] contained a sherd of residual medieval coarse Surrey-Hampshire border ware (CBW).

Phase 10

The largest quantity of pottery (69 sherds/64 ENV/1.397kg) was recovered from this phase of the archaeological work. The majority of the pottery is dated to the post-medieval period (63.8% SC/60.9 % MNV/ 80.7% weight) and the rest consists of residual medieval wares.

Main area

A number of discrete deposits occur that do not have a stratified relationship with other contexts containing pottery. Posthole [199] produced in its fill [198] a sherd of a medieval KING jug. The fill (context [364]) of the construction cut [365] contained a sherd of a refined white earthenware (REFW) cylindrical jar dated to the late 19th century. The modern starter pit [254] for a bore hole has associated with it a sherd of 18th-century Chinese blue and white porcelain. Fill [221] from the interior of culvert [97] produced single sherds of a TPW plate with the Willow pattern and an intact English stoneware with Bristol glaze shouldered jug, stamped on the base 'E W'. The latter was used for retailing a dairy product and dates to the late 19th century. Another sherd of a TPW plate with the Willow pattern was solely recovered from the reclamation layer [393].

There are a number of deposits containing pottery that do have a stratigraphic relationship. The backfill [150] of construction cut [151] for wall [109] contained a residual sherd of BORDY. A later robber cut [148] contained in its fill [147] a residual sherd of a medieval KING jar. Truncating the latter, pit [117] produced in its fill [116] a residual sherd of a medieval Harlow sandy ware (HARM) jug as well as a sherd of a post c. 1850 dated majolica (MAJO)

closed form. A later pit [280] produced in its fill [279] sherds of a 17th-century Portuguese faience (POTG) dish and a sherd of a miscellaneous (MISC) redware flower pot of an 18th/19th-century date. Deposits at the top of this sequence contained residual pottery sherds: made ground [89]; medieval Mill Green ware (MG and MG WSD) and post-medieval FREC jugs. The latter was also found in deposit [92] filling the interior of brick chamber [90]. Levelling layers [99] and [100] contained respectively a PMFR dish and FREC rounded jugs.

Trench 14

The rubble fill [454] of cut [463] produced a medium rounded bowl made in Surrey-Hampshire border redware (RBOR), broadly dated 1550-1900.

Trenches 10/11/12/13

The backfill [394] of robber cut [396] produced sherds of Dutch red earthenware (DUTR), a jar sherd made in blackware (BLACK) and a PMR flowerpot, the latter indicating a deposition date of c. 1650-1900. Pit [504] produced in its fill [503] residual sherds of medieval CBW and London-area post-medieval slipped redware (PMSRY), and the latest pottery type was a base sherd of agate ware (AGAT), dated 1730-80. Sealing these deposits was the demolition layer [372] which contained sherds of residual medieval (KING) and post-medieval pottery (BORDG/Y, DUTR and Midlands purple ware: MPUR) as well as pottery that could be contemporaneous: TGW/H and PMR flower pots. The latest pottery type found in the deposit was pearlware with transfer-printed decoration (PEAR TR) in the form of a dinner plate rim with the Willow pattern, indicating a deposition date of c. 1789-1840.

Trench 100

A sequence of stratified pottery occurs in this area. Pit [681] contained in its fill [697] a residual sherd of a CBW jug. Drain [666] contained in the backfill [658] of the construction cut [659] residual sherds of late medieval jugs made in CBW and Cheam whiteware (CHEA), besides a sherd of London-area early post-medieval redware. Truncating the latter was drain cut [657] and in its fill [656] was a sherd of a LONS jug, dated to the 18th-19th century. Later in the sequence the made ground layer contained residual sherds of medieval (CBW, MG, NEOT and SSW) and post-medieval (BORDG) pottery. This was in turn truncated by a brick drain [670] whose back fill [669] contained sherds of medieval CBW and NEOT. The drain was sealed by a concrete slab [662] that had two sherds of pottery associated with it, the latest being a sherd of c. 1820-1900 dated yellow ware (YELL). Sealing the latter was a layer

of made ground [654] which produced sherds of 19th-century pottery: ENGS, PEAR TR and refined white earthenware with slip decoration (REFW SLIP), besides a PMR flower pot. Truncating the latter the service trench [653] contained sherds of a tea cup made in pale green dyed-bodied refined earthenware (DYE), dated from c. 1820. A sherd of the latter vessel was recovered from the overlying topsoil [650].

Significance of the Collection

The pottery has significance at a local level and the assemblage largely follows the ceramic profile for London. The pottery also reflects activity on Thorney Island and specifically that associated with Westminster Abbey and its environs dating from the middle Saxon and early medieval periods through to the 19th century. The pottery is most likely to have been derived from a source on site or in close proximity to the study area. Comparable assemblages have been excavated nearby (Goffin 1995; Murray 2003; Stephenson and Pearce 2006; Jarrett 2013; 2015).

The occurrence of Middle Saxon pottery in the assemblage, albeit residual, is important for supporting the evidence of a postulated minster located at Westminster. Pottery of this date has been recovered from the dorter undercroft (Blackmore 1995), Dean's Yard (Jarrett 2015) and The Cellarium (Jarrett 2013).

The late Saxon and early medieval pottery is of interest particularly that recorded from Phase 2, which almost certainly relates to St Dunstan's abbey, dating from c. 960 and before the establishment of Edward the Confessor's new abbey church consecrated in 1065. The relatively high quantity of St Neots ware in the assemblage is of interest as it is usually an uncommon find in London. The Phase 2 pottery is of significance for demonstrating activities associated with St Dunstan's religious house, while the pottery associated with Phase 4 relates more so to the activity associated with Edward the Confessor's abbey and its later history.

The pottery recovered from Phases 5-10 is in a largely fragmentary state and represents refuse derived mostly from the Westminster Abbey precinct that has been incorporated into the deposits and does not reflect activities associated with the study area. The pottery does add to a general understanding of what ceramics were marketed to the establishment and what they were used for.

Potential

The potential of the pottery is to date the features in which it was found in and to provide a sequence for them and a number of vessels would merit illustration or photographing. The Middle Saxon, Late Saxon and early medieval components of the assemblage are important for understanding the early ecclesiastical periods of activity represented on the site, prior to the rebuilding of the Abbey in 1065, as well as the period after this date.

Recommendations for Further Work

A pottery report is required for the publication of the site and it is recommended that eleven vessels are illustrated and one item is photographed to supplement the text.

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APPENDIX 6: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (four boxes). Most fragments are in a fairly good condition, indicating that they had not been subject to much redeposition or were deposited soon after breakage. Clay tobacco pipes occur in 48 contexts as mostly small sized groups (fewer than 30 fragments), except for three medium sized groups (30-100 fragments).

All the clay tobacco pipes (263 fragments, of which none are unstratified) were recorded in a database format and classified by Atkinson and Oswald's (1969) typology (AO) and 18th-century examples are according to Oswald's (1975) typology and prefixed OS. The material was catalogued according to Higgins (2017) and the pipes were coded by decoration and quantified by fragment count. The quality of finish, including the level of burnishing and the degree of milling of the rims (recorded in quarters) has been noted on 17th-century types. The tobacco pipes are discussed by their types and distribution.

The Clay Tobacco Pipes

The assemblage consists of 40 bowls, seven mouth parts and 216 stems. The date range of the bowl types in the assemblage covers the period from 1640-1910. The index for the milling of the 17th-century bowl rims is shown in Table 1 and the extent of burnishing and finishing for all of the bowl types are shown in Table 2.

Bowl type	Date Range	Damaged bowl	None	Quarter	Half	Three quarters	Full	Total
AO9	1640-1660		3	5				8
AO10	1640-1660	1		2		1	1	5
AO13	1660-1680	1	2	1		1		5
AO13V	1660-1680	1				1		2
AO15	1660-1680	1	1			1		3
AO18	1660-1680	4		1		1		6
AO20	1680-1710	2	1					3

Table 1: PSY12. index of milling on 17th century bowl types

Bowl Form	Date Range	Damaged bowls	Poor	Average	Good	Fine	Total
AO9	1640-1660		1	5	2		8

Bowl Form	Date Range	Damaged bowls	Poor	Average	Good	Fine	Total
AO10	1640-1660			4	1		5
AO13	1660-1680			4	1		5
AO13V	1660-1680		1	1			2
AO15	1660-1680	1		1	1		3
AO18	1660-1680			5	1		6
AO20	1680-1710			3			3
OS10	1700-1740	1					1
AO28	1820-1840	2					2
AO30	1840-1910			1			1

Table 2: PSY12. index of burnishing and finish on the bowl types

Bowl types

1640-1660

AO9: eight spurred angled bowls with rounded profiles and a quarter milling of the rim an average burnish/finish being the modal values for these criteria (see Tables 1 and 2). Single examples occurred in context [30], [35] and [89], while two examples were noted in deposit [209] and three bowls were found in context [31].

AO10: five heeled angled bowls with a rounded profile with variable milling of the rim, although most have a good finish. Single examples were present in context [35] and [597], while three bowls were noted in deposit [209].

1660-1680

AO13: five heeled angled bowls with rounded profiles and most have an average finish or burnish and the milling is variable. A single example was noted in context [89], while four bowls of this type occurred in deposit [30].

AO13V: two heeled angled bowls with pronounced rounded barrel-shaped profiles. Singular examples occurred in contexts [31] and [374].

AO15: three spurred angled bowls with rounded profiles. Two examples were found on context [31] and a single bowl was noted in deposit [217].

AO18: six heeled angled bowls with a straight-sided profile and most of the examples have a good finish, although several items have damaged rims and the extent of milling could not be accurately determined. A single example was noted in context [30] and two bowls came from deposit [89], while the three bowls noted in context [416] were all shorter variants.

1680-1710

AO20: one tall heeled angled bowl with a rounded profile. One example was found in context [672] while the two bowls noted in deposit [656] were in a damaged state.

1700-1740

OS10: a single heeled, upright bowl with a rounded front and straight back of this type was noted in context [398] and is initialled R R on the sides of the heel (SF 44). There are at least five pipe makers who could have made this bowl, although their exact location in London is not known (Oswald 1975, 144).

1820-1850

AO28: two spurred upright bowls with a rounded front and a straight back and both items are fragmentary. Both of the bowls are decorated. One item is plain, although it has a shield-type mark on each side of the spur (context [255], SF 44). The second bowl is maker marked:

J S: with an acorn and oak leaf border on the front (facing away from the smoker) of the bowl (Context [242], SF 43). There are numerous possible makers of this bowl, although a possible local pipe maker was James Swinyard, 1828-54, Westminster Road (Oswald 1975, 145).

1840-1910

AO30: one bowl without a heel or a spur and has leaf borders on the front and back of the bowl and made in a worn mould (context [7], SF 46).

Damaged bowls

There are four bowls that are too damaged to assign to a type although they are broadly dated to the 17th century and were found in contexts [89], [394], [551] and [555].

Mouth parts

The majority of the mouth parts were dated to the 17th century and have mostly a knife cut finish. The mouthparts were found in contexts [31] as two examples, while single items occurred in deposits [30], [35], [209] and [217]. Additionally, a moulded mouth part has red stained surfaces, possibly representing the wax the tip was dipped in, that once coated the item and it is dated to the late 19th century (context [669]).

Stems

The stems were broadly dated according to their thickness and more appropriately the size of the bores. There is nothing remarkable about the stems, which are all plain.

Distribution

Table 1 shows the distribution of the clay tobacco pipes, the number of fragments, the date range of the latest bowl type (context ED and LD), the types of bowls present, together with a spot date for each context clay tobacco pipes occur in, besides the cut number they were recovered from and the area of the excavation. Clay tobacco pipes occur in Phases 4-7 dated deposits.

Context	Fill of		No. of frags	No. of Size	Context		Bowl types (makers marks) etc	Spot date	
	Cut	Area			Phase	ED			LD
7		Eval.	-	2	S	1840	1910	x1 AO30 (SF 46), x1 stem	1840-1910
29		Eval.	-	1	S	1730	1910	x1 stem	1730-1910
30		Eval.	-	46	M	1660	1680	x1 AO9, x 4 AO13, x1 AO18, x1 mouthpart, x39 stems	1660-1680
31		Eval.	-	30	M	1660	1680	x3 AO9, x1 AO13V, x2 AO15, x2 mouthparts, x22 stems	1660-1680
35		Eval.	-	5	S	1640	1660	x1 AO9, x1 AO10, x1 mouthpart, x2 stems	c. 1660
39		Eval.	-	1	S	1580	1910	x1 stem	1580-1740
40		Eval.	-	1	S	1580	1910	x1 stem	1730-1910
46		Eval.	-	1	S	1580	1910	x1 stem	1730-1910
89		ME	10	13	S	1660	1680	x1 AO9, x1 AO13, x2 AO18, x 8 stems	1660-1680
92		ME	10	1	S	1580	1910	x1 stem	1580-1740
96	98	ME	9	1	S	1580	1910	x1 stem	1730-1910
99		ME	10	2	S	1580	1910	x2 stems	1730-1910
100		ME	10	1	S	1580	1910	x1 stem	1730-1910

Context	Fill of		Phase	No. of		Context		Bowl types (makers marks) etc	Spot date
	Cut	Area		frags	Size	ED	LD		
104	105	ME	10	3	S	1580	1910	x3 stems	1730-1910
116	117	ME	10	3	S	1580	1910	x3 stems	1730-1910
118	119	ME	10	3	S	1580	1910	x1 stem	1730-1910
138		ME	9	1	S	1580	1910	x1 stem	1580-1740
169		ME	7	3	S	1580	1910	x3 stems	1730-1910
175	176	ME	7	1	S	1580	1910	x1 stem	1730-1910
195	196	ME	9	2	S	1580	1910	x2 stems	1730-1910
198	199	ME	10	2	S	1580	1910	x2 stems	1730-1910
203	274	ME	4	2	S	1580	1910	x2 stems	1730-1910
209	94	ME	9	47	M	1610	1640	x2 AO9, x3 AO10, x1 mouthpart, x41 stems	1610-1640
217		ME	9	9	S	1580	1910	x7 stems,	1660-1680
221	98	ME	10	2	S	1580	1910	x2 stems	1730-1910
242		ME	10	5	S	1820	1850	x1 AO28 (J S: SF 43), x4 stems	1820-1850
255	269	ME	9	3	S	1820	1850	x1 AO28 (SF 44), x2 stems	1820-1850
372		Tr. 10-13	10	7	S	1580	1910	x7 stems	18th century
374		Tr. 10-13	8	3	S	1660	1680	x1 AO13V, x2 stems	1660-1680
394	396	Tr. 10-13	10	8	S	1580	1910	x7 stems	1730-1910
398	399	Tr. 10-13	9	2	S	1700	1740	x1 OS10 (R R: SF 45), x1 stem	1700-1740
416	451	Tr. 10-13	9	18	S	1660	1680	x3 AO18, x15 stems	1660-1680
551		ME	9	1	S	1680	1710	x1 unid. bowl	1680-1710
555	625	ME	9	3	S	1580	1910	x1 unid. bowl, x2 stems	1580-1740
564		ME	9	1	S	1580	1910	x1 stem	1730-1910
567	566	ME	9	1	S	1580	1910	x1 stem	18th century
568		ME	9	2	S	1580	1910	x2 stems	1730-1910
575		Tr. 17	10	1	S	1580	1910	x1 stem	1580-1740
597	604	Tr. 10-13	4	1	S	1610	1640	x1 AO10	1610-1640
650		Tr. 100	10	1	S	1580	1910	x1 stem	1580-1740
651		Tr. 100	10	2	S	1580	1910	x2 stems	1730-1910
654		Tr. 100	10	2	S	1580	1910	x2 stems	1730-1910
656	657	Tr. 100	10	2	S	1680	1710	x2 AO20	1680-1710
658	659	Tr. 100	10	4	S	1580	1910	x4 stems	1730-1910
669	668	Tr. 100	10	4	S	1580	1910	x1 mouthpart, x3 stems	Late 19th century
672		Tr. 100	10	2	S	1680	1710	x1 stem	1680-1710
697		Tr. 100	10	7	S	1580	1910	x7 stems	1580-1740

Table 3: PSY12. Distribution of clay tobacco pipes. A spot date of 1580-1910 indicates that only stems or nibs were the broadly datable items in the context. ME: Main excavation area; Tr.: Trench; Eval.: evaluation phase

Significance of the collection

The clay tobacco pipes have a little significance at a local level. The forms present are typical for the London area, however very few of the bowls (10%) are maker marked or decorated. Other assemblages of clay tobacco pipes have been recovered from recent excavations within the precinct of Westminster Abbey (Jarrett 2013; 2015; 2017) that allow for comparisons with this assemblage.

Potential

The clay tobacco pipes have the potential to date the contexts they were found in. None of the material merits illustration. Some of the clay tobacco pipes may have been the possessions of labourers working on past building work in Poets' Corner Yard.

Recommendations for Further Work

A short publication report is recommended on the clay tobacco pipes.

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APPENDIX 7: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of glass was recovered from the site (four boxes). The glass dates to the Roman or Saxon, medieval-early post-medieval and post-medieval periods. Most of the fragments show no or little evidence for abrasion and were probably deposited fairly rapidly after breakage. A notable quantity of the glass fragments do have natural weathering deposits resulting from being buried. All of the glass is in a fragmentary state. A fairly high incidence of identifiable forms is present. The glass was quantified by the number of fragments and where possible the estimated number of vessels and this was recovered from 46 contexts and individual deposits produced mostly small groups (fewer than 30 shards), although one medium sized group (31-100 fragments) is recorded.

All of the glass (180 fragments, representing 117 vessels or items and weighing 1.179kg, of which one fragment (8g) are unstratified) was recorded in a database format, by type, colour and form. The assemblage is discussed by period, the vessel shapes, *etc.* and its distribution.

The Glass

The assemblage can be dated to the following periods:

Roman/Saxon: 1 fragment, 1 ENV, 1g

Medieval/early post-medieval: 15 fragments, 14 ENV, 51g

Post-medieval: 164 fragments, 102 ENV, 1.127kg

Roman/Saxon

Bowl: 1 fragment, 1 ENV, 1g

A thickened, fire-flashed rim (120mm in diameter) with an everted neck and a rounded wall made in clear soda glass was found in context [31]

Medieval/early post-medieval

Drinking bowl: 1 fragment, 1 ENV, 2g

Vessel: 1 fragment, 1 ENV, 3g

Window glass: 8 fragments, 8 ENV, 29g

Window quarry: 5 fragments, 4 ENV, 17g

Drinking bowl

The vessel survives as a free-blown rounded rim (70mm in diameter) made in clear natural glass, which is heavily weathered. Context [446]

Vessel glass

The item occurs in weathered clear natural glass and survives as a curving wall fragment. Context [68]

Window glass

The fragments of window glass are usually heavily weathered with a crystalline core and made in clear soda glass and were found in contexts [7], [106], [195], [398], [401] and [568]. The example found in context [398] is possibly painted, which appears red. Additionally context [7] produced a ruby red coloured fragment of heavily weathered window glass.

Window quarries

Fragments of these items, like the window glass fragments above, were all highly weathered with white crystalline cores and made of mainly clear soda glass and were all found in context [568]. Three fragmentary triangular quarries could be identified.

Post-medieval

The forms (and their quantification) recorded in the post-medieval glass is as follows:

Bottle, sauce: sauce: 1 fragment, 1 ENV, 98g

Bottle, cylindrical: 2 fragments, 2 ENV, 29g

Bottle, oval-section: 2 fragments, 1 ENV, 94g

English wine bottle: 11 fragments, 10 ENV, 102g

English wine bottle, cylindrical-section: 2 fragments, 2 ENV, 31g

English wine bottle, cylindrical, late type: 1 fragment, 1 ENV, 252g

English wine bottle, shaft and globe type: 7 fragments, 1 ENV, 71g

Goblet/wine glass: 1 fragment, 1 ENV, 8g

Vessel glass: 5 fragments, 5 ENV, 15g

Window glass: 123 fragments, 69 ENV, 401g

Window quarry: 9 fragments, 9 ENV, 26g

Bottles

Sauce bottle

The base of a moulded cylindrical-section bottle made in pale blue green soda glass has embossed 'LEA & [PERRINS]' on the wall and the glass makers 'A C R Co' on the underside of the concave base. Lea & Perrin's Worcester sauce was sold from the 1830s. The item was found in context [7].

Cylindrical section bottles

The two examples of this bottle type were both found in context [322] and made in soda glass. One item survives only as a curving wall fragment made in green tinted glass and was broadly dated to the 18th-19th century. The second example survives as a moulded base with a concave underside and a splayed exterior. The wall has faint printed writing in a probable square pattern and survives as '... SCREWDRIVER /WAT... SHAKE AND POUR INTO .../...INNNING FOR AT LEAST 15.../ ... RELIEVE CYLIND.../ COOLING SYSTEM SHOULD BE CLEANED .../'. The item is dated to the 20th century.

Oval-section bottle

The moulded bottle made in green-tinted soda glass survives as a base with an oval recessed underside and it is dated to after 1810.

English wine bottles

This category consisted of fragmentary vessels that could not be assigned to specific shapes. These are free-blown items made in mostly olive green soda glass and dated to the mid 17th - mid 18th century and were found in contexts [7], [96], [221], [255], [398] and [656]. Other

free-blown wine bottle fragments were made in high-lime low-alkali (HLLA) glass and often occur in dark olive green colours and these were found in contexts [7], [255], [279], [393], [655] and [682] and are mostly dated to the 18th-19th century.

English wine bottle, shaft and globe type

This free-blown form is dated c. 1640-1680 and made in olive green soda glass and survives as neck and body fragments found in context [416].

English wine bottle, cylindrical-type

The form is dated from c. 1740 and the item survives as a wall fragment made in dark olive green HLLA glass and was found in context [682].

English wine bottle, cylindrical, late-type

This moulded form dates from c. 1810 and survives as a base with a concave underside and a straight-sided wall made in dark olive green HLLA glass and was found in context [364].

Goblet/wine glass

The single vessel of this type was made in free-blown clear lead glass and survives as a funnel-shaped bowl and a merese. The item is dated to the 16th-17th century and was unstratified.

Vessel glass

Part of a base and cylindrical wall in weathered and very iridescent clear soda glass was broadly dated to the post-medieval period and may have been derived from a bottle (context [197]). Other broadly dated post-medieval fragments were found in contexts [30] and [100], both of which were made in pale olive green soda glass. Manufactured in pale green soda glass is a heavily weathered moulded disc or raspberry prunt (SF 7) that would have been attached to a drinking vessel. The item was dated to the 16th-17th century, represents a prestigious item and was found in context [217]. A thin walled, curving fragment made in clear soda glass was dated to the 18th-19th century and occurred in context [96].

Window Glass

This is the most frequent category in the glass assemblage and was often difficult to assign a date to and a manufacturing technique owing to its fragmentary nature. The majority of the window glass was made in clear soda glass. Plate glass was noted in context [242], while shards of cast glass came from context [398] and [651]. A fragment of machine-made glass with one surface having fine ribbing was found in context [242] and was dated to the late 19th-20th century. Otherwise the rest of the window glass was plain and undecorated. The window glass was often the only glass finds to occur in a context and its distribution is shown in Table 1.

Window quarries

These items were all made in clear soda glass. Fragments of diamond-shaped quarries were noted in deposits [5], [271], [279] and [379] and triangular quarries were noted in contexts [372] (as two examples) and [664]. All of the fragments appear to be plain.

Distribution

The glass assemblage was recovered from Phases 4, 7, 9 and 10 and its distribution is shown in Table 1. A summary of the distribution of the more important glassware items is as follows.

Phase 4

The upper fill [311] of the charnel pit [312] contained the bowl dated to the Roman or Saxon period. Four individual medieval-early post-medieval dated window quarries were recovered from the levelling layer [586]. Fragments of 18th/19th-century dated window glass were found in fill [203] of grave [274] and the demolition layer [265].

Phase 7

Fill [446] of a possible grave [447] produced the drinking bowl dated to the medieval to early post-medieval period.

Phase 9

The deposits in this phase mostly produced fragments of post-medieval window glass or wine bottles and the most datable item was a shaft and globe English wine bottle found in fill [416]

of the cesspit/soakaway [451]. Medieval-early post-medieval dated window glass was the only finds of this type found in fill [195] of pit [196] and the bedding layer [568] for surface [565].

Context Description	Fill of cut	Trench	Phase	Size	No. of frags	ENV	Wt (g)	Forms	Spot date	
5		Eval.	-	S	1	1	4	window quarry	19th-20th century	
7		Eval.	-	S	12	11	150	English wine bottle, sauce bottle, window glass	1835-1900	
30		Eval.	-	S	1	1	9	Vessel glass	Post-medieval	
39		Eval.	-	S	2	2	1	Window glass	Post-medieval	
40		Eval.	-	S	2	2	1	Window glass	Post-medieval	
41		Eval.	-	S	1	1	1	Window glass	Post-medieval	
68		Eval.	-	S	1	1	3	Vessel glass	Medieval-early post-medieval	
96	Fill of construction cut	98	ME	9	S	5	5	6	English wine bottle, vessel glass, window glass	Mid 17th - mid 18th century
100	Levelling layer		ME	10	S	1	1	2	vessel glass	Post-medieval
101	Backfill of construction cut	102	ME	10	S	2	2	5	window glass	18th-19th century
106	Fill of pit	107	ME	10	S	1	1	13	window glass	Medieval-early post-medieval
112	Backfill of the construction cut for 19th century lightwell [448]	113	ME	10	S	1	1	1	window glass	18th-19th century
116	Fill of pit	117	ME	10	S	1	1	1	window glass	Post-medieval
195	Fill of pit	196	ME	9	S	1	1	3	window glass	Medieval-early post-medieval
197	Fill of posthole	202	ME	9	S	1	1	2	vessel glass	Post-medieval
203	Fill of grave	274	ME	4	S	1	1	3	window glass	18th-19th century
217	Layer of burnt material		ME	9	S	9	4	2	vessel glass, window glass	16th-17th century
221	Deposit filling the interior of culvert	98	ME	10	M	40	4	26	English wine bottle, window glass	18th-19th century
242	Occupation layer		ME	10	S	9	7	54	window glass	1850+
245	Masons' working surface		ME	9	S	2	2	2	window glass	Post-medieval
255	Fill of pit	269	ME	9	S	13	9	23	English wine bottle	18th-19th century

Context Description	Fill of cut	Trench	Phase	Size		No. of		Wt (g)	Forms	Spot date
						frags	ENV			
258	Fill of pit	262	ME	10	S	5	3	141	window glass	18th-19th century
265	Demolition layer.		ME	4	S	1	1	3	window glass	18th-19th century
271	Primary fill of pit	262	ME	9	S	3	2	11	window glass	18th-19th century
279	Fill of pit	280	ME	10	S	5	5	19	English wine bottle, window quarry	Mid 18th-19th century
281	fill of robber cut	288	ME	9	S	1	1	1	window glass	Post-medieval
311	Upper fill of charnel pit	312	ME	4	S	1	1	1	bowl	Roman/Saxon
364	Fill of construction cut	365	ME	10	S	1	1	252	English wine bottle, cylindrical, late	1810+
366	Fill of pit	300	ME	9	S	2	1	6	window glass	18th-19th century
372	Demolition layer		ME	10	S	15	13	95	bottle, cylindrical, window quarry	20th century
393	Dark brown land reclamation layer		ME	10	S	1	1	11	English wine bottle	18th-19th century
398	Fill of pit	399	Tr. 10-13	9	S	3	3	29	English wine bottle, window glass	Mid 17th - mid 18th century
401	Dumped deposit.		Tr. 10-13	9	S	2	2	4	window glass	19th century
413	Concrete foundation for a brick culvert.	414	Tr. 10-13	10	S	2	2	2	window glass	19th century
416	Fill of cesspit/soakaway	451	Tr. 10-13	9	S	7	1	71	English wine bottle, shaft and globe	1640-1680
446	Fill of a possible grave	447	Tr. 10-13	7	S	1	1	2	drinking bowl	Medieval-early post-medieval
551	Made ground.		ME	9	S	2	2	8	window glass	18th-19th century
568	Bedding layer for surface [565]		ME	9	S	2	2	2	window glass	Medieval-early post-medieval
586	Levelling layer		Tr. 10-13	4	S	5	4	17	window quarry	Medieval-early post-medieval
651	Bedding layer for cobbled surface		100	10	S	1	1	20	window glass	19th-20th century
654	Made ground		100	10	S	1	1	1	window glass	Post-medieval
655	Bedding layer under cobbled		100	10	S	4	3	13	English wine bottle, window	18th-19th century

Context Description	Fill of cut	Trench	Phase	Size	No. of frags	ENV	Wt (g)	Forms	Spot date	
656	Backfill of drain cut	657	100	10	S	1	1	23	glass English wine bottle	Mid 17th - mid 18th century
664	Modern concrete kerb	665	100	10	S	1	1	1	window quarry	Post-medieval
669	Backfill in drainage cut	668	100	10	S	2	1	94	bottle, oval-section	1810-1900
682	Fill of drain	683	100	10	S	3	3	32	English wine bottle, cylindrical, window glass	1740-1900

Table 1: PSY12. Distribution of the glass. ME: Main excavation area; Tr.: Trench; Eval.: evaluation phase, S: small, M: Medium (sized assemblages)

Phase 10

The deposits in Phase 10 are similar to that of Phase 9 in that the contexts produced mostly window glass and the occasional fragment of wine bottle. Medieval-early post-medieval window glass was noted in fill [106] of pit [107]. Moulded 19th-century bottles were noted in contexts [364] and [669], while a late cylindrical wine bottle was present in the former context. The demolition layer [372] produced 20th-century window glass as the latest item amongst material with mixed dates.

Significance and Potential of the Collection and Recommendations for Further Work

The glass has some significance at a local level. The Roman/Saxon bowl found in [311] relates to either Roman activity on the area of Thorney Island or the Middle Saxon Minster or the Late Saxon abbey of St Dunstan. The medieval-early post-medieval drinking bowl (context [446]) adds to an understanding of the material culture of Westminster Abbey. The window glass and quarries complements the knowledge on the architecture of Westminster Abbey. An important group of window glass was recovered from the dorter undercroft of Westminster Abbey (Mortimer and Shepherd 1995).

The potential of the glass is to date the features it occurs in. The medieval glass has a small number of items that merit discussion and inform upon activities within Westminster Abbey.

A short publication report is recommended on the glass. Two glass items require illustration to supplement the publication text.

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APPENDIX 8: CERAMIC BUILDING MATERIAL ASSESSMENT

Kevin Hayward

Introduction and Aims

Fourteen palettes and three shoe boxes of ceramic building material were retained from excavation from the multi-period site at Poets' Corner Yard Westminster Abbey (PSY12). This large sized assemblage (1488 examples 276.7kg) was assessed to:

- Identify (under binocular microscope) the fabric and forms of ceramic building material.
- A phase summary relating the fabric and form of the different ceramic building materials with the separate periods of Roman, early medieval, late medieval and post-medieval activity at the site.
- The compilation of a ceramic building material catalogue relating to the excavation (PSY12.cbm.mdb) which accompanies this assessment.
- Spot dates of all contexts with building material (combined with stone).
- A separate report (Appendix 9) and catalogue (PSY12 stone. mdb) on the Roman, Saxon, medieval and post-medieval stone accompanies this document.
- Make comparison with the character and form of the ceramic building material assemblage from the adjoining site of the Cellarium (Hayward 2013; in prep.) and Song School (Hayward 2016).
- Made recommendations for further study and identify any interesting or unusual pieces that warrant retention, analysis and illustration.

Methodology

All the recording and analysis was done in-house. All the retained ceramic building material was examined using the London system of classification with a fabric number allocated to each object.

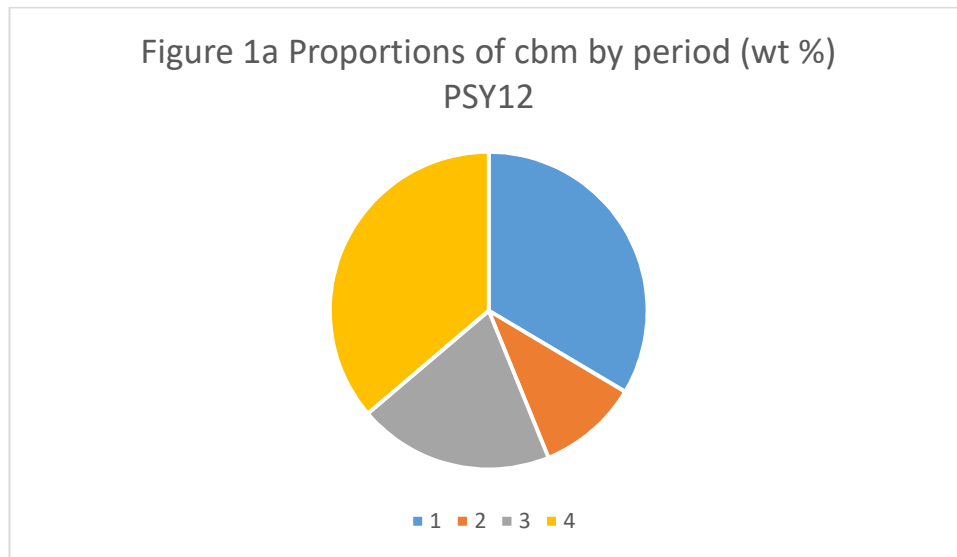
In accordance with Pre-Construct Archaeology sampling guidelines for archaeologically excavated walls, two whole bricks and mortar were retained for further analysis.

The application of a 1kg mason's hammer and sharp chisel to each example ensured that a fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long

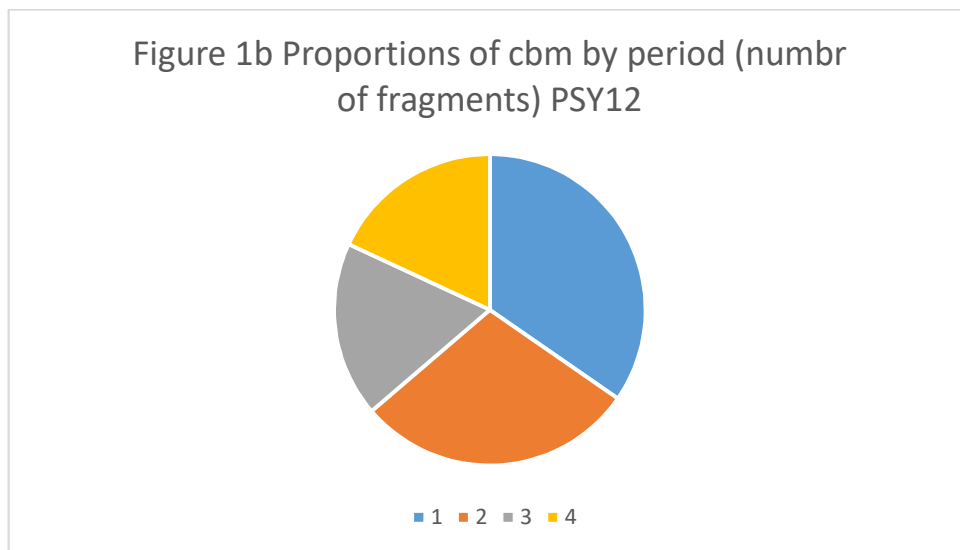
arm stereomicroscope or hand lens (Gowland x10). Matches then were made with the London fabric collection.

Ceramic Building Material

Examples of Roman, medieval, post-medieval and early modern ceramic building materials are all represented reflecting the longevity of occupation at this important site. The proportions of ceramic building material by period are summarised in Figure 1a (weight %) and Figure 1b (number of fragments).



1= Roman (33%) 2= Medieval (10.3%) 3= Early Post-medieval (1450-1650) (19.9%) 4= Late Post-medieval (1650-1950) (36.3%)



1= Roman (34.6%) 2= Medieval (29.1%) 3= Early Post-medieval (1450-1600) (18.2%) 4= Late Post-medieval (1650-1950) (18.1%)

By weight (Figure 1a) the bias towards very large quantities of post-medieval material (56.2%) can easily be explained by the retention of large whole bricks, with the very low medieval component (10%) containing just fragments of peg and floor tile. However, Roman is well represented, comprising over a third of the material.

Perhaps a more reliable yardstick is the number of fragments per period (Figure 1b). Residual Roman material is still a third, but the medieval now is also approaching a third which is more in keeping with the major Henry III building works (also seen by the stone assemblage) revealed by the Poets' Corner Yard excavations such as the Lady Chapel, church and chapter house in the second half of the 13th century. By contrast, just over a third is post-medieval.

Please refer to Table 7 for a description and distribution of the mortar types from each period.

Roman (including daub; mortar; opus signinum) 516 examples 93.1kg

Size

Proportionally (34%), by weight and number of fragments the Roman ceramic building material (all periods) from Poets' Corner Yard is very high. This observation concurs with quantities from other parts of Westminster Abbey including the Dorter Undercroft excavations (99.3kg) (Goffin & Crowley 1995, table 6) and Deans Yard (9kg) (Hayward 2015), all showing just how much Roman material, relatively speaking, lies beneath Westminster Abbey. It is also much higher than the figures from the Song School (15%) (Hayward 2016).

There is a surprisingly high quantity of hard mortar (*opus caementatum*) and waterproof pink *opus signinum* (62 examples 10.8kg) although it is possible that this is medieval concrete raft material.

Tile Fabrics

The Roman fabrics are listed below. (Table 1).

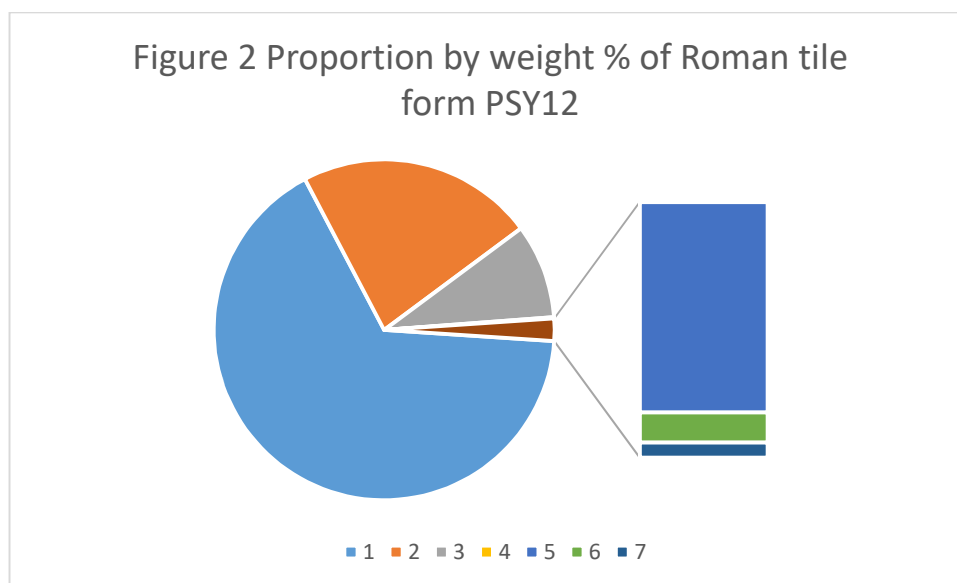
Fabric	Kiln Source	Date Range	Weight	%
2815 Early Sandy Group 2452; 2459a; 3006	Tileries between London and St Albans along Watling Street	50-160	58kg 355 examples	73.3

Fabric	Kiln Source	Date Range	Weight	%
2459b; 2459c Late Sandy Group	London or Essex	120-250	7.5kg 11 examples	9.5%
2454 Eccles Group	North-West Kent - River Medway	50-80	5.9kg 33 examples	7.5%
3060 Radlett Group	Radlett - Hertfordshire	50-120	0.5kg 6 examples	0.6%
Weald Silt Group 3238	Weald area south of London	60-350	0.9kg 8 examples	1.1%
Hartfield Group 3009	Hartfield East Sussex	100-120	0.5kg 3 examples	0.6%
Calcareous Group; 2453; 3013	Coastal southern or south-east England	140-250	0.3kg 4 examples	0.4%
West Sussex Grog 3054	West Sussex	70-140	5.4kg 24 examples	6.8%
Other Chimney Fabric 2459nr3006	Unknown	50-400	<0.1kg 1 example	0.1%

Table 1: List of Roman fabrics from the Poets' Corner Yard Excavations at Westminster Abbey

The early 2815 sandy group (AD 50-160) was by far the most common fabric type. However, what was unexpected were the high proportion of other early fabric groups such as cream-yellow Eccles 2454 (AD 50-80) (7.5%) and the Hampshire Grog 3054 (AD 70-140) (6.8%). These findings are in keeping where nearly a quarter of the assemblage by weight is represented (and all brick). As with the Cellarium (Hayward 2013) and the Song School (Hayward 2016) there was a dearth of late Roman fabrics, suggesting that the consolidated deposits/building materials at Westminster (if salvaged) derived from early buildings in *Londinium* or the immediate surroundings at Westminster.

Form



1= Brick 2= Flat tile undifferentiated 3= tegulae 4= imbrex 5= Box Flue 6= Tegulae Mammata
7= Chimney

By form (See Figure 2), there is preponderance of flattened element; flattened tile and brick (87% combined by weight) from Poets' Corner Yard. Equally revealing is the near total absence of curved imbrex (just one example) and dearth of flanged tegulae forms (8.7% by weight) and absence of small cubed ceramic tesserae. These numbers are in keeping with the findings from the Cellarium (Hayward 2013) and Song School (Hayward 2016). This marked skew towards flat, regular rectangular elements would indicate that this group were selected from stockpiles of Roman building material from *Londinium* or from a public or private building(s) closer to hand. These could either have been reused as construction material, perhaps for the earliest "red" stone Saxon church on the Island or merely as consolidation material on to which the earliest churches were built.

Although most are in a fragmentary state, there are two rare complete examples of *pedalis* and *bessalis* brick and a near complete box flue tile (see below)

Brick 190 examples 53.2kg

These form by far the most frequent and largest elements of the Roman building material at Poets' Corner Yard (66.2%). Present throughout the sequence, they also concentrate in clusters. These are from a Phase 2 land reclamation [401], Phase 3 layer associated with the earliest stone building [703], Phase 4 monastic burials layers [702] [715], the Phase 6 backfill construction cut of the mid-13th-century ambulatory for Henry III's church [370] and even in a Phase 10 brick and concrete footing for a culvert [413].

Two complete bricks are present, one a thin *pedalis* sized (290mm x 290mm x 32mm) form from a Phase 2 reclamation layer [401] made from a later Roman sandy brick 2459b and a smaller *bessalis* reused in a Phase 10 brick and concrete footing for a culvert [413]. There are also large brick fragments made from the very early cream yellow 2454 (AD 50-80) such as the features from Phase 3 [703]. Other items of interest include a brick with a tally mark from the same feature. Most of the bricks thicknesses are like the examples from the Song School *bessalis* sized (27-32mm). The thickness of some of these fragments, e.g. 48-57mm, would indicate that some at least derive from *Lydian* or *Pedalis* sized bricks.

Flat Tile 186 examples 18.1kg

Second only to the brick (by weight) are numerous examples of small broken up flat tile elements (22.5% by weight) that most likely represent the purposeful selective capping of flanged tegulae. With only a handful of flanged roofing elements identified from these excavations present (see below), selective stockpiling and use of flatter examples of Roman ceramic building material for the consolidation dumps and possible construction material of the earlier Saxon church at Westminster is inferred.

Roofing elements 37 examples 7.4kg

A dearth of flanged and curved roofing elements from these excavations, merely reinforces the likelihood that there was selective stockpiling, fashioning and use of rectangular flat elements on the island either as consolidation dumps or in the first abbey stone church.

Tegulae 36 examples 7.2kg

Most of the fragmentary tegulae (8.7% by weight) are defined by large flat topped straight sided profile (type 1), in the 2815 fabric, a profile usually associated with early forms. The exception to this is a much smaller curved flange profile (type 26) in a later Roman fabric 2459b (AD 120-250).

Perhaps of greatest interest lies with their distribution. Two discrete clusters were identified. One is associated with Trenches 10-13 in the Phase 4 monastic burial ground [557] [563] [586] [587] [590] and the earlier Phase 2 consolidation layer [595]. A second relates to their presence or redistribution in Phase 9 and Phase 10 features in Trench 100 [658] [669] [681] [682] [695] [699]. It seems probable that they too came from the underlying consolidation layer, given their presence in the Phase 3 layer [703].

The most likely explanation for their concentration in the Phase 4 burial ground, relates to the selective stockpiling (and therefore removal) of the Roman brick for use as foundation material for the construction of Henry III's Chapel, Church and Chapter House.

Imbrex 1 example 0.2kg

It is interesting to note that the sole example of a curved imbrex from these excavations again from a Phase 3 layer [703] is made of a very rare late, red dusted calcareous fabric 2453 (AD 140-300), for which there are just two examples from the site. It therefore stands out as an anomaly by its fabric and form and is therefore atypical of the assemblage.

Box Flue Tile 12 examples 1.4kg

Small quantities of residual cavity walling material always form a background component to the Roman ceramic building material assemblage from excavations beneath Westminster Abbey (Hayward 2013; 2016). The assemblage from Poets' Corner Yard (1.7% by weight kg) is in keeping with this.

Three items stand out. First, a large piece of combed wall-jacketing recovered from an unstratified context, with complete length of 150mm x 40mm x 17mm thick in an early Radlett fabric 3023 (AD 50-120). Second, a small group of jacketing consisting of very thin (13mm) medium-combed box flue tile with coarse moulding sand in a 2815 fabric from a Phase 10 feature [669]. These forms are usually indicative of early box flue tiles (cf Pringle 2005; 2006). Finally, an example of worn roller stamped box flue design yet to be identified from a layer in the Phase 4 monastic burials [715] from Trench 100.

As with the tegulae many of the box flue tile seem to cluster in the Phase 9 and 10 layers from Trench 100

Tegulae Mammatae 1 example 0.2kg

A fragment of a rare early brick, fabric 2454 (AD 50-80) with small lumps of compacted earth or *mammae* would have probably been used as wall tile in a bath-house or heated room. The example comes from a Phase 6 backfill construction cut of the mid-13th-century ambulatory for Henry III's church [370]

Chimney element 1 example 64g

Fabric 2459anr 3006

It is not clear whether part of a wheel thrown and small finger pressed item of ceramic building material, almost certainly a chimney from [726] is Roman or medieval in date. The fabric, comparable to examples from the 2815 group would suggest that it is Roman.

Opus signinum 3104 32 examples 5.8kg

Remnants of hard pink Roman concrete (mortar type H Song School; Type 6 in Poets' Corner) were found attached to some Roman brick or as large individual lumps such as [285] [563] [699]. Again, many of these are found in Phase 2 reclamation layers [313] and Phase 3 [703] with again another big group associated with the Phase 4 monastic burial ground [285] [303] [311] [715]. Given their association with Roman brick it seems likely that most of these are residual dumped examples of *opus signinum* from the reclamation layers. Some caution is required though, a different softer pink mortar such as a sub-type found in a mortar surface associated with a grave [563], may in fact be one of the Saxo-Norman recipes that are occasionally identified from Westminster Abbey (e.g. Cellarium - Hayward 2013)

Opus caementatum 3101 30 examples 4.2kg

There are quantities of a hard-cemented gravel mortar identified from Roman Phase 2 foundation layers [313] [393], the subsequent Phase 3 layer [703] and especially from a group associated with the Phase 4 monastic burial ground [417] [478] [490] [492] [537] [587] [715]. As these pre-dates the concrete raft for Henry III's Church, Lady Chapel and Chapter House these must be residual Roman *opus caementatum* rather than this later proto medieval concrete.

Daub 3102 21 examples 2.3kg

It is not clear whether some small lumps of orange daub are medieval or Roman in date. A majority require no further comment, as with the Cellarium and the Song School, these chunks are widely dispersed throughout the sequence.

The origin of a large quantity of daub (1kg) recovered from an early Phase 3 layer [703] is of more than a passing interest. It is possible that these could be the remains of a timber lined wattle and daub structure, possibly forming the superstructure of the earliest Saxo-Norman stone structure from the site. Some of the daub certainly is Roman in date as it has quantities of *opus signinum* attached as with examples from [551] and [740].

Medieval 433 examples 28.6kg

As with the excavations from the Song School (Hayward 2016) the medieval assemblage (by weight) at the Song School is by floor tile (55.2% by weight) with roofing and coursing tile (peg tile, curved tile) (43%) on the other hand of secondary importance. The medieval walls and foundations, (from Phases 5 and 6) (Table 2) are instead constructed out of stone rubble, reused ashlar and mouldings and where present, bonded in a hard-concretionary shelly mortar or in the case of [233] relict *opus signinum* mortar.

Context	Fabric	Type	Suffix	Mortar	Phase	Structure
233	3106; 3104	OPSIG; 3106		Yes	6	Reused Hassock stone block and relict in coarse opus signinum from lime concrete raft of Transept
700	3101 Type 2/3	M		Yes	4	Tufa Ashlar and Reigate stone and shelly mortar
706	3101 Type 2/3	M		Yes	6	Concrete mortar raft for Henry III Church
734	3101 Type 2/3 3105 and 3107	M; S ASH; S RUBB		Yes	6	Concrete mortar raft for Henry III Church; Reigate ashlar, Kentish ragstone rubble
735	3101 Type 2/3; 3117; 3107	M; S RUBB		Yes	6	Concrete mortar raft for Henry III Church; Reigate stone and flint rubble
736	3101 Type 2/3; 3105; 3107	M; S RUBB		Yes	6	Concrete mortar raft for Henry III Church; Reigate stone and flint rubble

Table 2: Phases 5-6 medieval walls with retained building stone Poets' Corner Yard PSY12

Roofing and Coursing Materials 199 examples 10.6kg

With just one example of stone roofing material recovered (see Appendix 9) some of the medieval material used to roof this part of Westminster was covered by glazed ceramic tile as well of course as the documented use of lead.

Quantities encompass the standard nailed flat peg tile, and curved tile (some of which may be bat or shouldered tile).

Curved Tile 2271 (1180-1450) 3 examples 352g

3216 (1200-1800); 2272; 2273 (1135-122)

The small quantity (0.3% by weight) of curved tile recovered from the backfill of a construction cut of a Phase 9 lightwell [112], the backfill of robber cut [289] and the Phase 4 backfill of a grave [290] deserves some mention not least because of the early date of the fabric 2272 2273 (1135-1220) but also with a parallel from the Cellarium (Hayward 2013). The example from [289] is a low angled curved roofing tile with white slip which finds parallels with similar tiles from a medieval mortar fill of a robber cut [432]. The latter had traces of red paint and was therefore clearly meant to be seen. One possibility was that it formed a low roofed decorative element.

Peg Tile 196 examples 10.2kg

Sandy Fabrics 2271 (1180-1450) 112 examples 5.6kg

2271nr 2272; 2272 [1135-1220] 7 examples 0.3kg

Iron Oxide Fabrics 2586 (1180-1500) 32 examples 2.2kg 2587 (1240-1450) 35 examples 1.5g

Organic Fabric 2274 (1080-1350) 9 examples 0.3kg

Unknown Fabric 3498 1 example 85g

Medieval peg tile defined by all or some of these features: splash glaze, a characteristic fabric type, an uneven often thin form with a prominent raised area or plug surrounding the nail hole and coarse moulding sand appear spread and often intermixed throughout the sequence. As with the floor tile (see below) there are notable concentrations in late post-medieval features (Phases 9 and 10). These include the Phase 10 fill [147] of E-W robber cut. [148] (60 examples) and bedding layer [655] (15 examples) with a large group from a late medieval burial ground feature [139] (20 examples). They begin to be identified albeit in very small quantities from the Phase 4 monastic burial ground features [203] [247] [257] [261] [285] [320] [370] [563] and not before. Given that the earliest peg tile fabric 2274 (1080-1350) is not present in Phase 3, supports the stratigraphic evidence that the early stone building from this phase is Saxo-Norman in date.

These roofing materials invariably had a soft light brown sandy lime mortar with chalk inclusions and occasional shell attached (T3 see Table 7).

Floor Tile 152 examples 13.8kg

There are a large group of 12th-15th-century plain glaze and decorated floor tile from the Poets' Corner Yard excavations. Although the same fabric groupings are represented as the Cellarium and the Song School (with the notable absence of the very fine Norman tile 3092), their proportions differ widely. A vast majority have turned up in late post-medieval features (Phases 9 and 10). With notable concentrations (over half of the assemblage - 76 examples) turning up in Phase 10 fills [147] [289] of E-W robber cut [148] and another group (16 examples) from the fill of a Phase 9 [416] soakaway or cess pit in Trenches 10-13. Occasional examples (especially the earlier Westminster Group) have been located in the Phase 4 monastic burial ground [203] [267] [290] [323] as well as Phase 6 [277] [320] features associated with the Phase 6 mid-13th-century construction of Henry III's Church and Chapter House including a charnel deposit [285] on the lower steps of a foundation raft. Because all the tile is ex-situ most is in a fragmentary or worn condition, making successful matches with particular designs (Eames 1980; Betts 2002) difficult. The exceptions are the small triangular and square "specials".

Early coarse glazed sandy fabric 2273 (1135-1220) 2 examples 0.2kg

Thick black glazed floor tile with a very coarse sandy fabric comparable with that of 12th to early 13th-century peg tile fabric 2273, attest to early flooring. These were identified in a Phase 4 [267] and 7 [571] burial features.

Westminster Floor Tile (1250-1310) 2199; 2851 2892; 3081; 42 examples 3.3kg

Locally produced late 13th to early 14th-century medieval decorated and plain glazed Westminster flooring tile are found dispersed throughout the sequence from Phase 4 onwards, but especially in later post-medieval features such as the Phase 9 [416] soakaway or cess pit in Trenches 10-13. Rather like the Song School (Hayward 2016) they are rather poorly represented when compared against the later Penn Tiles (1:3). By contrast in the Cellarium they form upwards of 80% of medieval floor tile (Hayward in prep.). Two designs have been picked out (Table 3). Most are made from the fine black and red iron oxide rich, micaceous 2892 fabric with a reduced core or the coarser sandy 2199 and occasionally the very fine sandy fabric 3081 [142] "fine clay group" of Betts (2011; 205-6; fig. 144). Plain glazed examples are typically yellow and black glazed and would have formed the alternative chequered borders of groups of design.

One green glazed small square (65mm x 45mm x 45mm) "special" from a Phase 10 feature in Trench 100 [677] provided the only intact example. Part of a small triangle "special" in the fine clay group came from a phase 4 feature in the monastic burial ground [285]

Design (Betts number)	Context	No.	Fabric	Description Design
W48	134 SF130	1	2894	Two inward facing triangles
To determine	147 SF126	1	2894	To check

Table 3: Westminster Tile Designs from Poets' Corner Yard

Penn Floor Tile (1350-1390) 1810; 1811; 2324; 2894; 3076 105 examples 10.1kg

Like the Song School, the floor tile assemblage at Poets' Corner Yard is dominated by mid to late 14th-century (1350-1390) Buckinghamshire Penn Tiles. Many still retain the crisp coloured yellow plain glaze over slip, although the range of designs is rather limited (Table 4). There were significant accumulations (70 examples) turning up in Phase 10 fills [147] [289] of E-W robber cut [148] and another group (8 examples) from the fill of a Phase 9 [416] soakaway or cess pit in Trenches 10-13. All are ex-situ with the earliest examples, apparently turning up in the late 13th-century Phase 6 Henry III construction of the Chapter House and Church [320], which is a little early for the production of Penn Tiles.

Occasional "specials" turn up especially a plain yellow glazed triangle in Phase 10 fill [289] of E-W robber cut [148].

Eames Design	Context	No.	Fabric	Description Design
To determine	147 SF 126	6	1810	Fleur de Lys design and one other

Table 4: Penn Tile Designs from Poets' Corner Yard

Flemish Calcareous Floor Tile (1380-1550)

1678 calcareous rich 2 examples 158g

As with the Cellarium (Hayward 2013) and Song School (Hayward 2016) excavations, there are merely a handful of thicker imported plain glazed Flemish calcareous floor tiles. Both examples came from the fill of a Phase 9 [416] soakaway or cess pit in Trenches 10-13.

Local sandy fabrics (1300-1600)

2194; 2504 2 examples 268g

Equally sparse are a small quantity of plain glazed floor tile made of local sandy fabrics (2194; 2504) that do not fit in with the Westminster Group. One example, probably intrusive, comes from the monastic burial group feature [290], the other reincorporated into the Phase 10 fill [147] of the E-W robber cut [148].

Brick 3030 (1400-1660) 1 example 0.2kg

A single glazed brick fragment, made from the brown late medieval fabric, possibly from a fireplace was recovered from a Phase 9 footing [138].

Mortar 3101 60 examples 3.4kg

The foundations for the Phase 6 Henry III [706] [734] [735] [736] concrete raft for the church and chapter house consisted of a hard, shelly lime gravel mortar (Type 2/3). These medieval white shell dominant type mortars have been shown elsewhere in London, e.g. 1070-1080 White Tower foundation and superstructure mortar (Impey 2008), to be extremely robust and resistant to weathering. The examples from the White Tower consist of numerous fragments of cockle and scallop shell with septarian nodules, fine gravel and sand with a hard lime cement.

A similar mortar was also identified in a Phase 4 structure from the monastic cemetery [700], immediately beneath the foundations in Trench 100. A similar type of recipe was also applied to the substructure of Henry VII's Lady Chapel [562] [507] (see below).

Post-Medieval 535 examples 153.9kg

Late Medieval -Early Post-Medieval - Transitional 271 examples 55.3kg

There was a sizeable group of ceramic building material associated with the Phase 8 Henry VII's Lady Chapel construction and foundations to shops on its south side structures as well as dumped Tudor/Elizabethan material revealed during these excavations. Ceramic building material from this phase is mainly characterised by the use of either a loose calf brown sandy lime mortar (Type 8) with the brick and a hard very pale cream white lime mortar with large bivalve shells (Type 2/3) for the foundations of Henry VII's Lady Chapel.

Floor Tile Silt 1977; 2318; 2320; 2850; 3063 (1450-1600) 14 examples 2.3kg

Calcareous 1678 (1400-1550) 1 example 0.2kg

Common worn plain -brown and black glazed Flemish silty floor tiles dating to the late medieval - Tudor period come in two sizes in Poets' Corner Yard. Most are relatively thick (27-32mm) forms that typify the period 1480 and 1550. However, there is one smaller, very thin 18-22mm tile, which is probably earlier (1450-1500). This and all these other examples were only recovered redeposited from later post-medieval layers in Phase 9 [209] [264] [379] [416] [568] and Phase 10 [99] [682] [686] [695].

Stove Tile 2308 1470-1650 1 example 72g

Rare for the British Isles, a fragment black-brown glazed stove tile with circular incision marks and a fabric with black organic micaceous was recovered reused in Phase 9 (17th to 18th century) Reigate stone foundation wall [138]. This was probably either a German or Dutch import. Stove tiles have been identified in Dissolution layers (Gaimster *et al.* 1988) throughout London.

Brick 97examples 35.1kg

3033; 3046 3065 (1450-1700)

3030 (1400-1660)

Red Tudor bricks (1450-1700) made of local sandy brickearth form part of the overall assemblage. A vast majority were found redeposited in the same late post-medieval layers as the medieval and early post-medieval floor tiles. There is also reuse of these bricks in some later Phase 9 structures [225]. Only two structures (see Table 5) both relating to a row of shops adjoining the Henry VII lady-chapel [403] [505] were found to contain red bricks, both pointed in a Type 8 calf brown mortar. Their width (4 ½ inches, 110-115mm) and depth (2 inches, 50mm) are in accordance typical dimensions for Henrician bricks (1520-1540).

Structure	Date	Mortar Type	Description
[91] Base of Stone Foundation	??	Type 19	Tufa ashlar pointed in a Type 19 mortar
[403] E-W Aligned Brick Footing Part of a Row Shops Adjoining Lady Chapel	1500-1550	Type 8	Red Henrician sized wide and shallow 4 1/2 x 2-

Structure	Date	Mortar Type	Description
			inch brick
[440] Stepped Footing of Chapter House	1250-1550	Type 3	Reigate blocks with T3 shelly mortar
[505] Truncated Brick Foundation Part of Footing Probably [403]	1500-1550	Type 8 seen in situ	Tudor bricks only observed in situ
[507] Chalk Wall	1250-1550	Type 3	Similar mortar to Phase 6 walls see above T3 shelly mortar
[562] Reigate Stone Tomb Fragment	1250-1550	Type 3	T3 shelly mortar complete bivalves

Table 5: Early Post-medieval Phase 8 excavated walls Poets' Corner Yard PSY12

Peg Tile 141 examples 13.8kg

2276 (1480-1700)

2586 (1400-1800)

2271 (1400-1800)

Examples of unglazed peg tile in the common red London sandy fabric 2276 and lesser quantities of fabrics 2271 and 2586 are common from Phase 7 to 10 throughout the site. Early forms of 2276 with a medium to coarse moulding sand are frequently reused as paving, such as Phase 10 tiled floor [182] or levelling and foundation materials material for floor surfaces such as the Phase 9 [511] and Phase 10 [372] and [379], rather than for the purpose that they were originally intended. Very little actually survives from their primary use in Phase 8 Henry VII's Lady Chapel or the adjoining shops, except for their use in a construction layer [379] which accounts for the range of mortar types found adhered to them.

Mortar 3101 17 examples 3.5kg

This mortar, Type 8, is a loose brown sandy recipe with chalk inclusions and red brick fragments and is adhered to the whole brick from [403] [505] as well as relict mortar from later post-medieval brick from [159] also [551] although these are burnt [575]. The use of a similar hard shelly concretionary mortar Type 2/3 to that used in Henry III's foundations for the

ambulatory and transept (see above) in structures [440] [507] [562]. Other than that, it is possible that the Tufa block from [91] for the foundation of a timber framed structure and bonded in busy mortar (Type 19) is also from this period. It is the only occurrence that this mortar type.

Later Post-Medieval 269 examples 100.6kg

Later post-medieval builds and repairs from Phases 9 and 10 in Poets' Corner Yard were prevalent in the excavated walls such as No.3 Poets' Corner Yard [493] (Table 6) and those relating structures, drainage culverts and light wells associated with George Gilbert Scott restoration work in Phase 10. These were bonded by a whole plethora of harder Georgian-Victorian and 20th-century mortars and hydraulic cements and render (Types 1; 7 10-13; 15; 23) (Table 7) reflecting numerous piecemeal repairs and builds at this time.

Structure	Date	Mortar Type	Description
[97] Brick Culvert	1825-1900	15	Narrow frogged post Great Fire bricks
[120] Stone and Brick Culvert	1825-1900	15	Narrow frogged post Great Fire bricks, lumps of medieval Caen, Reigate and Quarr stone
[138] Reigate Stone Footing	1850-1950	No mortar seen	Reigate stone block; Penn tile and Stove tile fragments and Bitumen
[142] Brick Lined Soakaway	1825-1900	15	Frogged post Great Fire bricks
[152] Sealing Coffin Within Lightwell	1850-1900	23	Barnack stone and lid resealed
[155] Reigate Stone Footing	1660-1900	No mortar seen	Reused Portland base bed cusped mould
[182] Floor of Complete Reused Peg Tile	1800-1950	11	Reused complete early post-medieval peg tile
[413] Phase 10 Concrete Foundation for Brick Culvert	1800-1900	15	Six whole late 19th century post Great Fire bricks; late medieval early post-medieval

Structure	Date	Mortar Type	Description
			peg tile reused in pale grey hard clinker grey mortar (T15) York stone paving slab
[439] Phase 10 Brick Floor of Chapter House Light Well	1850-1940	13	Machined Yellow Estuary Brick bonded in a hard clinker mortar with glass fragments (T13)
[493] Phase 9 Foundation Boundary Wall No.3 Poets' Corner Yard	1750-1900	10	Reused post-medieval bricks covered in a hard-white lime render with coal and chalk lumps
[662] Phase 10 Concrete Slab	1850-1900	11	Narrow deep frogged post Great Fire brick pointed in hard grey gravel mortar cement
[[664] Phase 10 Modern Concrete Kerb	1850-1900	No mortar seen	Deep frogged post Great Fire brick reused early post Great Fire brick, 19th century Corsham stone moulding and peg tile
[666] Phase 10 Brick Drain	1850-1900	15	Narrow post Great Fire unfrogged brick; frogged Estuarine brick pointed in pale grey hard clinker grey mortar (T15)
[671] Phase 10 Drain	1825-1900	15	Narrow frogged post Great Fire brick; pointed in pale grey hard clinker grey mortar (T15)
[2000] Structure	1500--1900	No mortar	Mixed group of lavastone quern, unglazed Flemish floor tile, Reigate stone masonry
[2006] Structure	1664-1800	Mortar not	Transitional post Great Fire

Structure	Date	Mortar Type	Description
		clear	brick mortar not clear

Table 6: Phases 9-10 excavated structures from Poets' Corner Yard

Brick 97 examples 78.8kg

Early post Great Fire 3032nr3033 (1664-1725) 5 examples 4.2kg

Maroon coloured transitional post Great Fire bricks manufactured between the late 17th and early 18th century turn up in the main in period 9 features such as the backfill [263] [264] of construction cut [270] and dump [455] and may relate to the construction of No.3 Poets' Corner Yard. They are in the main wide (4 ½ inches) but shallow (2 to 2 ¼ inches) and have a sunken margin. A very shallow brick "special" (42mm) in this fabric turns up reused in the Phase 10 concrete kerb [664]. Finally, one further brick turns up in a Phase 10 structure [2006] in Areas A and B.

Post Great Fire 3032; 3034; (1664-1900) 83 examples 69.4kg (88% late post-medieval brick by weight)

Many of the excavated brick structures (Table 6) are constructed out common post Great Fire bricks made from clinker mixed in with poor quality clays. These were manufactured between 1664 and 1900 but were mass-produced towards the end of the 18th and throughout the 19th century to meet demand for housing, industrial premises and drainage. These are mainly thick, narrow (4-inch-wide, 2½ inch) unfrogged and frogged forms, which means that they were used after the introduction of the brick tax in 1776. However, it is likely that most date to the 2nd half of the 19th century associated with George Gilbert Scott's drainage brick and stone culverts [97] [120] [142] [413] [666] [671]. With the drainage culverts they are bonded using the same hard grey clinker mortar T15 suggesting that they were built at the same time. Other mortar types include White Portland mortar (T7) (patented only during the 19th century), concrete gritty mortar T11 [662] and thick renders (T1 and T10). Type 1 render forms a very thick coat around bricks from post Great Fire bricks [101] [141] [145] [159] [198] and is often associated with whitewashed walls.

Similar sized bricks were recorded at the Cellarium in the Victorian Wine cellar, and improved drainage to 20 Deans Yard and constructions associated with Blackstock Yard as well as the Song School.

London Yellow 3035 (1780-1940) 3 examples 2.7kg

Yellow bricks manufactured from Estuarine Clays around the Medway were used in London after 1780. The examples from Poets' Corner Yard are associated with Phase 10 structures, e.g. the brick drain [666] and the light well floor to the Chapter House [439]. The latter bonded in a rather unique clinker mortar with numerous glass fragments (Type 13).

Victorian Red 3033V (1800-1950) 2 examples 2.3kg

A machine made, moulded frogged very late Victorian-Edwardian red was identified in the filling of the brick chamber [92], which like the post Great Fire brick, pan and peg tile was coated in white wash.

Fletton Bricks 3038 (1890-Present Day) 1 example 0.1kg

Deep frogged dense bricks manufactured from Jurassic Oxfordian Clays from Peterborough only became important from the 1880s onwards. A small brick sample was retained from some made ground [89].

Roofing Material

Peg Tile 2276M (1600-1900) 98 examples 8.9kg

Georgian to modern hand and machine-made peg tiles with a very fine moulding sand were found in Phase 9 and 10 levels, most notably in large concentrations from the interior fill of the brick chamber [92] with lime wash, a levelling layer [100], pit fill [116], demolition layer [372] and made ground [654]. Again, their function here may have been for levelling rather than the purpose for which they were originally intended.

Pan Tile (1630-1850) 40 examples 6.5kg

2271 (1630-1800); 2279 (1630-1850); 3090 (1630-1800)

The fashion of using thick curved nibbed roofing tile in the British Isles began in the mid-17th century, an idea imported from the Low Countries. Nearly all the pan tiles (5.8kg) were recovered from a single deposit [92] filling the interior of the brick chamber [90]. Many of the pan tiles, like the machined frogged brick and peg tile from this context and the adjacent culvert [97] were white washed.

Drain Pipes 3261 (1850-1950) 6 examples 1.4kg

The manufacture of heat resistant, dense refractory bricks made from high alumina Carboniferous clays from the Coal Measures also expanded to the production of drain-pipes *en masse* from the mid-19th century onwards to meet the demand for improved sanitation in London and elsewhere. These and glazed stoneware pipes (with an estimated diameter up to 16cm) were recorded from Phase 10 made ground [89], drain fill [669] and modern concrete [682] [684] [695] which are probably associated with George Gilbert Scott's modifications and subsequent changes to drainage in the 20th century. They are often bonded in a hard-Roman Type Cement as with the probable drain fill [669].

Coade stone 3128 (1769-1850)

2 examples 0.2kg

The fashion for using moulded artificial (Coade) stone as a substitute for freestone and marble came about in the last quarter of the 18th century, continuing into first half of the 19th century, for religious and funerary sculpture and monumental architecture. This pale-cream hard gritty mortar, resembling stoneware and looking like in hand specimen essentially a cross between Portland stone and Millstone Grit was as a fortified clay (grog, crushed flint, quartz, fine soda glass, ball clay from Devon) which could be kneaded into a mould. Two very small examples from Poets' Corner Yard were identified. One part of a lipped element came from a Phase 10 demolition layer [103]. with a second fragment from a Phase 10 occupation layer [242].

Bitumen Fabric 3498 (1875-2000+)

2 examples <0.1kg

The petroleum-based Bitumen blocks identified in the Phase 9 Reigate stone wall [138] are likely to have acted as a waterproof or damp proofing sealant or possibly as part of the fashion for using asphalt pavement which begun in the 1830s.

Mortar; Cement

A summary of the 21 Roman, medieval and post-medieval mortar types and concrete as well as their period of use from the excavations at PSY12 are given below (Table 7).

Mortar/Concrete Type	Description	Use at PSY12
<i>Roman</i>		
Type 4 Off-pink <i>opus signinum</i> with small-medium red tile inclusions	Off-pink <i>opus signinum</i> with small-medium red tile inclusions and green Hassock and shell inclusions lime mortar	Roman - Large group from Phase 10 layer [677] low density possibly plaster backing.
Type 5 <i>opus caementatum</i> extremely hard very flinty and Kent Ragstone rich mortar.	<i>Opus caementatum</i> extremely hard off-white to yellow lime rich very flinty and Kent Ragstone rich mortar. Ragstone can be up to 50mm across	Roman Phase 2 foundation layers [313] [393], the subsequent Phase 3 [703] and especially from a group associated with the Phase 4 monastic burial ground [417] [478] [490] [492] [537] [587] [715] [401] [537].
Type 6 <i>opus signinum</i> large red tile inclusions	<i>Opus signinum</i> large red and yellow (Eccles) tile inclusions set in an off-white gravel mortar	Roman like Type H of Song School were found attached to some Roman brick or as large individual lumps such as [285] [563] [699]. Again, many of these are found in Phase 2 reclamation layers [313] and Phase 3 [703] with again another big group associated with the Phase 4 monastic burial ground [285] [303] [311] [715].
Type 14 <i>opus signinum</i> with a hard very pink crust of tiny red tile chips	<i>Opus signinum</i> with a hard very pink crust of tiny red tile chips some larger black vitrified chips up to 20mm across	Relict op. sig. attached to large block of Roman monumental greensand stone (Hassock) [233] used in concrete foundation of Henry III; another example [285].
Type 22 red/pink <i>opus signinum</i>	Red/pink <i>opus signinum</i>	Roman residual on bessalis brick [370] [490].
<i>Medieval</i>		
Type 2 Hard white foundation mortar (for concrete raft)	Hard white foundation mortar (for concrete raft) white cream lime mortar with numerous hollowed out small bivalves or ostracods	Foundation raft [768] for Henry III's Church with reused column.

	and inclusions of Reigate stone	
Type 3 Hard white layered shelly foundation mortar (for concrete raft) (and early post-medieval)	Hard white layered shelly foundation mortar (for concrete raft) with burnt black and red flint nodules 10mm across, chalk lumps 30mm across occasional Reigate stone - Cardium and pectinid whole shells	Foundation raft Henry III's Church transept and ambulatory [706] [734] [735] [736] Similar recipe used for stepped footing for Henry VII's Chapter House [440] and east-west aligned chalk block wall [507].
Type 9 Light brown sandy gravelly mortar with chalk inclusions	Light brown sandy gravelly mortar with chalk inclusions up to 15mm across	Late medieval robber cut [147] full of medieval peg tile also [289] and attached fragment of Penn tile.
Type 17 uneven hard tufa rich mortar	Uneven hard tufa rich mortar	Rare
<i>Early Post-medieval (1450-1600)</i>		
Type 8 Loose sandy fawn lime mortar with chalk inclusions	Loose sandy fawn lime mortar with chalk inclusions	Phase 8 whole brick structures related to shops [403] [505].
Type 19 hard concretionary gravel mortar with shell and Reigate stone	Hard concretionary gravel mortar with shell and Reigate stone and flint pebble	Rare only found attached to tufa block [91].
<i>Late Post-medieval (1600-1900)</i>		
Type 1 Render light grey brown gravelly recipe with dispersed coal and occasional purple brick 3032 inclusions	Render light grey brown gravelly recipe with dispersed coal and occasional purple brick 3032 inclusions	1850-1950 Forming cornices and render up to 28mm thick associated with Phase 10 brick chamber [90] [91] [93].
Type 7 Portland cement - hard buff lime sandy mortar	Portland cement - hard buff lime sandy mortar	1825-1900+ found on numerous post Great Fire bricks [106] [116] [152] [654].
Type 10 Render Hard white lime render with randomly dispersed coal and chalk lumps, sometimes shelly	<i>Render</i> Hard white lime render with randomly dispersed coal and chalk lumps, sometimes shelly	1800-1900+ [92] [110] [227] very large group from No.3 Poets' Corner Yard [493] [525].
Type 11 concrete hard pale grey gravel mortar	Concrete hard pale grey gravel mortar with brick, wood red and purple bricks fragments, Hassock and flint	1800-1950 [182] [413] attached to early post-medieval peg tile including whole example from [182].
Type 12 "Roman cement" Very	"Roman" cement" Very hard fine	Mid-Late 19th-20th century sewer

hard fine dark grey cement	dark grey cement mortar	pipe [69].
Type 13 "Roman cement" with glass inclusions	"Roman cement" with glass inclusions	Rare mid-late 19th-century yellow brick floor of lightwell to Chapter House [439] also putlog hole south Transept wall [+].
Type 15 pale grey clinker mortar	Pale-grey clinker mortar	Mid 19th century associated with culverts and drains [97] [142] [413] [666] [671] including a stone and brick one fashioned from Caen stone, Quarr stone [120].
Type 20 concrete sandy pebble mortar	Concrete sandy pebble mortar	Mid to late 19th century onwards [372].
Type 21 coal rich dark grey cement mortar	Coal rich dark grey cement mortar coal inclusions up to 20mm across	18th and 19th century [217] and [279].
Type 23 hard fine sandy concretionary mortar small regular flecks of black flint, shell flecks and coal	Hard fine sandy concretionary mortar small regular flecks of black flint, shell flecks and coal	Rare only used to repair coffin and resealing coffin lid in light well [152].

Table 7: list of mortar types identified from the excavation at PSY12

A review of the mortars (Table 7), show a considerable number of types (21) a large majority of which are associated with one structure or represented as residual (relict) mortar on one item of building material.

To summarise, the key Roman mortars are chunks of *opus caementatum* (Type 5) and *opus signinum* (Type 6) both identified in quantity from Phase 2 to 4 levels attached to brick.

Hard white shelly Types 2 and 3 relate to concrete rafts used in the construction of the mid 13th-century medieval Church, Chapter House and Lady Chapel. However, there is some similarity with the mortars used in Henry VII's Lady Chapel two hundred years later, blurring the accuracy of dating these builds just using mortar type.

The calf brown lime mortar (Type 8) used in the Phase 8 red brick foundation structures for the early 16th-century shops [403] is a typical Tudor recipe.

However, it is the sheer breadth (10) of later post-medieval mortar types from the Phase 9 and especially Phase 10 builds that illustrate the number of builds and repairs in Poets' Corner Yard at this time. Some (e.g. Type 15) certainly relate to the main mid 19th-century

drainage and culvert phase, whilst other important examples include two types of render (Types 1 and 10), Portland cement (Type 7) and Roman cement (Type 12 and 13) and gravel concrete (Type 11).

Phase Summary

Residual Roman

Unlike the stone assemblage (see Appendix 9), considerably more Roman brick and tile was recovered from the assemblage, (proportionally 35% weight all periods). Largely in a fragmentary state and early in date (dominated late first to second century fabrics) it is like the Cellarium and Song School dominated, by flattened elements especially brick. By contrast, there are only a few flanged tegulae and just one curved imbrex. Two whole bricks were recovered including a *pedalis* from a Phase 2 reclamation layer [401]. There is also considerable variety of *opus signinum* types (4) and a large quantity of loose *opus caementatum*, mostly attached to the brick, just derivation from more than one building. Selective acquisition or stockpiling of flattened brick and tile elements for building/consolidation of a pre-Confessor church/abbey is inferred.

Early Medieval (1060-1150)

Very little of the ceramic building material can actually be dated to this earliest phase. Only the occasional bat or shouldered roofing and plain glazed floor tile, both in the coarse sandy fabric 2273 (1135-1220) may belong here. The only wall that may date to this period, in Phase 3 has been robbed. The Cellarium area, provides better evidence for earlier builds with mortar type and Confessor brown glazed floor tile (1070-1120).

Medieval

Most of the highly fragmentary medieval ceramic building material, nearly all turning up reused in post-medieval features and structures relates to the construction and partial demolition of the Henry III Lady Chapel, Chapter House and Church during the middle part of the 13th century.

The medieval assemblage is dominated by *ex-situ* dumps of plain and decorative floor tile most of which consists of 14th-century Penn tile, along with some Westminster tile, but almost no Flemish imports.

The medieval walls and foundations, (from Phases 5 and 6) are instead constructed out of stone rubble, fresh and reused ashlar and where present, bonded in a hard-concretionary shelly mortar forming the concrete rafts.

Early Post-medieval

Apart from some shallow, wide Henrician sized (4 ½ x 2 inch) red bricks used in the construction of the shops and some hard concretionary lime mortar used in the concrete foundation rafts to Henry VII's Lady Chapel, very little building material from the Tudor period is in-situ.

Instead, dumps of floor tile, peg tile and red brick accumulate in the Phase 9 and Phase 10 levels.

Later Post-medieval

In addition to the usual group of harder Victorian stone materials quarried for use in setts (granite) paving (York stone and other Carboniferous sandstone and ashlar freestone (Portland, Corsham Beds) (Hayward 2016), is dominated by well made frogged bricks bonded in a range of hard cement rich mortars.

Most of these were used in structures relating to George Gilbert Scott's work during the mid 19th century such as lightwells for the Chapter House, drainage culverts and a curious brick structure that had white washed walls and roofing. The range of mortar types (10) from these 18th to 19th-century phases would indicate a number of building works and repairs going on. However, apart from a small group of brick and mortar from [493] very little of it relates to the construction of No.3 Poets' Corner Yard between 1746 and 1792.

Ceramic Building Material and Stone Spot Dates

Structures in bold (refer to table 7 for detail of mortar types)

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
0	3101; 2454; 3023; 3168	Hard light brown flinty render; Early Roman combed box flue tile	7	50	1950	50	1950	1000-1900	1850-1950

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		and tile reused in T1 mortar; Chemtou marble inlay							
0 Put log hole in south Transept	2276; 3101	Peg Tile; with dark grey Roman cement and glass inclusions T13	1	1480	1900	1480	1900	1700-1900	1850-1950
30	2587	Worn medieval peg tile	1	1240	1450	1240	1450	1240-1450+	No mortar
59	3046; 3101; 2452	Stuart brick with T8 brown mortar' Roman brick fragments	4	55	1700	1450	1700	1600-1700+	1450-1700
60	2452; 2459a	Roman tile and brick fragments	3	50	160	55	160	55-160+	No mortar
89	3261; 3038; 3114; 3107; 3112M; 3101; 3108 ; 3119; 3120	Drain Cover Glazed stoneware and Fletton brick; Three conjoined column base fragments in Carrara marble Victorian, Reigate stone shaft fragments and roll holl; and tracery Exquisite Purbeck marble capital; Portland base bed lectern; Relict Type 2 and 3 on Reigate stone shafts; York stone paving slab; Caen cornice with graffiti in charcoal 17th-19th century writing GREYFRIARS etc	17	1060	1960+	1890	1960+	1890-1960+	Relict 1060-1600 on Reigate column

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
91	3118; 3101	Tufa ashlar pointed in a T19 light brown gravel shelly mortar	2	50	1300	50	1300	1060-1300	1450-1700
92	3032; 3033; 2271; 2276; 2279; 3101	Pan Tile, post-medieval peg tile late, narrow post Great Fire frogged brick bricks and modern/Victorian moulded red and tile often whitewashed; Type 10 white lime shelly render very thick 48mm	49	1180	1950	1850	1950	1850-1950	1850-1950
95	2452	Roman brick fragments ill-defined mortar	4	55	160	55	160	55-160	Not clear
96	2271nr2276; 2276; 2279	Early post-medieval peg tile and pan tile	6	1400	1900	1480	1900	1650-1850+	No mortar
97	3032	Narrow post Great Fire bricks frogged and unfrogged T15 grey mortar	3	1664	1900	1664	1900	1800-1900	1750-1900
99	3151; 1977; 2276; 2586	Taynton stone rubble, unglazed silty floor tile and early post-medieval peg tile	5	50	1900	1480	1900	1480-1800	No mortar
100	2452; 2271; 2276; 2279	Roman tile, medieval peg tile mainly post-medieval peg tile and one pan tile no mortar	18	1180	1900	1480	1900	1650-1850+	No mortar
101	3046; 2276; 3101; 2459a	Stuart brick, post-medieval peg tile t1 brown render; tegula	4	50	1900	1480	1900	1500-1800	1850-1950

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
103	3054; 2276; 3128; 3107; 3108	Roman brick fragment, post- medieval peg tile, York stone paving, Coade stone fragment and Reigate stone fragment	5	70	1900	1700	1900	1769-1850	No mortar
104	2276	Early post-medieval peg tile	1	1480	1900	1480	1900	1480-1700	No mortar
106	3032; 3032R; 3101; 2276	Post Great Fire brick reused whitewash; Portland cement, post-medieval peg tile fine moulding sand; T10 more lime	8	1480	1900	1800	1900	1800-1900	1820-1950 Residual mortar 1600-1900
108	2271; 2276; 2279; 3101; 3076	Post-medieval peg tile and pan tile reused in a type 1 render mortar; Penn Tile	11	1180	1900	1480	1900	1700-1900	1850-1950
110	2276; 3101	Post-medieval peg tile very fine moulding sand; Type 10 lime mortar	5	1480	1900	1480	1900	1700-1900	1600-1900
112	2276; 3216	Post-medieval peg tile; curved tile	2	1200	1900	1480	1900	1480-1800	No mortar
114	2276; 2452	Roman brick and post-medieval peg tile	3	55	1900	1480	1900	1480-1800	No mortar
115	2894; 3105; 2452	Fragments of Westminster floor tile; Kentish ragstone rubble; Roman tile	5	50	1600	50	1600	1250-1310+	No mortar
116	2276; 3032	Post Great Fire frogged brick and	11	1480	1900	1664	1900	1750-1900	1825-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		post-medieval peg tile; Portland cement							
118	2271; 2276; 3112	Post-medieval peg tile and reused medieval peg tile; Purbeck marble paving or funerary	9	50	1900	1480	1900	1500-1900	Mortar not clear
120	3032; 3101; 3107; 3119; 3117; 3146	Post Great Fire wide and narrow frogged Type 15 mortar; Quarr stone, Caen stone, Reigate stone and Flint rubble	8	1664	1900	1664	1900	1800-1900	1750-1900
123	2271	Medieval peg tile	1	1180	1800	1180	1800	1180-1450	No mortar
125	2586; 1811	Decorated Penn tile design 2042; reused late medieval early post-medieval peg tile	3	1180	1800	1180	1800	1350-1700+	Mortar not clear
128	3032R; 2276	Post Great Fire brick and post-medieval peg tile fragments no mortar	2	1480	1900	1664	1900	1664-1900	No mortar
134	2894; 2271; 2587; 2815	Westminster floor tile fragments; Roman tile, medieval peg tile	9	1180	1800	1180	1800	1250-1310+	No mortar
137	2815; 2894; 2271; 2587; 3104	Roman tile, Westminster floor tile and medieval peg tile, opus signinum	6	50	1800	1180	1800	1250-1310+	Relict op sig 50-400
138	3030; 3120; 1810; 2308	Chunk of brown sandy brick; stove tile, bitumen; Penn tile	6	1350	1660	1400	1660	1700-1900	No mortar
139	2452; 2454;	Roman tile, peg tile	25	50	1800	1180	1800	1240-1450	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	2271; 2274; 2586; 2587; 3105	medieval; Kentish ragstone							
141	3032R; 3101	Sharp arises post Great Fire brick, Type 1 Render	3	1664	1900	1850	1900	1850-1900	1850-1950
142	3032; 3101	Post Great Fire Frogged T15 mortar	1	1664	1900	1664	1900	1800-1900	1750-1900
143	2452; 3104	Roman tile and Type 6 opus signinum	2	55	160	55	160	55-160+	50-400+
145	3030; 3033; 3032; 3101; 3110PM	Narrow Post Great Fire brick, early post- medieval red and brown brick whitewash with render Type 1; funerary slab Portland Whit Bed	7	1400	1900	1664	1900	1780-1900	1850-1950
147	1810; 1811; 2194; 2271; 2586; 2587; 2274; 3101; 3105; 2894; 2276; 3101	Huge group of Penn tile, triangular, large square Penn tile designs, Westminster floor tile Local sandy floor tile. Gravelly light brown sandy mortar with chalk inclusions T9; Kentish ragstone rubble, early post-medieval peg tile	98	50	1900	1480	1900	1480-1600+	1450-1700
150	2276; 3065; 2271; 3101	Post-medieval peg tile and post-medieval red brick reused in a coarser render T1; medieval peg tile and	15	1450	1900	1480	1900	1600-1700+	1850-1950+

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		remnants of T10 coal mortar							
152	3143; 3101	Barnack stone sample from Coffin; resealing and repair mortar T23	3	200	1300	1060	1300	1060-1300	1600-1900 repairs
155	3110b	Large replacement Cusped mould tracery element in Portland base bed	1	1630	1950+	1630	1950+	1660-1850+	No mortar
159	3046; 3065; 3101; 3106; 3107	Stuart and Tudor brick reused in a coarse render T1 traces of soft brown lime mortar T8; Hassock stone ashlar pointed in T8 mortar and Reigate stone rubble	10	50	1700	1450	1700	1600-1700+	1850-1950+ on top of relic T8 mortar 1450-1700
169	3032; 3046; 2276	Post-medieval peg tile, post Great Fire brick and early post-medieval brick	8	1450	1900	1664	1900	1664-1900	No mortar
170	2276	Post-medieval peg tile	2	1480	1900	1480	1900	1480-1800	No mortar
179	2271; 2276; 3046; 3032	Post Great Fire brick, peg tile and post-medieval brick no clear mortar	8	1180	1900	1664	1900	1664-1900	Mortar not clear
181	2587	Medieval peg tile splash glaze	2	1240	1450	1240	1450	1240-1450	No mortar
182	2276; 3101	Complete early post-medieval peg tile; early post-medieval	2	1480	1900	1480	1900	1480-1700	1800-1950

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		brick, Reigate gravel mortar t11							
184	3104	T4 opus signinum	1						50-400
188	2276	Early post-medieval peg tile fragments	2	1480	1900	1480	1900	1480-1700	No mortar
195	1811; 2452; 3104	Penn Tile fragments and Roman tile with opus signinum attached	3	55	1390	1350	1390	1350-1390+	50-400 residual mortar
197	2271; 2587; 3046; 2452	Roman brick, medieval peg tile and early post-medieval brick	6	55	1800	1180	1800	1450-1700	No mortar
198	3101; 3032; 2276; 3033	Type 1 Render narrow post Great Fire unfrogged brick, early post-medieval red brick and peg tile	5	1450	1900	1664	1900	1780-1900	1850-1900+
200	2276; 3046	Post-medieval brick and peg tile; low density white lime mortar	15	1450	1900	1480	1900	1480-1700	1450-1700
203	3112R; 2452; 2276; 2271; 2576; 2894	Bleached Purbeck marble cornice fragment; possibly Roman, peg tile and Roman brick; medieval peg tile and Westminster floor tile	9	50	1900	1480	1900	1480-1700	No mortar
209	3120; 2850	Lumps of coal; Flemish floor tile glaze worn off	3	50	1950	50	1950	1600-1900	No mortar
217	3076; 2452; 3032	Roman tile, reused Penn tile no glaze,	3	55	1900	1664	1900	1700-1900	1750-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		post Great Fire brick fragment T21 coal rich mortar							
218	2271nr2272; 2452	Thick glazed medieval peg tile and Roman brick	4	55	1220	1135	1220	1135-1220+	No mortar
220	2452	Roman tile	5	55	160	55	160	55-160+	No mortar
221	2586	Late medieval peg tile	1	1180	1800	1180	1800	1400-1700	No mortar
227	3117; 3101; 2276; 3110PM	Chalk rubble fragment; T1 brown render and post-medieval peg tile fine, Portland Whlt Bed paver or funerary slab	18	50	1960	1630	1960+	1750-1960+	No mortar
233	3106; 3104	Hassock stone large lump coated in the relict very coarse opus signinum Type 14	2	50	1600	50	1600	50-400	Relict op. sig. stratigraphy suggests 1250-1300
238	3101	Indefinable loose brown mortar	1						1100-1700+
240	3135; 3152	Granite cobble and possible early (Roman?) shaft in Bath stone	2	50	1950	50	1950	1800-1950+	No mortar
242	3128; 2279; 3101; 3110PM	Coade stone sculptural fragment; pan tile, gravel mortar; Portland Whit Bed paving slab	4	1630	1850	1769	1850	1769-1850	Mortar not clear
243	2894; 3102; 3498; 2452; 3143	Westminster floor tile fragment glazed; daub, medieval peg tile and Roman tile;	7	1500	1450	1180	1450	1180-1450	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		Barnack rubble							
245	3107; 3119; 3032	Caen stone and Reigate stone rubble; heavily vitrified later post Great Fire brick	3	1060	1900	1664	1900	1750-1900	No mortar
246	3032; 3046; 3101	Narrow post Great Fire brick, Type 11 mortar and early post-medieval brick	6	1450	1900	1664	1900	1780-1900	1850-1900+
249	2271; 2452; 2276	Reused medieval peg tile with a fine lime mortar; Roman brick; early post-medieval peg tile	4	55	1900	1480	1900	1480-1700	Mortar not clear
254	2271; 2586	Late post-medieval peg tiles	4	1180	1800	1180	1800	1400-1700	No mortar
255	2324; 2276	Chunk of Penn tile and early post-medieval peg tile	3	1350	1900	1480	1900	1480-1700	No mortar
256	2452	Roman brick	4	55	160	55	160	55-160	No mortar
257	2454; 3054; 2587	Hampshire Grog RT, Eccles RT I peg tile	9	50	1450	1240	1450	1240-1450	No mortar
261	2271	Medieval peg tile	1	1180	1800	1180	1800	1180-1450	No mortar
263	3032nr3033; 3046	Early post-medieval and transitional post Great Fire	3	1450	1725	1664	1725	1774-1725+	No mortar
264	1977; 3032nr3033; 3033; 3153; 3107; 3110PM	Glazed Flemish floor tile, intermediate post Great Fire brick and Tudor Stuart brick; Blue Lias paving/funerary and Reigate stone roll holl; Portland Whit	6	50	1950	1630	1950	1660-1750+	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		Bed paver							
265	3107	Finely chiselled Reigate stone mould	1	1060	1600	1060	1600	1060-1600	No mortar
267	3108; 3119; 2452; 3022; 3104; 2273; 3111	York stone paver and Caen stone rubble; large group of Roman brick; opus signinum attached; medieval floor tile; Roman Carrstone rubble	15	50	1900	1700	1900	1700-1900	No mortar
268	2452; 2459c; 3046	Large group of Roman brick fragments, late Roman tegula and early post-medieval brick	11	55	1700	1450	1700	1450-1700	No mortar
272	3101	Ill-defined loose grey sandy gravel mortar	1						1100-1700
277	2452; 3102; 2894; 2271; 3101	Roman brick and tile; medieval peg tile and daub; Type 5 and 6 reused Type 3	35	1500	1800	1180	1800	1250-1450	50-400 residual 1060-1600 reused
279	3126; 3032; 3035; 2276; 3046; 3101; 1810; 2894	Purbeck limestone slither; frogged machine post Great Fire brick; estuarine yellow modern brick; post-medieval peg tile and red brick; Penn and Westminster floor tile fragments; T20 mortar concrete gravel sandy mortar	14	1250	1940	1780	1940	1850-1900+	1875-1950+
281	2894; 1810;	Westminster floor tile,	8	55	1900	1664	1900	1700-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	2587; 2271	Penn tile, medieval peg tile, Roman tile, post Great Fire brick							
282	2271; 2894; 3046	Medieval peg tile, Westminster floor tile, early post-medieval red brick	3	1180	1800	1180	1800	1450-1700	No mortar
285	3104; 3081; 2894; 3102; 2271; 3054; 2452	Large lump of opus signinum 2kg Type 14; Westminster floor tile fragments, medieval peg tile, daub large group of Roman brick	10	1500	1800	1180	1800	1250-1310+	50-400
289	1811; 2894; 2271; 2272; 2274; 3006; 2452; 1810	Large group of Penn Tile 4 thicknesses including possible wall tile; glazed plain Westminster floor tile; some of this is patterned but not defined curved slipped roof tile; medieval peg tiles, rare combed jacketing and Roman brick	37	50	1800	1180	1800	1350-1390+	No mortar
290	2459a; 2273; 2324	Roman tile; Early glazed bat tile, local floor tile medieval floor tile	5	50	1500	1300	1500	1300-1500	No mortar
293	2459a; 3101	Early Roman tile and tegula opus caemenatum T5	2	50	160	50	160	50-160+	50-400

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
299	2452; 259a; 2454; 3006	Mainly Roman tile brick fragment; tegulae	8	50	160	55	160	55-160+	No mortar
303	3104	T4 opus signinum	2						50-400
306	2271	Medieval peg tile	1	1180	1800	1180	1800	1180-1450	No mortar
307	2452	Roman tile fragments	3	55	160	55	160	55-160+	No mortar
308	2452; 2454; 3022; 2459a; 2459b	Lots of large chunks of Roman brick some burnt and occasional tile one late brick sesquipedalis thickness	18	50	250	125	250	125-250+	No mortar
309	3104; 2459a	Opus signinum attached to early red bricks	4	50	160	50	160	50-160+	50-400
311	3104; 2455; 2452; 2815	Roman sandy and Eccles brick, opus signinum, tegula and tile	22	50	160	50	160	55-160	50-400
313	2459a; 2459b; 2454; 3104; 3101	Opus signinum, late and early Roman sandy, brick and tile, Eccles tile	9	50	250	120	250	120-250	50-400
314	2459a	Roman tile	1	50	160	50	160	50-160	No mortar
316	2452	Roman tile	1	55	160	55	160	55-160	No mortar
320	2271; 1810; 2452; 3108	Roman brick, medieval peg tile Penn tile fragments lots; banded micaceous sandstone possibly Horsham slate roof	13	55	1800	1180	1800	1250-1310+	No mortar
330	3120; 3102; 2452; 3006;	Bargate stone fragment; daub,	10	50	160	55	160	100-160+	50-400

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	3009; 3023	fragments of Roman tile one brick lots of fabrics							
333	2894	Westminster floor tile glaze worn off	7	1250	1310	1250	1310	1250-1310+	No mortar
343	2452	Roman brick	1	55	160	55	160	55-160+	No mortar
353	3102; 2452	Daub fragments, vitrified Roman tile	5	1500 bc	1664	1500bc	1664	55-400+	No mortar
356	3117	Complete fossil echinoid	1	1500 bc	1600	1500bc	1664	50-1600+	No mortar
364	3112PM; 3032; 3101; 2276	Purbeck marble shaft, narrow machined post Great Fire brick, T1 render, post-medieval peg tile	7	50	1900	1664	1900	1850-1900+	1850-1950
366	2276; 1977; 3101; 3046; 3117	Early post-medieval peg tile, glazed silty floor tile and early post-medieval red brick all having glaze on possible kiln material or fireplace material; T8 mortar; chalk	7	50	1900	1480	1900	1480-1700+	1450-1700+
370	3046; 3111; 2586; 3498; 2452; 2454; 3012; 3023; 3238; 3054; 3101; 3118; 3143;	Complete glazed paved brick; Red iron stone Carrstone fragment; very rare medieval peg tile and brown fabric that could be kiln debris; The rest is dominated by a very large group of Roman brick, tile	55	50	1800	1180	1800	1450-1600	50-400 residual opus caementatum and red op sig

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		and tegulae some reused in opus caemetatum and possible later mortar; Tufa rubble; Barnack rubble also pink red opus signinum T22							
372	2452; 3065; 2271; 2586; 2587; 2276; 2279; 3115; 3101; 3110PM; 3126; 3108	Odd piece of Roman tile mainly early post-medieval peg tile, some medieval peg tile one brick and a pan tile; North Wales Slate; pebbly concrete; Purbeck limestone paver, Portland whit bed stepped mould, York stone paver	23	55	1950	1800	1950	1800-1950	1800-1900
374	2586	Late medieval to early post-medieval peg tile	1	1180	1800	1180	1800	1300-1700	No mortar
375	2276; 3046	Early post-medieval peg tile and brick one glazed	6	1450	1900	1480	1900	1480-1700+	No mortar
377	3101	Ill-defined loose brown sandy gravel mortar prob med	1						1060-1500
379	2271; 2276; 1678; 3046; 2452; 3116; 3119	Medieval and early post-medieval peg tile; rare calcareous floor tile glazed; Roman tile, early post-medieval brick glazed kiln or fireplace Two	16	50	1900	1480	1900	1480-1700	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		fragments Roman brick; Hassock stone shaft and roll holl Caen							
390	2452; 3065	Glazed early post-medieval brick as 379 mainly and Roman brick	4	55	1700	1450	1700	1450-1700	No mortar
393	3101; 3104; 3110PM; 3120; 2276; 3046; 3032; 3101	Opus signinum T4 and banded shelly concretionary white mortar T3; Portland Whit Bed paver possible Tournai marble paver; post-medieval peg tile and red brick; narrow post Great Fire brick T15 mortar	22	1450	1950	1630	1950	1630-1950+	1750-1900
394	3152; 3120	Fine brown calcareous sandstone and Corsham roll holl replacement materials	3	50	1950	50	1950	1600-1900	No mortar
397	3046	Vitrified Stuart brick	2	1450	1700	1450	1700	1600-1700+	No mortar
398	2276	Early post-medieval peg tile	4	1480	1900	1480	1900	1480-1700	No mortar
401	3133; 2452; 2459a; 2459b; 3046; 2586; 3009; 3101; 3104	Tournai marble inlay or paving polished; very large late Roman brick chunk 3.5kg Roman tile; post-medieval brick and medieval peg tile; the	12	50	1800	1180	1800	1450-1700	50-400 relict attached to Roman Brick

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		post-medieval brick is vitrified; opus caementatum and opus signinum mortar							
403A	3046; 3101	Wide poorly made burnt Tudor brick T8 brown mortar	1	1450	1700	1450	1700	1450-1700	1450-1700
403B	3033; 3101	Wide poorly made Tudor brick T8 brown mortar	1	1450	1700	1450	1700	1450-1700	1450-1700
413	2586; 2459b; 3101; 3032; 3108	Large brick late fabric; late medieval early post-medieval peg tile reused in mortar T11a woody 3032 fragments lightweight course of post Great Fire narrow bricks pointed in T15 mortar; York stone paving slab	7	120	1900	1664	1900	1800-1900	1750-1900
416	3120; 2271; 2276; 3063; 2894; 2850; 3143	Flecks of coal, Westminster floor tile, silty floor tiles, medieval and post-medieval peg tiles; Barnack rubble	8	50	1950	50	1950	1700-1900	Mortar not clear
431	3117	Flint rubble	1	50	1600	50	1600	1060-1600	No mortar
439	3035; 3101	T13 glass clinker mortar and machined yellow estuarine brick	3	1780	1940	1780	1940	1850-1940	1850-1950+
440	3101	Medieval Type 3 mortar Reigate fragments	1						1250-1550+

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
455	2454; 2274; 3032nr3033; 2452	Roman tile, medieval peg tile, intermediate post Great Fire brick	5	50	1725	1664	1725	1664-1725+	Mortar not clear
459	3110PM; 3101	White marble with Type 1 Render attached	2	50	1950	50	1950	1500-1900	1850-1950
474	2452; 3101	Roman brick fragment reused in T3 mortar	1	55	160	55	160	55-160+	1060-1600
478	2452; 3022; 3238; 3101; 2271	Mainly Roman brick and tile fragments, opus caementatum mortar and medieval peg tile	9	50	1800	1180	1800	1180-1450	50-400
490	3102; 2452; 3101	Reused brick and burnt daub; pink/red type 22 op sig	4	1500	1600	1500bc	1600	1060-1600	50-400+
492	2452; 3101	Roman Tile; opus caementatum	2	55	160	55	160	55-160+	50-400
493	3101	T10 coal and yellow brick mortar	1						1800-1900
496	2452; 2459a; 3032; 3101	Box flue combed and Roman brick; narrow post Great Fire brick T10 coal mortar	4	50	1900	1664	1900	1750-1900	1800-1900
503	3105; 3161; 2459c; 3054	Chunk of Kentish ragstone and possible Egyptian Granite; late Roman brick and Hampshire grog brick	6	50	1950	50	1950	140-400+	Mortar not clear
507	3101	T3 shelly medieval mortar	1						1250-1550
508	2452; 3101 2 types	Roman brick and as [393] opus signinum	3	55	400	55	400	55-400+	Residual 50-400, Main mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		T4 and banded shelly concretionary white mortar T3							1250-1550
511	2274; 2586; 3046	Medieval peg tile and mainly early post-medieval brick fragments	6	1080	1700	1450	1700	1450-1700	Mortar not clear
516	2324; 2271; 3145	Medieval peg tile and Penn tile fragment; Ancaster Free bed rubble	7	200	1800	1180	1800	1350-1500+	No mortar
530	2452	Roman tile fragments	2	55	160	55	160	55-160-+	No mortar
537	2459a; 3006; 3101 2 types	Roman tegula and tile opus caementatum Type 5 and T6 opus signinum	13	50	400	50	400	50-400	Both mortars 50-400
540	2894	Yellow glazed Westminster floor tile fragments	3	1250	1310	1250	1310	1250-1310+	No mortar
545	2452; 3076; 2586	Penn tile fragment, Roman brick and early post-medieval peg tile	4	55	160	1180	1800	1350-1700	No mortar
551	3054; 3102; 2894; 2276; 3046; 1811; 2271; 3101	One Roman brick grog, rest medieval and early post-medieval peg tile, brick, Penn tile, Westminster floor tile; T8 lime brown mortar	19	70	1900	1480	1900	1480-1700	1450-1700
552	2894; 3012; 2452; 3104	Roman tile and Westminster floor tile fragment; opus signinum	5	55	1310	1250	1310	1250-1310+	Residual 50-400

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
554	3107; 3104	Reigate stone rubble; opus signinum chunk	3	1060	1600	1060	1600	1060-1600	50-400 residual
556	2271; 2276; 3107	Medieval and early post-medieval peg tile; Reigate stone rubble	3	1060	1900	1480	1900	1480-1700	No mortar
557	3102; 2452; 2459b; 2271nr2272; 3104	Daub with op sig attached, tegula and Roman brick	4	1500	1500 bc	1180	1500	1180-1500	50-400 residual
558	2452	Roman tile fleck	1	55	160	55	160	55-160+	55-160+
562	3101	Hard white shelly mortar with complete bivalves	1						1250-1550
563	2274; 3118; 2452; 3101; 3104	Medieval peg tile fragment; Tufa Rubble fragment; pink red opus signinum T22 and T2/3Shelly mortar tegula	5	50	1350	1080	1350	1080-1350	1100-1600 Residual 50-400
567	2271; 2276; 3090	Pan tile, post-medieval peg tile and reused medieval peg tile	5	1180	1900	1480	1900	1630-1800	No mortar
568	1977; 3054	Grog brick Roman and Flemish silty floor tile glazed worn off	2	70	1800	1450	1800	1450-1800	No mortar
571	2815; 3054; 2273	Early medieval floor tile, Roman brick Hampshire Grog, and Roman tile	6	50	1220	1135	1220	1135-1220+	No mortar
575	3030; 3046; 3033; 3101	Reused early post-medieval bricks T8 and T10 mortar	7	1400	1700	1450	1700	1450-1700+	1700-1850 T10 And relict 1450-1700 T8

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
580	2452; 3101; 3104; 3101	Reused Roman tile and brick in opus signinum and opus caemetatum T5 and T6 also t3 shelly mortar	2	55	160	55	160	55-160+	1100-1600 residual 50-400
582	3107	Roll Holl moulding Reigate stone	1	1060	1600	1600	1060	1600	No mortar
583	3151	Bath stone ashlar block	1	50	1950	50	1950	1600-1900	No mortar
584	3032; 3101	Post Great Fire narrow well-made frogged with T10 mortar	1	1664	1900	1664	1900	1825-1900	1840-1900
586	2459a; 3054	Early sandy combed box flue tile and tegulae, Hampshire Grog brick	7	50	160	50	160	50-160+	No mortar
587	2452; 2459b; 3101; 3105; 3151	Roman brick and late Roman tegulae opus caemenatatum and opus signinum attached; Taynton stone ashlar and cornered Ragstone block Type 8 mortar	7	50	1600	1060	1600	1060-1600	1450-1700 Relict 50-400 on Roman cbm
593	3012	Late Roman Tile	1	170	350	170	350	170-350+	No mortar
595	3009; 3032	Hartfield tegula fragment; Chunk of post Great Fire brick	2	100	1900	1664	1900	1664-1900	No mortar
597	3107; 3105	Reigate stone window tracery; Kentish ragstone	2	50	1600	1060	1700	1400-1700+	No mortar
598	2452	Roman tile fragments	3	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
618	3032	Narrow post Great Fire brick unfrogged	1	1664	1900	1664	1900	1780-1900	No mortar
650	3032; 2459A; 2452; 3101	Combed box flue tile and Roman brick narrow machined post Great Fire brick T11 grey render	9	50	1900	1664	1900	1780-1900	1825-1925
651	2271	Medieval peg tile	1	1180	1800	1180	1800	1180-1450	No mortar
652	3032; 3101; 3110PM; 2276; 3102; 3065; 2587; 2452; 2271; 3039	Frogged post Great Fire brick T11 grey render mortar; Portland Whit Bed rubble; late post- medieval peg tile; daub fragment; early post-medieval brick, medieval peg tile and Roman brick; medieval peg tile a	14	1500	1900 bc	1664	1900	1850-1900	1825-1925
654	2276; 3032; 3046; 3101; 3152	Machine made frogged and unfrogged post Great Fire brick post- medieval brick lots of peg tile fine moulding san; Portland cement; Bath stone Replacement roll holl mouldings	19	50	1900	1664	1900	1850-1900	1800-1900+
655	2271; 2274; 2586; 3104; 2815; 3046; 3102; 2276; 3032	Mainly medieval peg tile opus signinum Type 14 attached to one bit of Roman tile; early post-medieval brick, late post Great	33	1500	1900 bc	1664	1900	1780-1900	Relict 50-400

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		Fire brick, post-medieval peg tile and daub							
656	2276; 3046; 3110	Post-medieval peg tile and brick; Portland Whit Bed cornice	3	1450	1950	1630	1950	1664-1800+	No mortar
658	2276; 2452; 3101; 3216; 2586; 1810	Roman tegulae reused in T2 hard shelly mortar, medieval and post-medieval peg tile; Penn tile decorative fragment	8	55	1900	1480	1900	1480-1700+	1060-1400+ relict attached to Roman tegula
662	3032; 3101; 3114PM	Frogged post Great Fire brick T11 mortar grey render; Carrara marble mould	3	50	1950	50	1950	1850-1900	1825-1925
664	3032; 3032nr3033; 2276; 3152	Frogged post Great Fire brick, intermediate paver brick, peg tile; Corsham stone replacement roll holl	4	50	1950	50	1950	1825-1900	No mortar
666	3032; 3101	Narrow unfrogged post Great Fire bricks T15 mortar	2	1664	1900	1664	1900	1780-1900	1750-1900
669	3261; 3101; 3102; 3105; 3106; 3107; 3143; 3112M; 2455; 3006; 3238; 2459b; 2587; 2452;	Stoneware drain pipe glazed and T12 fine grey Roman cement; Roman relief patterned daub; Barnack sarcophagus lid, Reigate mould,	25	1500	1950+ bc	1850	1950	1850-1950+	1850-1950+

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	3023	ragstone rubble; Purbeck marble green bed roll holl mould; Roman tile; Four well preserved box flue tile fragments combed silty and early Roman sandy; late Roman tegulae; medieval peg tile; Roman sandy brick and tegulae; Radlett; Hassock cobble							
671	3032; 3101	Frogged narrow post Great Fire bricks Type 15 grey clinker mortar	2	1664	1900	1664	1900	1825-1900	1750-1900
672	2265; 3076	Fragment of medieval Penn tile and early post-medieval peg tile	2	1350	1900	1480	1900	1480-1700	No mortar
677	2459a; 2276; 3168; 3104; 2894; 3054; 2459a;	Roman tile and brick early post-medieval peg tile, Chemtou marble inlay; Type 4 opus signinum; rare small square Westminster floor tile	14	50	1900	1480	1900	1480-1900	Relict 50-400 Type 4
681	2324; 2894; 2452; 2459a; 3104	Fragments of Westminster and Penn floor tile; lots of tegulae and one Roman tile; pink op sig	9	50	1390	1350	1390	1350-1390+	Relict 50-400 Type 4
682	2452; 1977; 3046; 2276;	Narrow post Great Fire brick; Roman tile	15	55	1950	1850	1950	1850-1950	1825-1925 relict op sig mortar 50-

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	3032; 3101; 2459a; 3261; 2274; 3110PM	and brick opus signinum attached post-medieval red brick and peg tile, medieval peg tile probable glazed Flemish tile; Type 7 Hard White Portland cement; stoneware drain pipe; Portland Whit Bed statuary							400
684	2276; 3261; 3120	Post-medieval peg tile fine; stoneware drain pipe; Serpentine inlay	3	50	1950	1850	1950	1850-1950	No mortar
686	2894; 1811; 2452; 2276; 1977	Fragment of Westminster floor tile and Penn tile; early post-medieval peg tile and glazed Flemish floor tile	9	55	1900	1480	1900	1480-1700	No mortar
690	3022; 3238' 2452; 3101	Roman tile and brick fragments; Type 10 brick mortar	3	50	160	55	160	71-160+	1450-1700
695	2273; 3063; 2459b; 3054; 2452; 3261; 3063; 2271; 2894; 3100; 3101; 3119; 3114	Peg tile early medieval, Flemish glazed floor tile, Early and late Roman fabrics; Roman brick fragments; Victorian Terracotta glazed drain with Type 1 mortar backing; Flemish silty floor tile; backing for Roman	17	50	1950	1850	1950	1850-1950	1850-1950

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		plaster, Westminster floor tile fragment; Caen stone and Carrara marble mouldings							
697	3105; 2894; 1977; 3063; 3006; 2586; 2272; 2276; 3032; 2452	Kentish ragstone rubble; box flue combed fragment; medieval and post-medieval peg tile; post Great Fire brick fragment; post-medieval silty floor tile reused	12	50	1900	1664	1900	1664-1900	Mortar not clear
699	3120; 2452; 3022; 2454; 2453; 2274; 2586; 2276; 3104; 3118; 3101; 3104	Calcareous Purbeck or Wealden Calcareous sandstone a lot of early and late Roman fabric and bricks, medieval peg tile and early post-medieval peg tile, opus signinum; Tufa rubble; Two types of opus sig and opus caementatum	37	50	1900	1480	1900	1480-1700	50-400 residual attached to Roman CBM
700	3118; 3107; 3101	Tufa ashlar block; Reigate stone moulding; T3 mortar	2	50	1600	1060	1600	1060-1600	1250-1550
702	2452; 3107; 3105; 3119; 3143; 3022	Roman tile; Ragstone, Sparry Caen, Barnack rubble and Reigate ashlar fragment; thick Eccles	9	50	1600	50	1600	1060-1300	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		brick							
703	3152; 2452; 3006;3046; 2454; 2453; 3104; 3102; 3101	Painswick stone Roman; Roman Eccles and sandy lots of RB, and a rare late Roman imbrex; possible early post- medieval brick Very large group of Roman brick of size T6 and T14 opus signinum; large group of daub fragments sill shaped, sill shaped moulded mortar	41	1500 bc	1700	1450	1700	1450-1700 possibly earlier?	Relict 50-400
704	3107; 2587; 2452; 3118; 3104	Reigate stone moulding; medieval peg tile fragment, 4 fragments of Roman brick; 2 chunks of Tufa; pink opus sig mortar	9	50	1600	1060	1600	1240-1600	Relict 50-400
706	3101	Loose t2 or T3 mortar							1250-1550
715	2452; 3006; 3101; 3104	Roman brick and box flue tile poss Roller Stamped covered in opus caementatum and opus signinum Types 5 and 6	5	50	160	55	160	55-160+	Both types of mortar Roman 50- 400
718	2894; 2271; 2587; 2276	Patterned Westminster floor tile; fragments of medieval and post- medieval peg tile	7	1180	1900	1480	1700	1480-1700	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
726	2459nr3006	Chimney fragment possibly Roman	1	50	160	50	160	50-160+	No mortar
729	3104	Opus signinum large lumps Type 14	2						50-400
732	3117	Ammonite Aptychi in flint a fossil	1					Natural	Natural
734	3107; 3105; 3101	Reigate stone ashlar and ragstone rubble; T3 mortar	3	50	1600	1060	1600	1060-1600	1250-1550
735	3117; 3107; 3101	Flint Rubble and Reigate rubble; ill-defined mortar loose	3	50	1600	1060	1600	1060-1600	1250-1550
736	3107; 3105	Reigate stone rubble and ragstone rubble T2 very shelly mortar	3	50	1600	1060	1600	1060-1600	1250-1550
739	2452; 2459a; 3006; 3102; 3104	Daub and Roman tile and box flue opus signinum attached	6	1500 bc	1600	1500bc	1600	50-400+	50-400
740	3102; 2459a; 3034; 3104; 3152	Daub, Roma brick with opus signinum and post Great Fire brick; Bath stone funerary slab possibly Roman	5	1500 bc	1900	1664	1900	1664-1900	50-400 attached to daub residual
2000	3123R; 2850; 3101; 3107	German Lavastone Quern; floor tile unglazed Flemish; Reigate stone paver and window tracer	5	50	1800	1450	1800	1600-1800	No mortar
2006	3032NR3033	Transitional post Great Fire brick mortar not clear	1	1664	1725	1664	1725	1664-1725	No mortar

Significance and Potential of the Assemblage and Recommendations for Analysis

Overall, the character of the ceramic building material assemblage and range of mortar types (21) is indicative of the longevity of occupation at Westminster. The survival of a very large Roman ceramic building material assemblage can be attributable to medieval programmes taking place at least 200 years later than other parts of the abbey (e.g. Misericorde). Other than some box flue tile, a brick with a tally mark and a possible chimney fragment; which require illustration and further comment the assemblage is largely unremarkable. What is clear is that the high percentage of flat elements and tiny quantities of curved imbrex is indicative of selective acquisition for consolidation or build up or indeed for an earlier abbey.

The medieval building materials associated with the construction and embellishment of Henry III's 13th-century Church, Chapel and Chapter House are dominated by stone ashlar and rubble in the masonry structures and fragments of 13th-century plain, shaped and decorative Westminster and 14th-century Penn floor tiles. The floor tile is dumped in large pits associated with Phase 10 activity. Examples of 5 decorative tiles require illustration as does an example of an early 11th to 12th-century gently curved white slipped roofing tile. It would be worth taking a thin section and looking at the geochemistry (ICPMS) of the concrete raft material used in the foundation- to see why it is such a robust material.

Material evidence for early post-medieval tile and brick and mortar relating to Henry VII's Lady Chapel is lacking.

From the later post-medieval phases, in addition to the large number of brick structures associated with the George Gilbert Scott builds there is the origin of a very large number of medieval floor tiles and worked stone to consider.

Methodology at Publication stage

Tasks

Publication Ceramic Building Material - Combining a section on the use and reuse of Roman and medieval ceramic building used in the area of Poets' Corner Yard with the Song School and the Cellarium. A note on the concrete raft material and a note on the use of any comparative mortars.

Illustration of c. 6-10 items of Decorative floor tile designs (Westminster and Penn tile) and 4 items of Roman ceramic building

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APPENDIX 9: STONE ASSESSMENT

Kevin Hayward

Introduction and Aims

Five crates of loose worked stone and one box were retained from excavation from the multi-period site at Poets' Corner Yard, Westminster Abbey (PSY12). This large sized assemblage (189 examples 236.6kg) was assessed to:

- Identify (under binocular microscope) the fabric and forms of the worked and unworked stone types to determine the geological character and source of the material.
- Ascertain whether the type and form of the stone can tell us something about the function or even status of the site represented by the different occupation phases.
- A phase summary relating the fabric and form of the different stone types with the separate periods of Roman, early medieval, late medieval and post-medieval activity at the site.
- The compilation of a stone catalogue relating to the excavation (PSY12 stone.mdb) which accompanies this assessment.
- Spot dates of all contexts with building material (combined with stone).
- A separate report (see Appendix 8) and catalogue (PSY12cbm. mdb) on the Roman, Saxon, medieval and post-medieval ceramic building material accompanies this document.
- Make comparison with the geological character and form of the stone assemblage from the adjoining site of the Cellarium (Hayward 2013; in prep.) and Song School (Hayward 2016).
- Made recommendations for further study and identify any interesting or unusual pieces that warrant retention, analysis and illustration including those stone mouldings (allocated a worked stone number - WSN) having definitive or unusual stylistic attributes.

Methodology

A site visit was undertaken during 2015 to examine the petrology of the large stone sarcophagus. Apart from this, detailed recording and analysis was done in-house. Stone

mouldings having definitive or unusual stylistic attributes were each allocated a Worked Stone Number (WSN). All the retained worked and unworked stone was examined using the London system of classification with a fabric number allocated to each object.

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

Although there is no published petrological study of the worked stone from Westminster Abbey, consultation of the sections on building materials including stone from recent excavations around the misericorde (Black 1976; Rigold 1977) and dorter undercroft (Samuel, 1996, 102-104) provided some idea of material types. Finally, the stone recorded from the adjoining Cellarium excavations (Hayward 2013; in prep.) and Song School (Hayward 2016) provided an additional body of data. Furthermore, recent stone-by-stone analysis of some of the earliest walls from the abbey including the nearby outer refectory wall (Hayward pers. obs.), the Pyx Chamber (Hayward pers. obs) and Cosmati Pavement (Neal & Rodwell in prep.) by this specialist was useful in determining petrological character in some detail. The specialist's own stone reference collection of Roman (Hayward 2006; 2009; 2015) and monastic stone types from London was one further source of information.

Local Geology

The site lies in a part of the British Isles dominated by geologically recent Cretaceous and Tertiary sediments. None of these younger sediments, apart from the locally available flints and chalk from the Upper Cretaceous (Upper Chalk) and Septarian Nodules from the London Clay (walling) are suitable for fine carving, quernstone, and hone stone or tesserae production. This means that nearly all the stone retained from these excavations needs to have come from afar. Fortunately, London's excellent riverine and maritime links afforded to it by the River Thames and its Estuary means that stone could easily be shipped in from native outcrops (Cotswolds; Kentish ragstone; Reigate stone) accessible by river, coastal outcrops (Dorset; Lincolnshire) and those from the continent (Caen stone). For a building as prestigious as Westminster Abbey the draw on a variety of resources, over a thousand-year period would have been great. Furthermore, there is the stone assemblage from the Roman and Saxon dumps as well. All these factors need to be considered when examining the stone assemblage from the Cellarium excavations.

Fabric Overview

Lithotypes

As well as its excellent maritime and riverine links, the draw on resources that this prestigious building had on stone quarrying and supply is illustrated by the great variety of rock types encountered from the excavations at Poets' Corner Yard (32 lithotypes). Most of these are present at the Song School (Hayward 2016) and Cellarium (Hayward in prep.) with the addition of Serpentinite, Alabaster, Painswick stone, Chemtou marble and Tournai marble these are divided up according to function (Table 1).

Rock Type	Geological Source	Description	Frequency and Use
Freestones and Condensed Marble			
Reigate stone	Upper Greensand (Lower Cretaceous) Reigate-Mertsham, Surrey	Fine grained micaceous glauconitic limestone	30 examples 56.3kg a number of unstratified ashlar blocks a large number of reused mouldings painted Medieval Early English Roll holl, shaft, tracery in phase 10 make up layer [89], and rubble in these post-medieval layers fragments [256] part worked tracery and ashlar in Phase 4 burial ground [265] [597] structure[700] [702] construction blocks and rafts for Henry III's Church south transept and Chapter House [233] [502] [734] - [736] Phase 5 foundation walls for Henry III's Lady Chapel [417] [418] [470]

Rock Type	Geological Source	Description	Frequency and Use
			Also [103]
Caen stone <i>sensu stricto</i> Caen stone sparry	Middle Jurassic (Bathonian) Caen Normandy	Fine yellow packstone Fine pale cream white sparry packstone	10 examples 6020g nearly all reused in Phase 9 and Phase 10 layers including cornice slab with written Greyfriars used in Phase 10 make up layer [89]. Medieval Roll Holl moulding present in post-medieval Phase 8 layer [379]. Also Rubble in Phase 4 monastic burial [702] Henry III's Church south transept and Chapter House foundation ashlar [502].
Chalk	Upper Cretaceous (Chalk) Thames Basin	Fine white micritic limestone	2 examples 2153g medieval used in early walls also Phase 10 layer [227] Phase 5 foundation walls for Henry III's Lady Chapel [417] [418] [470] Phase 4 chalk cist graves [620] [621]
Taynton stone	Middle Jurassic (Bathonian) Taynton West Oxfordshire	Pale orange-brown banded shelly oolitic grainstone	3 examples 1065g including medieval ashlar fragment from Phase 4 burial ground layer backfill of grave [587]
Quarr stone	Tertiary (Oligocene) Isle	Hard white Featherstone	1 example rubble 15g

Rock Type	Geological Source	Description	Frequency and Use
	of Wight	with numerous small cavernous shells	reused in Phase 10 E-W drain [120]
Barnack stone	Middle Jurassic (Bajocian) Barnack Village and related outcrops north Cambridgeshire	Very hard yellow-cream sparry shelly oolitic grainstone with prominent high spired gastropods or nerineids	8 examples 2935g Phase 4 11th-13th century sarcophagus lid [152] from the monastic ground rubble Phase 8 posthole fill [243] Phase 6 backfill ambulatory [370] Phase 9 cess pit fill [416] sarcophagus fragment from Phase 10 drainage [669]. Also [702]
Carrara marble Marmi di Carrara (Borghini, 2004, 248 no. 98) White Tuscany marble, marmor lunese (Price, 2007, 64-65)	Triassic - Early Jurassic Apuan Alps, Province of Massa and Carrara, northernmost tip of Tuscany (Price 2007, 64-65)	Fine white crystalline metamorphosed limestone	8 examples 47.4kg 19th-20th century large section of a column base 45cm across Phase 10 made ground [89] and Phase 10 modern [459] [662] concrete [699] layer
Coombe Down - Corsham - Monks Park stone	Middle Jurassic (Bathonian) Corsham-Box Wiltshire	Soft fine to very fine white-cream shelly oolitic grainstone Roman banded shelly oolitic grainstone (Hayward 2009, 2015)	9 examples 7999g Roman tomb slab Phase 3 fill [740] Late medieval to early post-medieval replacement Phase 10 column [240] [394] [654] [664] Phase 9 layer [487] roll holl
Headington stone	Upper Jurassic (Oxfordian) Oxfordshire	Pale cream coral detrital limestone	Post-medieval 1 example 8kg (+) moulding
Painswick stone	Middle Jurassic	White even grained oolitic	1 example 133g

Rock Type	Geological Source	Description	Frequency and Use
	(Aalenian) Painswick Hill - Nailsworth, Gloucestershire	grainstone	Fragment of rubble Phase 3 layer early stone building [703]
Ancaster Free Bed	Middle Jurassic (Bajocian) Ancaster Central Lincolnshire	Fine pale cream-grey sparry oolitic grainstone	3 examples 1976g Reused part worked/mould in Phase 9 post-medieval brick wall [225] reclamation layer [401] Phase 8 layer [516]
Purbeck marble (blue bed) Purbeck marble (green bed)	Lower Cretaceous (Purbeckian) Isle of Purbeck Dorset	Fine hard grey shelly condensed limestone marble packed full of small freshwater gastropods <i>Paludina carinifera</i> Green/Red shelly condensed limestone with large <i>Unio</i> bivalves and occasional small freshwater gastropods <i>Paludina carinifera</i>	8 examples 7.4kg Crisply dressed capital fragment from Phase 10 make up layer [89] reused paving or funerary slab [118] Phase 4 [152] with sarcophagus cornice bleached fragment Phase 4 possibly funerary [203] Phase 10 shaft [364] Phase 9 shaft [514] Phase 10 [669] Roll Holl Mould [669]
Portland stone (Whit Bed) (Base Bed)	Upper Jurassic (Portlandian), Isle of Portland Dorset	Hard, grey-white oolitic grainstone with oyster fragments and very fine Hard grey white very fine oolitic and broken shelly packstone	11 examples 18.8kg 18th-19th-century paver [227] [242] [264] Phase 10 layer cornice moulding [652] [656] Crisply Dressed lectern fragment Phase 10 make up layer [89] replacement tracery reused in Phase 10

Rock Type	Geological Source	Description	Frequency and Use
			footing [155]
Tufa	Holocene Spring Water deposits	Coarse Textured chemically precipitated light cream limestone	Ashlar and Rubble [700] 9 examples 8.6kg Phase 8 Timber framed structure [91] Phase 6 con cut backfill [370] Phase 4 layer burial area [563] [699] Phase 4 burial area structure [70] Phase 7 later burials [704]
Walling Rubble			
Kent Ragstone /Hassock stone	Lower Cretaceous (Hythe Beds) Maidstone	Hard, dark-grey calcareous sandstone and pale yellow medium grained sandstone with black iron oxide	Roman-medieval walling 19 examples 43.5g reused mainly as post-medieval layers and structures rubble Phase 7 burial [139] Phase 9 wall [225] Phase 4 ashlar in burial [587] [597] [702] with opus signinum attached possibly reused Roman Phase 6 construction wall material for Henry III's Church and Chapter House [734] [736] Reused Hassock stone Shaft [379] associated with levelling of Henry VII's Lady Chapel [233] with pink opus signinum attached blocks associated with concrete raft for Henry

Rock Type	Geological Source	Description	Frequency and Use
			III's Church and Chapter House
Flint	Upper Cretaceous (Upper Chalk) Thames Valley	Chemically precipitated dark-grey very fine siliceous sediment breaks with a conchoidal fracture	7 examples 5085g Nodules used in post-medieval drain [120] others natural subsoil [356] [732] layer Henry III's Lady Chapel [431] walling [735]]]
Alabaster	Permian (Derbyshire)	Condensed gypsum deposit	1 example 25g from a Phase 10 make up layer [89]
Bargate stone	Lower Cretaceous (Lower Greensand) Bargate Formation Guildford Godalming	Flecks of relict reused oyster and ooid fragments set in a light grey calcareous sandstone matrix	2 examples 316g Roman rubble Phase 4 grave fill [330] Phase 9 layer [699]
Purbeck Limestone	Upper Jurassic (Purbeckian) Dorset	Oyster rich dark-grey limestone or very fine light grey limestone	2 examples 1207g Roman rubble Phase 10 [279] [372]
Carrstone	Lower Cretaceous (Folkestone Beds) Weald	Ferruginous sandstone moderately hard	3 examples 641g Roman possible Phase 6 layers [267] [370]
Cobble and Paving Materials and Marble Inlay			
York stone or Elland Flags	Upper Carboniferous (Namurian) Yorkshire	Olive green very fine laminated sandstone	6 examples 3.1kg post-medieval rubble [103]
Tournai Marble	Lower Carboniferous (Viséan) Belgium	Black very fine Carboniferous limestone	3 examples 325g Inlay or paving slab Phase 9 and 10 layer [393] [401]
Granite	Undefined could be Egyptian or maybe an intrusive cobble stone from a Western Britain source	Fine black grey granodiorite	1 example 206g rubble Phase 10 cobble [503]

Rock Type	Geological Source	Description	Frequency and Use
Pink/Red Gialla Antico /Chemtou marble	Jurassic Jerndouba, Tunisia	Very fine Pink-cream brecciated marble	2 examples 371g Inlay or Funerary slab from [0] and Phase 10 layer [677]
Serpentine	Either Devonian Cornwall (Lizard) or Genoise Serpentine	Green metamorphosed igneous rock with veinlets of Tremolite	1 example 187g Phase 10 layer [684]
Roofing Materials			
North Wales Slate	Paleozoic (North Wales)	Dark grey metamorphosed slate	1 example 55g medieval / post-medieval [372]
Fuel			
Coal	Upper Carboniferous Western and Northern Britain	Low density carbonaceous sediment	32 examples 167g Lumps of coal fuel [416]
Quernstone			
Neidermendig Lavastone	Quaternary, Eifel Mountains Germany	Hard dark grey vesicular lavastone	2 examples 550g Quern Phase 6 demolition [267] [2000]

Table 1: Different worked stone building materials (mouldings, ashlar, rubblestone; paving, roofing) from Poets' Corner Yard

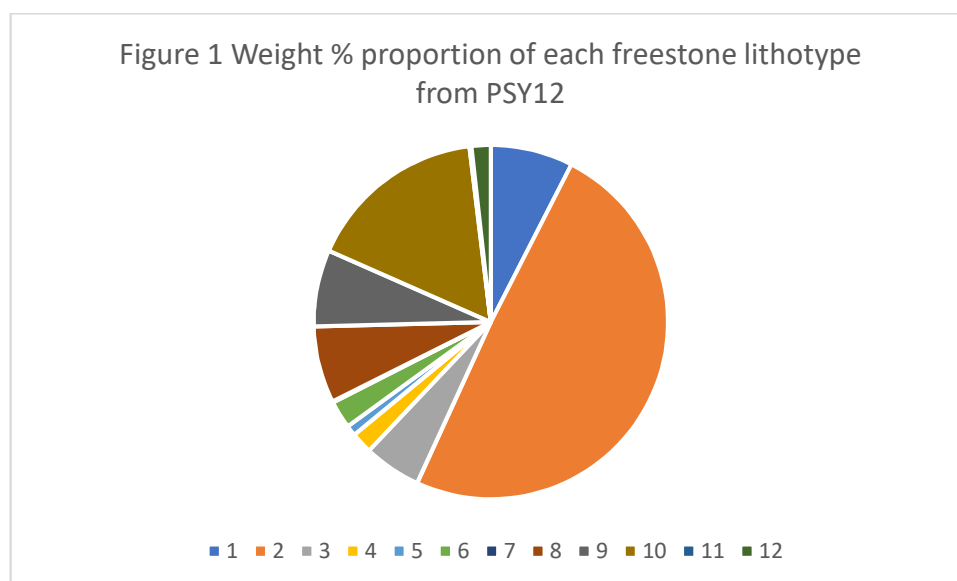
Freestone - ashlar, mouldings and funerary material 79 examples 114.2kg

Freestones, which are fine, even-grained limestones and sandstones with a soft open porous texture that enable the rock to be worked or carved in any direction (Stanier 2000; Leary 1989; Sutherland 2003), were the most common material types from these excavations. There was also considerable variety (12) of geological materials used for this purpose (Figure 1).

This was to be expected given that the site lies within one of the largest medieval ecclesiastical buildings in London and ultimately a draw on the best quality freestone for carving.

The Phase 4 monastic burial stone graves are either constructed from chalk as in the cist burials [620] [621], Barnack stone from the sarcophagus and lid [152] and possibly Ancaster stone seen and sampled in a lid fragment. The use of Lincolnshire Limestone from the Middle Jurassic (Bajocian) freestones is a feature of Roman sarcophagi in London (e.g. Spitalfields

Sarcophagus; Recently discovered Harper Road sarcophagus), Saxon Fenland Grave Covers from St Paul's and Barking and in the earliest 11th- and 12th-century burials from London



(Medieval types 1-7; 12) 1= Tufa 2= Reigate 3= Caen 4= Chalk 5= Taynton 6= Barnack 7= Quarr 12= Ancaster (Post-medieval types 8-10) 8= Coombe Down/Corsham 9= Headington 10= Portland (Roman type 8 and 11) 11= Painswick stone

Rather like the Song School Excavations (Hayward in prep.), there was a significant quantity of post-medieval freestone materials (30% by weight), especially Portland stone 18.1kg and Corsham type Bath stone 8kg and Headington stone 8kg identified reused in the 19th- and 20th-century layers.

The common medieval freestone material types for Westminster Abbey (mainly reused in post-medieval layers) (Barnack, Reigate, Caen, Chalk, Taynton, Tufa) supplemented by much smaller quantities of more exotic (Quarr; Ancaster) are well-represented (65% by weight). Quantities, however, remain considerably less compared to the Misericorde and Cellarium excavations (Hayward 2013).

There is a tiny Roman freestone component (<3%) represented by much worn Painswick stone and what may have been a small fragment of a south Cotswold funerary slab [740]. Both are found in Phase 3 layers [703] [740].

Key architectural elements retained for publication/ illustration are listed below by lithology. Only a handful of ornate moulds from these excavations that may be suitable for art-historical re-examination illustration at publication stage are listed below (see below).

Reigate stone

Context	Phase	Element	Dimensions
89	10	Crisp roll-holl mould intricate fine tooling	Length 240mm

Caen stone

Context	Phase	Element	Dimensions/Weight
89	10	Cornice mould with graffiti on written <i>Greyfriars</i>	4.2kg

Barnack stone

Context	Phase	Element	Dimensions/Weight
152	4	The Sarcophagus and Lid	Dimensions present elsewhere in report

Condensed marbles (continental and Native) 19 examples 58.3kg

The use of hard fossil-rich condensed limestones (e.g. Purbeck marble) incorrectly referred to, as “marbles”, also needs to be considered. Their ability to polish, carve and take lettering made them highly sought-after materials for medieval ecclesiastical embellishment especially as column shafts. These and some examples of post-medieval white and polychrome continental marbles from these excavations are considered.

Purbeck marble,

Used in huge quantity to embellish Henry III's new church, this stone type is well represented in the Poets' Corner Yard excavations.

Context	Phase	Element	Dimensions/Weight
89	10	Medieval exquisitely carved capital fragment	1.8kg

Carrara marble,

Context	Phase	Element	Dimensions/Weight
89	10	Georgian Victorian - 4 crisply executed large column base elements each having a diameter of 46cm	Total weight 46.8kg

Polychrome marble

Mention needs to be made of some very rare plain yellow Chemtou marble inlays from Tunisia recovered from an unstratified layer and a 19th/20th-century layer [677]. This material almost certainly relates to the Victorian polychrome marble waste, perhaps associated with tomb slabs associated with Poets' Corner rather than waste Cosmati material. Although a type of Chemtou or Gallia Breccia is present within the primary 1268 Cosmati Pavement this plain yellow variant is not. Rather it is likely to have formed part of the burgeoning Victorian demand for exotic Mediterranean marbles used in memorial chapels and tombs for the rich and influential, with many old Roman quarries re-opening to meet this demand. Finally, there is an example of green serpentine perhaps again a waste tomb material from a Phase 10 layer [684].

Construction Rubble 29 examples 51.5 kg

Most of the rubble stone from the medieval and post-medieval foundation walls of Poets' Corner Yard consisted of the very common groups of building stone materials for Westminster Abbey (Kentish ragstone, chalk and flint). Its use, supplemented by the occasional Reigate and Caen stone block and small quantities of Roman and Norman freestone and ragstone materials (Tufa; Purbeck limestones; Hassock stone; Folkestone Beds sandstone; Bargate stone and even alabaster¹), defined the walling. This included the foundations for Phase 5 Henry III's Lady Chapel [417] [418] [470] Phase 6 walling and concrete rafting of Henry III's Church and Chapter House [734] [736].

Paving, Setts/Cobbles 5 examples 4kg

¹ Present in a period 10 layer [89]. Alabaster has also been noted in the later post-medieval repair of 11th-12th century walls from the ongoing excavations at Adrian Boulton School (Hayward pers. obs.)

A limited range of durable stone types that would have been suitable as steps, paving stones, doorway entrances, and cobbled surfaces were identified from Poets' Corner Yard. Like the group from the Song School (Hayward 2016), these have a later post-medieval industrial flavour. Most of the paving stones and setts either have come from Dorset (Portland stone), northern England (York stone) or Scotland/ Cornwall (Aberdeen/Cornish Granite). The opening up of the railways made the materials from western and northern Britain accessible. Aberdeen type granite cobbles had already been identified on yard surfaces adjoining the Misericorde (Black 1977, 194), Song School (Hayward 2016) and Cellarium excavations (Hayward 2013).

Quernstone 2 examples 550g

The origin of fragments of German lavastone quern from a Phase 6 demolition layer [267] is likely to have been from the underlying Roman dumps. Lavastone has been recovered from Norman levelling layers in the Cellarium and Song School, with the Roman brick and tile and are contained loose within the Westminster sarcophagus (Hayward 2017).

Roofing 1 example 55g

A feature of these excavations is the near complete absence of stone roofing material. The sole exception is a piece of North Wales Slate from a post-medieval layer [372]

Phase Summary

Residual Roman

Most of the stone that can be assigned as Roman come from the Phase 2 reclamation and Phase 3 Early Stone Building layers. As expected Kentish Ragstone and the softer Hassock stone from the same quarry in Maidstone form the greatest quantity. Some blocks have residual *opus signinum* or *opus caementatum* attached. A case in point is the sizeable block of Hassock [233] reused in the concrete raft of Henry III's church with relict *opus signinum* attached. Examples of German lavastone quern are most probably Roman in date and incorporated within the large reclaimed dump of Roman ceramic building material. There are also traces of the rare Painswick stone, a high quality white oolitic limestone from Gloucestershire identified from a Phase 3 level [233]. This rock type was used in monumental sculpture and tombstone manufacture in Early Roman Britain (Hayward 2006; 2009). There is

also a part worked block (possibly a very small part of a tomb) made of the generic banded shelly oolitic limestone, from the South Cotswolds the most common freestone type in Roman London (Hayward 2015) from a Phase 3 level [740].

Early Medieval (1060-1200)

The key item is the Barnack stone sarcophagus and lid from the monastic burial ground [152]. Relatively few medieval sarcophagi made of this stone turn up in London, a majority being Roman in date (e.g. Spitalfields sarcophagus with other funerary monuments in Barnack) with Earlier Saxon grave covers being 8th-10th century at St Paul's and Barking Abbey.

It would have been a relatively straightforward process transporting the sarcophagus by boat from the Fens from outcrop in Cambridgeshire and then around the North Sea coast into the Thames estuary and upstream as far as Westminster.

Evidence of other stone from this period, most notably the Tufa (which is used in the 11th-century Pyx Chamber, Frater and Misericorde) is good. These blocks (over 10kg) turn up in the Monastic burial ground and one is reused in a Phase 8 build [91]. Quarr stone from the Isle of Wight was identified but only a small item of rubble reused in a Phase 10 drain. There is therefore not the breadth of materials seen for examples at the Cellarium from the Early Norman Abbey (Hayward 2013), which is not surprising as the major phases of building in this part of the Abbey only commence from the mid-13th century sometime after these materials had no longer been quarried.

Later Medieval

The common medieval freestone material types for Westminster Abbey (Reigate, Caen, Chalk, Taynton, Purbeck marble) as well as the more exotic Ancaster stone are well represented at Poets' Corner Yard (65% by weight). Quantities, however, remain considerably less than from the Misericorde and Cellarium excavations (Hayward 2013). There are fresh and reused ashlar blocks of Reigate stone, chalk and Caen stone used within the foundation of Henry III's works of the mid-13th-century church south transept and ambulatory.

A majority, however, turn up reused often as mouldings in later post-medieval structures and levelling layers. These include blocks associated with the structures and shops aligned along Poets' Corner Yard during Phase 9 but more especially within the culvert walls, and lightwells of the Phase 10 George Gilbert Scott works. There is a notable concentration in the Phase 10 bedding/make up layer [89].

Later Post-medieval phases

As with the Song School a fresh group of freestone materials (Corsham stone, Portland Whit Bed, Blue Lias; Headington stone) from the south coastal and western part of the Middle Jurassic belt were present many as post-medieval replacement carving stones. A huge consignment turn up in the Phase 10 bedding/make up layer [89] including four very large crisply dressed Carrara marble column bases.

The breadth of stone material types (32) from Poets' Corner Yard is not only attributable to the long period that Westminster Abbey has stood but also the draw of resources that such a prestigious building had on native and continental materials. Furthermore, the use of Poets' Corner as mason's yard since the mid-13th century would have meant it became the focus of stone supply, carving including perhaps the dumping of "reject" or cut-off stone types.

Significance and Potential of the Assemblage and Recommendations for Analysis

Petrology

The sheer variety of materials uncovered (32) including a stone type not identified before at Westminster (the yellow Chemtou from Tunisia) merely adds to the growing database of materials that were employed in its construction and embellishment already seen at the Cellarium and Song School. The variety of rock types from the three excavations now amounts to approaching 50 lithotypes. With this in mind a petrological review at publication is essential to illustrate the variety of exotic sources that were coming into the abbey over time either to be worked in a mason's yard or come in ready prepared. A major source, for example, certainly in the Norman and high medieval period, are the Lincolnshire Limestones (Barnack, Ancaster and Alwalton), as well as the conventional suite of limestones (Purbeck marble, Reigate stone, Taynton stone, Caen stone) for medieval London. Whist the post-medieval freestone package focuses on materials from the West of England and the Cotswolds

One or two items of worked stone require further petrological analysis to verify, refine or discount preliminary hand specimen identification. These include the possible Ancaster stone tomb fragment.

Mouldings

As well as the Barnack stone sarcophagus, the form of four-six items of worked stone moulding (see tables above) require detailed illustration. In particular, the Carrara marble column bases, and a Purbeck marble architectural elements.

Methodology at Publication stage

Tasks

Publication petrology - Combining a section on the petrology of the stone used in Poets' Corner with that of the Song School and Cellarium excavations to emphasise the Roman and earlier medieval stone building materials from structures within the Abbey as well as the post-medieval replacement materials.

Comparison with retained stone from the excavations at the Misericorde (Black 1976; 1977) Dorset undercroft (Mills 1995) and stone by stone reports from the Pyx Chamber and Refectory wall. A comparison with a reference collection (BM Natural History) will be required to verify identifications.

Publication - stone moulding form - illustration of 6 items of stone moulding (WSN 1-13) is required.

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APPENDIX 10: METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster

Introduction

In total, around 160 individual metal and small finds were recovered from the excavations. In addition, fourteen contexts produced metalworking slag, mostly in small pieces. All these finds are recorded in the table below and will be discussed here by phase. Metal and small finds occurred in all phases except Phase 3 (robber cut for early stone building) and Phase 5 (Henry III's Lady Chapel), with the largest individual assemblages emanating from Phase 4 (Monastic burial ground) and Phase 10 (19th century to modern) contexts. The complete iron blade of a tang-hafted knife was unstratified (SF 38); the form of the blade, with a slightly convex back tapering towards the tip, is similar to medieval Goodall Type I knives (Goodall 2011, fig. 8.2).

Phase 2: Land reclamation

Only one object was retrieved from this phase, in the form of a probable iron nail. Three small pieces of slag were also recovered.

Phase 4: Monastic burial ground

This phase produced forty-two metal and small finds, the majority in the form of heavily corroded nails from burials. They include twelve nails from the backfill of Grave cut [157], seven nails from heavily decayed Coffin [260], at least twelve from decayed Coffin [276], one from Coffin [318], five from the fill of Grave [331], one associated with the skeleton in Stone coffin [459] and one from the backfill of Grave cut [600]. At least some of these nails are clearly from nailed coffins, although some may be residual in grave fill. Examples of residual objects associated with the burials may be seen in a piece of antler-working waste (SF 37), possibly the unfinished blank for a handle, recovered from the fill of possible Grave cut [473]. The fragment of a possible iron strap came from the upper fill of Charnel pit [312]. Not associated with any grave cuts was the likely fragment of an iron horseshoe (SF 25). Lumps and pieces of metalworking slag were recovered from six contexts, two of which were backfill of burials.

Phase 6: Construction of Henry III's Church and Chapter House

Phase 6 provided twelve finds, all likely associated with the construction of the Church and Chapel House at this time. They include seven pieces of lead waste (SF 17), in the form of both melting waste and cut lead sheet, as well as a probable piece of roofing lead with two fine nail holes along one edge (SF 23). Other finds were the remains of an iron nail with a large irregular head and a possible rove from an iron clench bolt, both of which could be associated with the construction of doors or shutters. A dished piece of slag mixed with burnt ceramic elements from context [66] may be from furnace lining.

Phase 7: Later burials

Thirteen finds came from Phase 7 contexts, again predominantly in the form of heavily corroded iron nails associated with burials. Eight were retrieved from the backfill of Grave cut [140], one from the fill of possible Grave [447] and two from the skeleton in Grave cut [723]. A possible iron clench bolt came from the fill of Grave cut [224]; this may be residual from Phase 6, although it could possibly indicate the reuse of a door or other structure to provide a coffin.

Phase 8: Henry VII's Lady Chapel

Eight finds came from Phase 8 contexts. They include an iron nail and four substantial pieces of roofing lead, some with nail holes. This phase also produced dress accessories in the form three fine copper-alloy pins. One has a head of loosely cramped wound wire (SF 34; Caple Type B), while on the other two the wound-wire head has been cramped into a globular shape (SF 18; Caple Type C).

Phase 9: 17th-18th centuries

This phase produced twenty-one metal and small finds, dominated by corroded iron nails. One piece of slag was also recovered. As in the previous phase, small copper-alloy dress pins were represented, in this case with a tinned example (SF 35). A well-preserved and sturdy U-shaped hook of copper alloy or possibly gunmetal is of some interest (SF 36); the hook may be the remains of a sword-belt hook (cf. Egan 2005, fig. 181 no. 1084). Also interesting is a uniface lead token with a crude cross-and-pellet design on a small and dumpy flan (SF 33). While reminiscent of the series of 15th-century Cross and Pellet tokens from London, the latter are bifacial and usually well-executed on thinner and smaller flans (Mitchiner and Skinner 1985, 94 and pl. 4-5). However, similar designs continued to be used

on lead tokens from the 17th and, on uniface issues, into the early 19th centuries (Powell 2012). An example of the use of uniface cross-and-pellet tokens in English textile mills in the 18th and 19th centuries can be seen in recent finds from West House Mill, Blubberhouses, in North Yorkshire (<http://peacehavens.co.uk/BSTOKEN.htm>).

Phase 10: 19th century to modern

The single largest assemblage of finds came from Phase 10, with sixty-six individual items. Slag was recovered from three contexts. While dominated by nails and fragmented or undiagnostic metal, the assemblage also included some personal and household objects. The ubiquitous small copper-alloy dress pins were represented by four examples (SF 3, 9-10 and 21). Another category of dress accessories can be seen in buckles, with two copper-alloy examples recovered. One is the remains of a rectangular buckle, with only one side of the frame remaining (SF 8). It looks like the buckle may have broken at the points of the central bar which would suggest a wide and narrow form, common for among others sword belts in the 16th and 17th centuries (cf. Whitehead 2003, 74 nos. 455-56; Egan 2005, fig. 19 no. 118). The actual shape of the buckle will need to be further established with x-ray, but it was associated with pottery dating from 1550-1700, so may well be residual here. A second copper-alloy buckle is almost certainly residual also. Featuring a small oval or D-shaped frame and a short buckle plate, it has parallels in buckles from the late medieval and early modern periods (SF 55; cf. Egan and Pritchard 1991, fig. 41 no. 266; Egan 2005, fig. 19 no. 105). This buckle, too, was found with late 16th- to 17th-century pottery. In contrast to these residual objects, a rectangular-section ivory cutlery handle, for a pin-hafted implement, fits with a 19th-century date (SF 39; cf. Brown 2001, 130 no. 110 a). There is also a thin and highly corroded copper-alloy coin, likely late Victoria halfpenny (SF 5).

Among the finds from Phase 10 are also some finds that may be associated with non-ferrous metalworking on or near the site. They include a heavily leaded bronze column (SF 41) and the possible fragment of a cast copper-alloy vessel foot (SF 42). The bronze column has a parallel in a recent find from Fenchurch Street, City of London, where it was associated with other evidence of non-ferrous metalworking, including possible furnace lining (Gaimster *forthc.*). These finds came from an early modern context, but possibly represents residual medieval material. An unusual find at Poet's Corner Yard is also a single-ended bone implement, carved from the proximal end of a cattle metatarsus (SF 53). The implement shows some polish from use at the pointed tip. The function of this object is not clear, although it has parallels in Late Saxon single-ended thread pickers. These textile implements are associated with the introduction of the vertical two-beam loom in the 10th century (Walton Rogers 2014, 292), and are rarely found after the introduction of the horizontal loom in the

12th or 13th centuries (cf. Riddler 2004, 58). As Late Saxon pottery is present on the site (see Jarrett Appendix 4) it is possible that this is a residual object.

Significance and Recommendations for Further Work

Metal and small finds potentially provide key elements of domestic material culture and activities related to the investigated site. At Poet's Corner Yard, finds provided information on both burial containers and building construction during the medieval period, while post-medieval assemblages included some dress accessories and a lead token. Among the dress accessories are potentially two belt fittings associated with early modern sword belts (SF 8 and 36), which would be indicative of the social status of their owners. Besides medieval and post-medieval finds, a single-ended bone implement represents a potentially residual Late Saxon object (SF 53), while an unstratified iron knife blade may be of medieval date.

The metal and small finds form an integral part of the archaeological data from the site, and should be included, where relevant, in any further publication. For this purpose, some finds will require x-raying and further identification. These recommendations are set out in the table of finds below and include coffin nails from burial contexts. Following publication, iron nails and undiagnostic metal, unlikely to contribute meaningfully to the understanding of the site, may be discarded.

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Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 00	0	38	Iron knife; complete long blade with short tang and very slightly convex back; back and edge tapering towards tip; blade W 25mm; L 198mm; tang L 55mm		x-ray
Ph 02	313	bulk	Slag; three small pieces	900-1050	further identify
Ph 02	715	bulk	Iron ?Nail; heavily corroded lump; L 65mm	970-1100	x-ray
Ph 04	59	bulk	Slag; three pieces	n/a	further identify
Ph 04	156	bulk	Iron nails; a dozen heavily corroded and incomplete; backfill of grave cut [157]	n/a	discard
Ph 04	260	bulk	Iron coffin nails; seven heavily corroded; L 50-60mm; from heavily decayed coffin [260]	n/a	x-ray
Ph 04	268	25	Iron ?Horseshoe; solid tapering fragment; W 25mm; L 115mm	n/a	x-ray
Ph 04	268	bulk	Slag; one small piece	n/a	further identify
Ph 04	276	bulk	Iron coffin nails; at least twelve heavily corroded; L 50-80mm; from heavily decayed coffin [276]	n/a	x-ray

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 04	311	bulk	Iron ?Strap; fragment only; W 10mm; L 60mm; upper fill of charnel pit [312]	n/a	x-ray
Ph 04	318	bulk	Iron coffin nail; incomplete and heavily corroded; from heavily decayed coffin [318]	n/a	x-ray
Ph 04	330	bulk	Iron nails; five heavily corroded and incomplete; fill of grave [331]	n/a	discard
Ph 04	350	bulk	Slag; two small pieces	900-1050	further identify
Ph 04	402	bulk	Slag; one flat lump	n/a	further identify
Ph 04	402	bulk	Iron nail; heavily corroded with large irregular head; L 80mm	n/a	discard
Ph 04	460	bulk	Iron nail; near-complete but heavily corroded; clenched; 65mm; clench W 30mm; from skeleton in stone coffin [459]	n/a	
Ph 04	492	37	Antler-working waste; sawn at both ends and surface crudely shaved all around; diam 20mm; L 100mm; ?Blank for handle; fill of possible grave cut [473]	n/a	
Ph 04	587	bulk	Slag; several small pieces and 100 x 120mm ?smithing hearth bottom; backfill of grave [589]	n/a	further identify
Ph 04	593	bulk	Slag; several flat lumps	970-1100	further identify
Ph 04	598	bulk	Slag; several small pieces; backfill of grave cut [600]	n/a	further identify
Ph 04	598	bulk	Iron nail; incomplete and highly corroded; backfill of grave cut [600]	n/a	discard
Ph 06	66	bulk	?Furnace lining; dished piece with ceramic and slag inclusions; W 60mm; L 110mm	n/a	further identify
Ph 06	181	17	Lead waste; seven pieces; both melting waste and sheet, including small cut triangular piece	n/a	
Ph 06	210	bulk	Lead melting waste; small piece only	n/a	

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 06	238	22	Copper-alloy ?object; heavily corroded fragment only	n/a	x-ray
Ph 06	267	23	Lead mount; square piece with two fine nail holes along one edge; 38 x 40mm; ?roofing lead	n/a	
Ph 06	285	bulk	Iron nail; incomplete and highly corroded; large irregular head	1240-1300	discard
Ph 06	320	bulk	Iron ?rove; heavily corroded lump; 40 x 40mm	970-1100	x-ray
Ph 07	139	14	Lead ?melting waste; small and highly oxidised lump only; backfill of grave cut [140]	1240-1350	
Ph 07	139	bulk	Iron nails; eight heavily corroded and incomplete; backfill of grave cut [140]	1240-1350	discard
Ph 07	222	bulk	Iron ?Clench bolt; heavily corroded with oval head; L 45mm; backfill of grave cut [224]	n/a	x-ray
Ph 07	446	bulk	Iron nail; incomplete and highly corroded; fill of possible grave [447]	n/a	discard
Ph 07	722	bulk	Iron nails; two complete but highly corroded; L 40 and 45mm; from skeleton in grave cut [723]	n/a	discard
Ph 08	215	18	Copper-alloy pins; two Caple Type C; gauge 0.98mm; L 25 and 29mm	n/a	
Ph 08	374	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 08	379	34	Copper-alloy pin; very fine Caple Type B with slipped head, or possibly unfinished example; gauge 0.7mm; L 25mm+	1480-1550	x-ray
Ph 08	390	bulk	Roofing lead; four substantial pieces, some with nail holes	c 1225-1350	
Ph 09	96	19	Copper-alloy strip; D-section; narrow and incomplete; W 2mm; L 26mm	1710-1760	x-ray
Ph 09	96	bulk	Iron nail; incomplete and highly corroded	1710-1760	discard

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 09	128	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 09	197	bulk	Iron nails; two heavily corroded and incomplete	1680-1700	discard
Ph 09	255	bulk	Lead window came; thin and reeded; W 9mm; L 95mm	1789-1830	
Ph 09	255	bulk	Copper-alloy sturdy wire; two lengths/ends twisted together; gauge 2.35mm; L 170mm	1789-1830	
Ph 09	264	bulk	Iron nails; two heavily corroded and incomplete	n/a	discard
Ph 09	281	bulk	Iron nail; incomplete and highly corroded	1240-1400	discard
Ph 09	366	bulk	Tin sheet; 120 x 180mm fragment	n/a	
Ph 09	398	33	Lead token; uniface on small and dumpy flan with crude cross-and-pellet design; diam. 17mm	1480-1600	further identify
Ph 09	401	bulk	Iron nail; incomplete and highly corroded	970-1050	discard
Ph 09	416	35	Copper-alloy pin; incomplete ?Cable Type C; tinned; gauge 0.9mm; L 24mm+	1580-1700	x-ray
Ph 09	416	bulk	Lead strip; fragment only; W 5mm	1580-1700	
Ph 09	416	bulk	Iron ?Nail; heavily corroded lump; L 45mm	1580-1700	x-ray
Ph 09	514	bulk	Slag; one small lump	n/a	further identify
Ph 09	551	36	Copper-alloy ?Hook; rounded rectangular section; incomplete; W 15mm; L 28mm+; bar W 4mm	1080-1350	further identify
Ph 09	551	bulk	Iron nail; incomplete and highly corroded	1080-1350	discard
Ph 09	567	bulk	Iron nail; incomplete and highly corroded	1550-1700	discard
Ph 09	568	bulk	Iron ?nail; corroded fragment only	1660-1680	x-ray
Ph 10	5	bulk	Iron nail; incomplete and highly corroded	n/a	discard

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 10	7	1	Lead waste; rectangular-section bar, flattened at one end; W 10mm; L 55mm	late 19th century	
Ph 10	7	bulk	Iron nails; ten heavily corroded; three complete; L 80, 135 and 160mm	late 19th century	discard
Ph 10	9	bulk	Iron nail; incomplete and highly corroded	1805-1900	discard
Ph 10	41	42	Copper-alloy ?Vessel foot; triangular-section fragment only; W 20mm	1590-1900	x-ray
Ph 10	41	bulk	Lead waste; thin strip; W 2-4mm; L 65mm	1590-1900	
Ph 10	41	bulk	Iron nail; incomplete and highly corroded	1590-1900	discard
Ph 10	42	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 10	55	bulk	Slag; five pieces	1000-1150	further identify
Ph 10	89	2	Bone pin; fragment only; W 2mm; L 25mm+	n/a	
Ph 10	89	3	Copper-alloy pin; pointed shank only; gauge 1.07mm; L 24mm+	n/a	
Ph 10	89	bulk	Iron fittings; three highly corroded; L 70, 120 and 140mm	n/a	x-ray
Ph 10	92	5	Copper-alloy coin; thin and highly corroded; diam. 25mm; ?victoria halfpenny 1860-1901	1550-1700	clean to identify
Ph 10	92	6	Copper-alloy strap; flat and slightly curved, with one rounded end present; W 15mm; L 90mm	1550-1700	x-ray
Ph 10	92	bulk	Iron strap/mount; heavily corroded and incomplete; W 15mm; L 185mm	1550-1700	x-ray
Ph 10	100	8	Copper-alloy buckle; two conjoining fragments of rectangular example; W 45mm	1550-1700	x-ray
Ph 10	106	bulk	?Cast iron plate; triangular fragment only; L 80mm	n/a	

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 10	115	12	Copper-alloy ?Strap; incomplete and heavily corroded; 12mm; L 25mm	n/a	x-ray
Ph 10	116	9	Copper-alloy pin; head distorted by corrosion; gauge 1.15mm; L 27mm	1850- 1900	x-ray
Ph 10	116	bulk	Slag; two pieces	1850- 1900	further identify
Ph 10	118	10	Copper-alloy pin; Caple Type C; gauge 1.07mm; L 42mm	n/a	x-ray
Ph 10	198	bulk	Iron nails; two heavily corroded and incomplete	1240- 1400	discard
Ph 10	221	bulk	Lead sheet waste; thin corroded piece; 20 x 30mm	late 19th century	
Ph 10	221	bulk	Copper-alloy pin/wire; fragment only; gauge 0.95mm	late 19th century	x-ray
Ph 10	221	bulk	Iron nail with ?Domed head; L 60mm	late 19th century	x-ray
Ph 10	227	41	Heavily leaded bronze column; diam. 18mm; l 104mm	n/a	
Ph 10	227	bulk	Iron nail/bolt; substantial with square-section body and small circular head; L 170mm	n/a	x-ray
Ph 10	242	21	Copper-alloy pin; fragment of tinned shank only; gauge 1.15mm	n/a	
Ph 10	242	bulk	Lead sheet waste; one thin piece	n/a	
Ph 10	258	bulk	Iron ?Nail; heavily corroded L 110mm	n/a	x-ray
Ph 10	282	bulk	Iron ?nail; heavily corroded lump	n/a	x-ray
Ph 10	372	39	Ivory cutlery handle for tang-hafted implement; rectangular-section and slightly tapering with gently rounded end; W 15-18mm; L 100mm	1789- 1840	
Ph 10	372	bulk	Lead window came; one reeded multi-pane piece, L 105mm; one curled reeded piece of ?Unfinished came	1789- 1840	

Phase	Context	Sf No	Description	Pot Date	Recommendations
Ph 10	372	bulk	Lead strip; cut on all sides with remains of a nail hole towards one end; W 10-13mm; L 107mm	1789-1840	
Ph 10	372	bulk	Iron nails; two fine with small heads; L 55 and 65mm	1789-1840	discard
Ph 10	393	bulk	Lead strips; three cut lengths; W 3-6mm; L 95, 115 and 135mm	1830-1900	
Ph 10	393	bulk	Iron nails; four heavily corroded and incomplete	1830-1900	discard
Ph 10	413	0	Lead strips; two cut lengths; W 5mm; L 50 and 70mm	n/a	
Ph 10	413	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 10	454	bulk	Slag; two flat lumps	1550-1900	further identify
Ph 10	651	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 10	658	0	Lead strip; tapering at both ends; W 10mm; L 205mm	1480-1500	
Ph 10	669	bulk	Iron nail with narrow rectangular head; L 105mm; ?Floor nail	1270-1350	discard
Ph 10	677	bulk	Slag; one lump	970-1050	further identify
Ph 10	677	bulk	Iron nail; incomplete and highly corroded	970-1050	discard
Ph 10	682	bulk	Iron nail; incomplete and highly corroded	n/a	discard
Ph 10	685	53	Bone ?Thread picker; single-ended; carved from proximal end of cattle metatarsus; L 115mm	n/a	further identify
Ph 10	695	55	Copper-alloy buckle; near complete with short buckle plate; small oval example with simple rectangular-section body; copper-alloy sheet pin; W 15mm; L 13mm; buckle plate W 9mm; L 14mm, with two holes for fixing	1550-1700	x-ray
Ph 10	695	bulk	Iron nails; two incomplete and highly corroded; one complete L 90mm	1550-1700	discard

APPENDIX 11: LEAD COFFIN ASSESSMENT

Warwick Rodwell

Discovery of a rare medieval lead coffin in Poets' Corner Yard

A preliminary note and proposals

Context of the discovery

Archaeological excavations were undertaken in the autumn of 2015 in the small yard outside Poets' Corner, following the demolition of a 1950s lavatory block and shed. This was in preparation for the construction of a lift and staircase tower that will provide public access to the new Queen's Diamond Jubilee Galleries. The excavation revealed the damaged remains of some twenty graves, including several interments in chalk-lined cists, the latter provisionally dated to the 11th century. A single coffin of Barnack limestone, with a stone lid, was also found.

In December, several trenches to carry drainage, water and electrical services to the new building were dug beyond the yard, to the east, and along the south side of Henry VII's Lady Chapel. Medieval and later foundations of hitherto unknown structures were encountered in the trenches, along with more burials. These include further chalk-lined cist-graves and rubble foundations that are stratigraphically older than the present Abbey Church.

Cutting through these early remains were three graves of particular interest: they lay side-by-side and all contained lead coffins of adult size. Close by, on the south, were the fragmentary remains of a limestone coffin.

The northernmost lead coffin could only be glimpsed and not excavated because it is overlain by a late medieval wall foundation. The southernmost coffin is incomplete, the west (head) end having unfortunately been destroyed when a concrete manhole was constructed late in the last century. The lid of the coffin was simply decorated with a slightly raised cross, the upright element of which evidently ran for the full length of the lid. The arms of the cross are moulded in lead, imitating ropework. This coffin, which has been severely crushed over the centuries by the weight of the ground above, has been lifted for further examination.

The middle one of the three coffins is a rarity of the greatest interest. It is complete, although again somewhat compressed by the weight of soil above it, and exhibits two unusual features. First, the head end is not square-cut in the normal way, but is sharply shouldered and has a

rounded component to embrace the skull. The body of the coffin tapers towards the foot end. Coffins of this type which loosely mimic the form of the human body are known as *anthropoid*.

It cannot be established whether either or both of the other lead coffins exhibited anthropoid features. No evidence of inscriptions is apparent on the lids of the two coffins that have been investigated.



The site of the three lead coffins. The northernmost (arrowed) is glimpsed, protruding from under the medieval wall foundation and the modern drain; the middle (anthropoid) coffin is fully revealed; and the fragmentary southernmost coffin has already been removed.

Secondly, the lid is elaborately decorated with raised motifs cast in the lead. These comprise two elements. At the centre of the lid is a roped cross, the arms of which extend for the full length and breadth of the coffin (as with the previous example). The lid is additionally decorated with six complex floriated motifs: four occupy the spaces between the arms of the cross, one overlies the head, and another is at the foot end. The motifs are all identical and were formed by impressing a wooden stamp into the bed of sand upon which the lead for the lid was cast. The motif basically comprises a four-armed cross with leaf terminals; radially set between each of the main arms is a subsidiary one, again with a leaf terminal.



The artistic composition is generally reminiscent of later 14th- and 15th-century decorated stone coffin lids, and the stamped motif also finds close parallels in patterned floor tiles of the same period. Anthropoid lead coffins are rare, and are principally known from small assemblages at Westminster Abbey (ten examples, mostly in the vaults under Henry VII's Chapel), Farleigh Hungerford Castle, Somerset (six adults and two babies in the chapel vault) and Hempstead church, Essex (twelve coffins in the Harvey family vault); a few further examples have come to light in other English churches. The identities of some of the deceased persons are recorded by inscriptions, or can be surmised, and, almost without exception, these can be shown to be high-status burials.

The overwhelming majority have royal or noble associations, as confirmed by the known examples from Westminster Abbey:

Anne Mowbray, daughter of 4th Duke of Norfolk, d.1481

Elizabeth of York, d.1503

Henry VII, d. 1509

Mary, Queen of Scots, d.1587

Elizabeth I, d. 1603

Henry Frederick, Prince of Wales, d. 1612

James I, d. 1625

Philip Feilding, son of Earl of Denbigh, d. 1628

Elizabeth Claypole, daughter of Oliver Cromwell, d. 1658

Esme Stuart, d. 1660

To these can be added royal interments in St George's Chapel, Windsor:

Jane Seymour, d. 1537

Henry VIII, d.1547

Most of the other known coffins date from the 17th century.

On current evidence, the coffin of the eight-year-old Anne Mowbray, Duchess of York (d. 1481), appears to be the earliest anthropoid example. She was married to the four-year-old Richard, Duke of York, and was originally buried in the Abbey. Her grave was disturbed by the construction of Henry VII's Chapel in c. 1502, and her coffin was removed to the Abbey of the Minors at Stepney. It was rediscovered during building works there in 1964, and returned to Westminster Abbey the following year.

None of the other anthropoid coffins exhibits the long roped crosses that dominate the lids of those newly discovered at Westminster, and the floriated relief decoration is similarly without parallel in a mortuary context. Almost certainly it is pre-16th century, and the evidence points to a late medieval date.

I consulted Dr Julian Litten, who is the leading authority on anthropoid lead coffins, and has published an account of the known examples (Litten 2009). He comments: 'My immediate reaction is that it [the coffin] contains a high-ranking ecclesiastical personage, as I have not come across any secular coffins of this type with an extended cross running the length of the shell'. He also wondered whether a 'bump' in the lid alongside the deceased's right arm 'may indicate the presence of a funerary chalice'. As to date, Dr Litten says that he 'would prefer to place it at the earlier end of the spectrum, hazarding a guess of c. 1400-1475'.

The archaeological context of the three lead coffins is frustratingly unclear, because they have been discovered during the excavation of service trenches, rather than in an open-area investigation. It seems most unlikely that they were outdoor burials, but were once contained within a building. The archaeological evidence points to their antedating the erection of Henry VII's Lady Chapel in the opening years of the 16th century. Two scenarios are being considered.

First, the burials could have been displaced (like Anne Mowbray's in c. 1502) when the present Lady Chapel was being built. If so, it implies that they were originally interred in either Henry III's Lady Chapel, or an adjunct to it, and were re-interred outside the footprint of the new chapel. If the coffins had been placed together in a single pit that explanation would be very attractive. However, it is apparent that the coffins were individually buried in separately dug graves, suggesting that their deposition was sequential rather than contemporary. On the other hand, if the coffins were discovered during building works over an extended period, and re-interred one-by-one, then they would be in separate grave cuts.

The second scenario accepts that the coffins are in their original places of burial, that they were deposited at differing dates, and that they were within a pre-Henry VII side-chapel that has been lost. The only way to establish the true context of these and other late medieval burials in the vicinity would be by excavation on a larger scale.

The next stage

The anthropoid and incomplete coffins were both lifted intact by the archaeological team in late December and placed in a secure store, pending arrangements being made for their study and conservation. No attempt was made to open them, or to investigate their contents, on account of their fragile condition.

These coffins are constructed from sheets of cast lead, with the joints folded and soldered. The lids each comprise a separate single sheet of lead, which was soldered to the rim of the coffin. However, the solder has decayed over time, and the lids are now effectively detached. The coffins themselves are distorted and somewhat flattened. In part, the lead has also mineralized and crumbled, particularly at the head end of the anthropoid coffin, which is in parlous condition. Both contain human remains and soil that has washed into the voids as the coffins fractured and collapsed.

If one, or both, of the deceased were ecclesiastics there is every likelihood that a mortuary chalice and paten of base metal would have been included beside the right arm. This was common practice with medieval priests' burials, regardless of personal status. Further investigation will determine whether or not the coffins were furnished with these diagnostic symbols. Although no identifying inscriptions can be seen in the current dirty state of the lead, it is not impossible that such evidence might come to light during conservation.

The coffins were transferred to a specialist archaeological laboratory, where the lids and loose fragments of lead were carefully removed, and the contents minutely recorded and 'excavated'. Following that, the lead was cleaned, stabilized and conserved by Museum of London conservators. The human remains have been studied by a palaeopathologist (see Appendix 12). Upon completion of the study, all the human remains can be re-interred if that is the wish of the Dean and Chapter. The lead coffins - especially the anthropoid one - are however of such archaeological and art historical significance that their retention as artefacts in the Abbey Collection is strongly recommended. They are not suitable for re-burial in the ground. The coffin of Anne Mowbray was studied under laboratory conditions in 1964-65 by the Museum of London and Guy's Hospital, and much was learned in the process.

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APPENDIX 12: HUMAN BONE ASSESSMENT

James Young Langthorne

Introduction

The archaeological investigations at Poets' Corner Yard revealed part of the 11th-12th-century monastic cemetery that would have served the abbey built by Edward the Confessor with several individuals interred within cist burials and one within a Barnack stone coffin. A small number of burials were also found dating to a later period following the rebuilding of the church by Henry III in the 13th century, these burials included the anthropoid lead coffin. Twenty-four individual articulated human skeletons were recovered for further study, the majority of these were considered to have come from the monastic cemetery with a possibility that one or more individuals were interred after Henry III rebuilt the Abbey (Jorgensen 2016). A number of other skeletons or partial skeletons were exposed during the archaeological investigations at Poets' Corner Yard but were left *in situ* as they were not impacted by the present development; these individuals were [424], [445], [460], [475], [476], [520], [524], [534], [546], [549], [618] and [619].

In addition to the burials several thousand disarticulated elements of human bone were exhumed from 115 contexts that were found for the most part within layers of demolition material, made ground deposits and service, robber and construction cuts as well as backfills within graves. A sample of this disarticulated bone was examined as part of the assessment.

This report contains the results of an assessment of the human remains from these burials. A skeletal catalogue is included at the end of the report as is a list of contexts from which disarticulated human bone was recovered and the minimum number of individuals represented by the disarticulated bone in each context.

Methodology

Articulated human bone

The articulated skeletal remains were assessed to gauge the condition of the remains and where possible the age and sex of the individual. Additionally, any pathology present were recorded to site and the morphological changes described. All results were entered onto Pre-Construct Archaeology's PELICAN database.

The condition and completeness of a skeleton affects the amount of data that can be recorded. The condition of the bone was recorded according to the stages of surface preservation suggested by McKinley (2004) and the completeness of the skeleton was based on a complete skeleton consisting of:

Skull 20%

Torso 40%

Arms 20%

Legs 20%

Age was assessed using the stages of epiphyseal fusion, dental development and eruption, dental attrition (Brothwell 1981), changes within the pubic symphysis (Brooks and Suchey 1990) and the auricular surface (Lovejoy 1985). All individuals where ageing data could be collected were placed into one of the following age ranges:

Neonate	birth
Infant	≤1 years
Juvenile	1 - 11 years
Adolescent	12 - 19 years
Young Adult	20 - 34 years
Middle Adult	35 - 49 years
Old Adult	50 + years
Adult	20 + years
Undetermined	Not possible to assess

Sexually dimorphic traits in the pelvis and skull were used to ascertain the sex of the individual. Each individual was placed into one of the following categories:

Female	Positively identified as female.
Male	Positively identified as male.
Female?	Favourable comparison to female but not completely conclusive.
Male?	Favourable comparison to male but not completely conclusive.
Indeterminate	Sexually dimorphic traits were present but inconclusive.
Unknown	It was not possible to assess the sex of this individual.

Descriptions of pathology were based on the standards defined by Roberts and Connell (2004) and classifications of pathology were based on Roberts and Manchester (1995), Auferderheide and Rodríguez-Martín (1998), and Walker (2012).

Disarticulated human bone

The disarticulated bone recovered from each context was assessed to identify each type of bone, the number of fragments of each bone present in each context, the condition that each bone was in, the presence of any pathological lesions or notable morphological idiosyncrasies and, if possible, the age and/or sex of the individual from which the bone originated. The same criteria for assessing condition, pathology, age and sex in articulated human remains was applied to the disarticulated bone.

After all the disarticulated human bone had been assessed the minimum number of individuals represented in each context was calculated (McKinley 2004). All results were entered into the PELICAN database.

Results

Completeness

Skeletal completeness ranged from 8% to 95% present but the vast majority had less than 50% of the elements present. The skeletal completeness reflects in part the relatively high level of truncation as a result of the many building works that post date both the monastic cemetery and the 13th-century rebuilding of the church but also the limited space that each of the archaeological investigations encompassed resulting in only parts of potentially complete skeletons being recovered (Jorgensen 2016).

Completeness	Number of skeletons	Percentage
<25%	9	37.5%
<50%	8	33.33%
<75%	1	4.17%
≥75%	6	25%

Table 1: Skeletal Completeness

Condition

Despite the low levels of skeletal completeness there were high levels of preservation in the assemblage as illustrated in Table 2:

Preservation	<i>Number of skeletons</i>	Percentage
Moderate-Poor	3	12.50%
Moderate	1	4.17%
Good-Moderate	8	33.33%
Good	12	50%

Table 2: Skeletal Preservation

Demography

The largest age group amongst the burials were adults (95.83%), the biggest proportion of which had been within the middle or older adult age range. Only a single child was present within the articulated assemblage.

Age	Number of skeletons	Percentage
Infant-Juvenile	1	4.17%
Middle Adult	4	16.67%
Middle Adult- Older Adult	4	16.67%
Older adult	2	8.33%
Adult (unspecified)	13	54.16%
Total	24	100%

Table 3: Age distribution

Despite the large number of adult skeletons within the assemblage and the good levels of preservation exhibited by the recovered cemetery population, the low levels of skeletal completeness meant that less than half of the assemblage could be sexed. Sex distribution is described in the following table:

Sex	Number of skeletons	Percentage
Male	4	16.67%
Possible male	3	12.50%
Indeterminate	3	12.50%
Possible female	1	4.17%
Female	0	0%

Sex	Number of skeletons	Percentage
Inconclusive	13	54.16%
Total	24	100%

Table 4: Sex distribution

The results of the assessment indicated that males or possible males were slightly more frequent within the assemblage. However, the sample size of the cemetery population was very low and nearly 70% of the skeletons recovered could only be inconclusively sexed or not sexed at all. Therefore no conclusions as to a male bias within the monastic cemetery could be derived based on these results.

Pathology

Pathologies were recorded in 13 skeletons (54.16% % of the entire assemblage); of which 7 had dental pathologies and 11 had skeletal pathologies, and all of which were adults. Of the adults 4 were male, 2 possibly male, 1 was possibly female and 6 were of unknown sex.

Dental Pathology

Dental pathologies recorded within the assemblage comprised 1 case of enamel hypoplasia; 5 individuals with calculus deposits on their teeth; 1 certain and 1 possible case of caries on a mandibular molar and a maxillary molar respectively; 1 case of periodontal disease; an individual with ante-mortem tooth loss and subsequent resorped maxillary alveolar bone and 2 potential cases of gum recession.

Due to the small size of the assemblage no particular trends of dental pathology related to sex or age were identified within the Poets' Corner Yard assemblage.

Skeletal Pathology

Several skeletal pathologies were recorded from 11 individuals including non-specific infection and expressions of joint disease such as Schmorl's nodes, eburnation and osteophytic activity.

The most prevalent form of pathology in the assemblage was joint disease related to the degeneration of the vertebral elements of the spine particularly Schmorl's nodes and osteophytic activity around the margins of the vertebral bodies; 10 individuals were seen to suffer from vertebral joint disease to some extent. The most severe cases of vertebral joint disease in the assemblage were a single case of probable DISH (Diffuse Idiopathic Skeletal Hyperostosis) recorded in mid-old adult [296] and the eburnation recorded on the surfaces of the vertebral bodies in addition to Schmorl's nodes and pronounced osteophytic activity on mid-old adult individual [368]. The only case of possible joint disease recorded outside the vertebrae was the osteophytic activity noted on the margin of the head of the right femur of skeleton [296].

The only other pathological condition observed during the assessment was probable adult male [266] whose right tibia and femur exhibited the lesions and morphological changes indicative of osteomyelitis, a form of non-specific infection.

Disarticulated Bone

A large sample of disarticulated human bone was assessed from 115 contexts on site, several fragments were also removed from unstratified deposits [+]. Almost every element of the skeleton was accounted for in various states of preservation varying from very poor and fragmentary to complete bones in a very good condition.

Some small pathological conditions were noticed such as traces of periodontal disease, Schmorl's nodes upon vertebrae and traces of osteoarthritis, but nothing of particular significance.

The minimum number of individuals the entire collection of assessed disarticulated bone represented was 260 (261 with the unstratified bone).

Recommendations for further work

While only a small number of individuals make up the skeletal assemblage from Poets' Corner Yard and many are only partially complete, they are for the most part in a good or good-moderate condition. Therefore, there is an opportunity to derive more demographic and pathological information from the cemetery population.

A full analysis of the skeletons would allow for the creation of complete inventories for each skeleton and fuller recording of extant pathologies as well as the collection of metric and non-metric data and the calculation of statures. Given the small size of the assemblage it is recommended that full analysis be performed on all skeletons regardless of completeness or condition. It may also be possible to re-unite individuals with elements that were removed with the backfill and are currently catalogued as disarticulated bone² or combining partial skeletons that have been treated as individuals during the assessment into the single individuals they potentially originally were³.

Comparison of the earlier monastic phase of the cemetery with the later burials will be a key component of the further analysis of the skeletons including differences in pathology between the two assemblages

If it does not prove possible to establish the dating of individual articulated skeletons by stratigraphic methods the condition of the bone allows for radiocarbon dating. As well as radiocarbon dating further isotope studies on the assemblage could involve strontium isotope testing. This study would be performed on individuals with both dentition and either a rib shaft or a long bone from which the relevant material could be extracted and tested and would allow investigation into the geographic origin of individuals within the cemetery population.

There is a large quantity of disarticulated human bone from the site, most of which will have resulted from the disturbance of the monastic cemetery. However, with the caveat that it may provide articulated material as previously discussed, it is unlikely that further work on this material will provide any further insights into the cemetery population.

The results of this assessment and any further work should be presented in a publication text and discussed in reference to phasing and spatial distribution, if any patterns become apparent.

² Specifically contexts [56], [59], [74], [156], [203], [290], [304], [311], [332], [342], [352], [357], [419], [443], [446], [475], [476], [478], [517], [518], [524], [587], [602], [690], [702] and [726].

³ As may be the case with skeletons [158] and [368] at least.

Skeletal Catalogue

Context	Completeness	Condition	Age	Sex	Pathology	Comments
64	25%	Good- Moderate	Adult?	Unknown	No visible pathology.	
149	95%	Good	Mid Adult	Male	Schmorl's nodes. Osteophytic lipping on margin of lumbar bodies. Possible enamel hypoplasia and calculus (especially on the incisors).	Bifid ribs.
158	8%	Good	Adult?	Unknown	No visible pathology.	Lower leg and feet only.
167	12%	Good	Adult?	Unknown	No visible pathology.	Lower legs and feet only.
223	10%	Good- Moderate	Adult?	Unknown	No visible pathology.	Fragments from right side of body.
266	30%	Good- Moderate	Adult	Male?	Extensive non-specific infection (osteomyelitis) in right tibia and femur shafts. Osteophytic lipping around vertebral body margin.	
275	10%	Good	Adult?	Unknown	No visible pathology.	Right arm and hand and foot only.

Context	Completeness	Condition	Age	Sex	Pathology	Comments
296	20%	Good- Moderate	Mid-Old Adult?	Unknown	Vertebral DISH. Possible joint disease (osteophytic lipping) on margin of right femoral head.	
303	8%	Good- Moderate	Adult?	Unknown	No visible pathology.	Principally legs and feet fragments.
317	90%	Good	Infant- Juvenile	Unknown	No visible pathology.	Highly fragmented skull.
334	20%	Good	Adult	Unknown	Schmorl's nodes.	Torso only.
337	20%	Moderate- Poor	Adult?	Unknown	No visible pathology.	Legs principally and arms and torso fragments.
342	45%	Moderate	Mid-Old Adult	Female?	Traces of calculus on extant dentition.	
358	20%	Good	Adult?	Unknown	No visible pathology.	Principally the right side of the body.
368	30%	Good	Mid-Old Adult	Indeterminate	Gum recession and calculus. Schmorl's nodes. Also appears to be eburnation within Schmorl's nodes and raised osteophytic activity on vertebral bodies.	

Context	Completeness	Condition	Age	Sex	Pathology	Comments
533	95%	Good	Mid Adult?	Male?	Caries on mandibular molar. Possible Schmorl's nodes.	Skeleton found within lead coffin.
538	75%	Good	Old Adult	Male	Slight pitting and osteophytic lipping on vertebral costal facets and possibly on articular facets.	Quite fragmentary in parts.
573	60%	Good-Moderate	Adult	Indeterminate	Osteophytic lipping and Schmorl's nodes on thoracic vertebrae.	
588	30%	Moderate-Poor	Adult?	Unknown	No visible pathology.	Highly fragmentary skeleton. Skeleton found within lead coffin.
701	<40%	Good-Moderate	Adult	Male?	No visible pathology	Lower half of skeleton only
722	40%	Good-Moderate	Mid-Old Adult	Indeterminate	Calculus. Periodontal disease. Possible gum recession. Slight osteophytic lipping on cervical vertebrae	

Context	Completeness	Condition	Age	Sex	Pathology	Comments
					body margins.	
727	<25%	Good	Old Adult?	Unknown	Abnormal bone growth on rib distal ends. Ossified cartilage on costal notch of manubrium	Torso only
737/153	>75%	Moderate-Poor	Mid Adult	Male	Calculus. Unusual but unclear wear pattern on maxillary left incisors. Possible caries.	
2005	>75%	Good	Mid Adult	Male	Ante-mortem tooth loss and resorption of alveolar bone in region of maxillary M1 and M2, Ossification of costal cartilage. Osteophytic activity on articular facets of C2 and C3 vertebrae.	High levels of concretion on bone.

Contexts containing disarticulated human bone

Context no.	Total No. of Disarticulated. Bone Fragments	MNI⁴
1	5	1
5	1	1
6	1	1
7	68	1
21	73	2
30	1	1
39	3	1
40	5	1
46	1	1
54	16	1
55	134	2
56	29	1
59	175	1
68	33	2
74	1	1
88	1	1
89	1	1
92	3	1
96	26	1
101	28	2
112	6	1
114	259	6
125	3	1
134	2	1
139	1	1
150	1	1

⁴ Minimum Number of Individuals in each context.

Context no.	Total No. of Disarticulated. Bone Fragments	MNI⁴
156	33	2
163	3	1
175	2	1
183	1	1
197	10	1
198	3	1
203	323	7
215	3	1
218	7	1
221	91	4
227	33	1
243	32	1
246	34	1
248	230	6
264	292	4
265	5	1
267	1	1
268	91	2
270	1	1
273	60	1
277	319	4
279	1	1
281	3	1
284	25	2
285	6437	71
287	3	1
289	10	1
290	31	4
293	4	1
295	1	1

Context no.	Total No. of Disarticulated. Bone Fragments	MNI⁴
299	2	1
304	2	1
311	1363	9
320	15	1
330	21	1
332	194	4
342	13	1
343	34	1
352	485	6
357	118	1
360	395	4
361	76	4
366	2	1
370	54	3
372	3	3
379	6	1
390	18	1
394	9	1
398	11	1
401	3	1
416	18	11
419	9	1
443	86	1
446	28	1
449	3	1
460	10	1
475	1	1
476	10	1
478	3	1
496	1	1

Context no.	Total No. of Disarticulated. Bone Fragments	MNI⁴
514	37	1
516	1	1
517	24	1
518	58	2
524	9	1
530	1	1
545	12	1
557	1	2
587	8	1
602	2	1
654	1	1
655	12	1
656	20	1
658	4	1
662	2	1
664	4	1
669	66	1
675	2	2
677	4	1
682	20	1
686	1	1
690	3	1
695	150	1
702	7	2
703	10	1
704	15	1
718	1	1
726	9	1
739	3	1
[+]	53	1

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APPENDIX 13: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

Excavations were undertaken within Poets' Corner Yard, this situated at the south-eastern perimeter of the Abbey. The initial incursion comprised three evaluation trenches (1, 2 and 3), these located at the westernmost part of the yard bordered on three sides by the Abbey, namely between Poets' Corner to the west and the northernmost flying buttress of the Chapter House to the east. This was followed by an open excavation incorporating this same area as well as a series of trenches to the north and east of the Chapter House extending beyond the chapels of St Edmund and St Nicholas, up to and adjacent to the tomb of Mary Queen of Scots (Trenches 10-17, 100, BH1, Areas A and B plus that associated with the South Transept Heating Duct).

These various excavations provided evidence for the initial land reclamation (Phase 2) prior to the construction of the 11th-century monastery and church. An early stone building (Phase 3), shown by a robber cut, clearly dated to this early construction phase. Its demolition made way for the monastic burial ground (Phase 4), this site providing several graves and at least two cist tombs. There is then evidence for further building work, comprising Henry III's Lady Chapel (Phase 5) and then Henry III's church and Chapter House (Phase 6), these constructed in the earlier and mid part of the 13th century. The former was demolished in the early 16th century making way for the larger Henry VII's Lady Chapel (Phase 8). Notably a small number of burials (Phase 7) were excavated beneath the floor of this later structure at a time coinciding with the general disuse of this area for burial purposes. Moving into the post-Dissolution period, there are remains of a brick building at the western end of Poets' Corner Yard (Phase 9) which probably represents No 3. Poets' Corner, one of three houses constructed here in the 18th century. Amongst the latest structures/levels (Phase 10) there are a number of construction features and drains, no doubt related to the extensive restoration work carried out within this part of the Abbey by Sir George Gilbert Scott in the mid to late 19th century.

Animal bones were found throughout this sequence, recovered by hand as well as by sorting through the residues of several bulk samples. Much of the bone dates to the earliest and latest phases, their relative paucity elsewhere perhaps associated with the largely burial and ecclesiastical use of this area throughout much of its history. The small number of fish bones from the samples was identified by Philip Armitage who also supplied comments concerning the presence and use of the species represented.

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. The sample collections were washed through a modified Siraf tank using a 1mm mesh and the subsequent residues were air dried and sorted.

Description of faunal assemblage

The site provided a grand total of 743 animal bones taken by hand collection and a minor quantity of just 39 provided by 9 samples. All but a single hand collected fragment could be phased with the great majority of these bones taken from the main open area trench, noting that the evaluation trenches were previously excavated within the same area, and from Trench 100 (see Table 1).

Phase:	1	2	4	5	6	7	8	9	10	VOID	Total
Recovery/Trench											
Hand											
1					1				6		7
2								10			10
3			6						10		16
M		2	21		59	19	1	72	60		234
10-13		1	20	1		5	10	72	5		114
100		215	19		8	8		10	83		343
14			2						3		5
15	1		3						8		12
Other					1					1	2
Total	1	218	71	1	69	32	11	164	175	1	743
Sieved											
M		4	1					19			24
10-13			11					4			15
Total		4	12					23			39

Table 1: Distribution of animal bones by phase, recovery method and trench, where M is the main open area overlying the evaluation trenches 1, 2 and 3.

The site was divided into 10 phases, abbreviated as follows (and see Introduction):- 1 - Natural, 2 - Land Reclamation, 3 - Early Stone Building-robber cut, 4 - Monastic burial ground, 5 - Henry III's Lady Chapel, 6 - Construction of Henry III's Church and Chapter House, 7 - Later burials, 8 - Henry VII's Lady Chapel, 9 - 17th and 18th centuries and 10 - 19th century and modern. Throughout these phase collections the bones are relatively well preserved, although a small number of contexts did provide moderate to severely abraded fragments, these with no obvious concentration either spatially or temporarily. Fragmentation can be described as moderate to low, which is perhaps surprising given the potentially high level of redeposition. Notably a large proportion of deposits contained disarticulated human bones (Table 2), though it should be said that on the whole the pot dates do approximate to the phasing (with perhaps the notable exception of Phase 2, see below).

Phase:	1	2	4	5	6	7	8	9	10	All
Y	1	1	14		7	5	3	10	21	62
N		4	6	1	8	5	2	10	14	50
%Y	100.0	20.0	70.0	0.0	46.7	50.0	60.0	50.0	60.0	55.4

Table 2: Percentage abundance of contexts (hand collected bone) where the animal bone is accompanied by human bone fragments, where Y and N are the number of animal bone containing contexts with and without human bones.

Phase:	1	2	4	5	6	7	8	9	10	UP	Total
Context type											
Pit		17	3		9	2	1	24	20		76
Cess pit								47			47
Posthole							1	2	1		4
Ditch		2			1			1	2		6
Drain									44		44
Construction cut					17		4	11	29	1	62
Robber cut								1	8		9
Grave			43			22					65
Cist			5								5
Other fill								14	12		26
Cemetery soil			3								3
Charnel					30						30
Soil			2					3	3		8

Phase:	1	2	4	5	6	7	8	9	10	UP	Total
Dump	1		2								3
floor			1	1	3	3	3		1		12
Layer					6	5		1	1		13
Demolition								6	9		15
Levelling		199	12		3		2	54	45		315
Grand Total	1	218	71	1	69	32	11	164	175	1	743

Table 3: Distribution of hand collected bones by phase and context type where UP is unphased

Land Reclamation (Phase 2)

A notable concentration of animal bones was recovered from Trench 100, principally from levelling deposits and especially from [703] with 192 fragments. Otherwise this trench also provided bones from a single pit [741] (17 bones), while minor quantities were taken from Trenches 10-13 (ditch) and the main area (M) also from a levelling deposit (see Tables 1, 3 and 4). The bones from the pit appear to be largely composed of the remains of an adult cattle skeleton, including a large part of the left forelimb and several ribs. Notably three of these ribs display partial fractures, perhaps the result of a single trauma. The remaining bones from the Phase 2 collections were almost entirely made up of bones belonging to the major domesticates, mainly cattle, with some chicken and rabbit as well as a single fish bone (a small gadid) from one of the samples (Tables 5 and 6). The domesticates are all represented by a mix of skeletal parts, signifying general processing and food waste. Of interest is the presence of rabbit, this recovered from levelling deposit [703]. Considering the potential early date for these levels predating the foundation of the Abbey, this could represent one of the earliest rabbits in Britain. It is now generally understood that this species was introduced to Britain in the 12th century with numerous warrens established by the mid to late 13th century. However, the significance of this particular bone is somewhat tarnished by the date provided by the accompanying pottery - 1270-1500.

Phase:	2	4	9	Total
Context type				
Pit	1			1
Cess pit			4	4
Ditch	1			1
Construction			1	1
Grave		1		1

Phase:	2	4	9	Total
Fill	2	10		12
Dump		1		1
floor			2	2
Layer			4	4
Lev			12	12
Grand Total	4	12	23	39

Table 4: Distribution of sieved bones by phase and feature type

Monastic Burial Ground (Phase 4)

Most of the bones were taken from 11 graves/cists, comprising 3 each from the main area (including a cist grave from evaluation Trench 3) and Trenches 10-13 and then 1 from Trench 14 and 2 (including another cist grave) from Trench 15. While most of these provided rather few bones, 12 were taken from grave [691] and 7 from [716] (both in Trench 100). A large proportion of the grave assemblage comprised cattle- and sheep-sized bones although each of the major domesticates was represented in addition to a dog humerus from [716]. In combination with the few bones found in other features, the Phase 4 collection is rather similar that described from the Phase 2, although without any rabbit or fish. Samples were taken from 6 graves, of which only one provided any animal bones, a small rodent humerus from [274]. The other sample bones were taken from pit [594].

13th-century construction (Phases 5 and 6)

The earlier phase provided just one bone, a sheep/goat pelvis fragment from a 13th-century mortar surface (within Trenches 10-13) apparently external to Henry III's Lady Chapel. A somewhat larger collection was taken from deposits dated to the next phase, these almost entirely from the main trench and mainly recovered from the fills of construction cuts related to the Chapter House and the South Transept. The latter was composed of a deposit of charnel waste. Again the dating is relatively good for this phase. Domesticates and in particular cattle, provide the major part of the bones from these deposits and Phase 6 in general. However, there are also the first cases of large wild game, namely red and fallow deer. Three out of the four deer bones were taken from the charnel layer (all tibias), the fourth (a pelvis) from a floor layer in Trench 1, i.e. within the main area. The postcranial nature of these bones signifies that they all represent food waste. There is also plaice/flounder and dove, both derived by hand collection. No bones were retrieved from the Phase 6 samples.

Phase:	1	2	4	5	6	7	8	9	10
Species									
Cattle	1	40	11		18	5	1	25	37
Equid					1			1	4
Cattle-size		109	22		17	13	3	58	57
Sheep/Goat		22	10	1	10	5	5	31	29
Sheep		1							
Pig		15	6		5	4	1	8	17
Sheep-size		28	20		12	4	1	30	21
Red deer					1	1			
Fallow deer					2			2	
Roe deer								2	
Dog			1						2
Rabbit		1						4	1
Small mammal					1				
Chicken		2	1					2	2
Chicken-size									1
Goose									1
Mallard									1
Small corvid								1	
Dove					1				
Plaice/Flounder					1				
Starry skate									2
Grand Total	1	218	71	1	69	32	11	164	175

Table 5: Distribution of hand collected bones by phase and species

Phase:	2	4	9
Species			
Cattle-size	1	11	2
Sheep/Goat	2		3
Sheep-size			9
Rabbit			1
Small mammal			1

Phase:	2	4	9
Small rodent		1	1
Chicken			1
Chicken-size			1
Goose			2
Flounder			1
Small gadid	1		
Uniden fish			1
Grand Total	4	12	23

Table 6: Distribution of sieved bones by phase and species

Late burials and 16th-century construction (Phases 7 and 8)

As with Phase 4, the major part of the bones were taken from grave backfills, in this case from a total of 6, with 3 from the main area, 2 from Trenches 10-13 and 1 from Trench 100. These provided a mix of major domesticates and skeletal parts with the exception of grave [444] in Trenches 10-13 which produced a shaft fragment of a red deer antler. Samples were taken from grave [140], none of which produced animal bones. The few bones recovered from deposits associated with Henry VII's Lady Chapel comprise a selection of major domesticate skeletal parts.

Post Dissolution (Phases 9 and 10)

These two phases feature collections from a wider variety of feature types, although both were principally derived from pits and levelling dumps. There is some variation in the location of these finds. A large proportion of each assemblage was taken from the main area, while much of the remainder was found in either Trenches 10-13 (Phase 9) and Trench 100 (Phase 10). Both feature a not dissimilar abundance of cattle and sheep/goat with a lesser proportion of pig accompanied by some poultry and game (especially in Phase 9 with fallow and roe deer as well as rabbit). Again there is a mix of domesticate skeletal parts. Of interest is the absence of bones from notably large individuals and of sawn items, both of which are generally found in late 18th/19th-century London bone assemblages. Fish bones were recovered in both phases, though only Phase 9 was sampled. The later phase provided two small dermal denticles of Starry Skate. This is a relatively common fish in the southern North Sea and the West Atlantic to Iceland. It represents a commercially preserved food fish in Iceland where starry skates are dried whole or diced (see HAUSTACK COMPANY website).

Conclusion and Recommendations for Further Work

This collection is in generally good condition and well dated, with the exception, in particular, of the overall medieval date given for that deposit providing the major part of the Phase 2 assemblage, i.e. reclamation dump [703]. The general admixture of human bones within the monastic/Abbey levels, generously spread throughout these deposits no doubt emanating from the Phase 4 and 7 cemeteries, does not appear to have had a deleterious effect on either the condition of the bones or their relative dating. However, this usage has undoubtedly affected the accumulation of waste materials, as shown by the rather small collections taken from deposits dating to this period. A similar near absence continues well into the post-Dissolution era, a greater body of waste dating to the 18th and 19th centuries perhaps reflecting the domestic use of this area, perhaps derived from one or more of the three houses constructed at Poets' Corner in the 18th century.

It can be proposed that the earliest collection, despite the broad date, is worthy of further study, here looking at the age and size data as well as a more detailed examination of the partial cattle articulation. The lack of butchery marks to these bones would suggest it represents a discarded carcass, its incomplete state indicating some level of disturbance. While undoubtedly minor quantities, the medieval monastic/Abbey collections do demonstrate some interesting features. In particular there is the presence of deer in Phases 6 and 7, indicative of high status. This is clearly comparable to other excavations at the Abbey, as at the Cellarium and the Song School (Rielly 2014; 2016), these also providing other indications of high status as small cetacean (?porpoise) and a wide range of smaller game. The latest levels, as mentioned, provided a moderately sized collection, their significance heightened by their likely derivation from the nearby 18th-century houses.

The bones from this site are clearly not up to the standard of those recovered from other Abbey excavations, as mentioned above and also including the Dorter Undercroft (Pipe 1995), in terms of quantity or indeed quality, but it nonetheless can provide useful information concerning the earliest (pre or early monastic) and latest (18th and 19th centuries) occupation phases as well as some additional data regarding medieval food usage amongst the ecclesiastical community.

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APPENDIX 14: ENVIRONMENTAL ASSESSMENT

Kate Turner

Introduction

This report summarises the findings of the rapid assessment of the environmental remains found in twenty-six bulk samples taken during the archaeological excavation of land in and around Poet's Corner Yard, Westminster Abbey. These samples were taken from a variety of features, including grave cuts and a chanel pit, the context information for which is given in Table 1. Samples were also taken from around buried human remains, for the recovery of small bones and teeth.

The aim of this assessment is to:

- Give an overview of the contents of the assessed samples;
- Determine the environmental potential of these samples;
- Establish whether any further analysis is necessary.

Methodology

Eighteen environmental bulk samples, of between 0.25 and thirty-six litres in volume, were processed using the flotation method; material was collected using a 300µm mesh for the light fraction and a 1mm mesh for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items).

The light residue (>300µm), once dried, was scanned under a low-power binocular microscope to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material.

In addition to the floated samples, eight bulk samples of between <1 and 9 litres in volume were processed by wet sieving. These samples were all collected from either around skeletal remains, or from within human burial contexts. Samples were gently washed between 10mm and 2mm metal sieves and

the clean residue then dried and sorted as described above. Flots were not collected from these samples as they were primarily taken for the recovery of smaller human remains.

Results and Discussion

Of the processed samples, only the eighteen floated bulks produced flots, of 0.5 to 300 millilitres in volume. For the purpose of this report, the contents of the flots and heavy residues will be collated and presented by phase; the wet sieved samples will be discussed separately from the tank floated material.

Cultural material collected from the heavy residues has been catalogued and passed to the relevant specialists for further assessment. A full account of the sample contents is given in Tables 2 and 3.

Wet Sieved

Phase 4: Medieval

All of the eight bulk samples set aside for wet sieving were taken from deposits thought to date to the medieval period. Four samples were taken from the fill of a chalk cist, feature [61], one from the fill around a skeleton contained within burial [157], one from the fill around a skeleton in burial [168], one from the backfill of burial [319] and one from the lower fill of a charnel pit, [312]. The primary purpose of this set of sampling was to recover human skeletal material.

Environmental remains were scarce in these deposits; only a small amount of wood charcoal was recorded in four samples, <9>, <10>, <12> and <17>. None of the assessed samples contained more than twenty individual fragments, and of these only two contained pieces of a size that might be suitable for species identification. As expected, human bone was reported in all of the processed residues, though the highest abundances were observed in sample <19> which was taken from the charnel pit. A small amount of fish bone was additionally recovered from sample <17>.

Tank Floated

Phase 2: Uncategorised

Two samples were taken from deposits from which no dateable artefacts were recovered. The first of these, sample <18>, was taken from the lower fill of a ditch. This context was found to contain a moderate amount of environmental material; between thirty and one hundred pieces of wood charcoal were found, though less than twenty were of a suitable size for species to be determined. Carbonised grain was also

reported, initial identification of which suggests the presence of bread wheat (*Triticum aestivum/durum*) and rye (*Secale cereale*). Less than ten specimens were observed overall.

Weed seeds were present in low densities; the most abundant genera were *Drosera anglica* (English sundew), of which seeds and fruits were reported, and *Juncus* sp. (rushes). The condition of both of these species is very good, suggesting the possibility that they may be modern contaminants. A small amount of birch (*Betula* sp.), wood sorrel (*Oxalis* sp.), bramble (*Rubus* sp.) and elder (*Sambucus* sp.) was also identified, along with stamen and leaf fragments and root material.

In terms of other environmental remains, a minimal number of large animal bone, small animal bone, fish bone and scales were observed, along with a low density of insect remains. None of the extracted ecofacts were in a great enough abundance to prove of diagnostic significance.

Sample <23>, also undated, was taken from the fill of a pit. A low frequency of wood charcoal was recovered, none of which was viable for identification, along with a small number of weed seeds including duckweed (*Lemna* sp.) and wild strawberry (*Fragaria* sp.). A single charred grain of spelt wheat (*Triticum spelta*) was also reported. None of the environmental remains in this deposit were of diagnostic value.

Phase 3: Medieval

One sample was taken from the first phase of medieval activity, Phase 3. This was collected from the fill of a cut that may or may not be related to pit [731]. Environmental preservation in this deposit was generally poor; weed seeds were scarce, with only a small number of elder specimens recorded, as well as mineralized examples of sedge (*Carex* sp.) and charred grasses (*Poaceae* sp.), less than ten each.

Marine molluscs, including whole and fragmented oyster shell, were present in small numbers, which may be evidence of a dietary preference during the medieval period. Small and large animal bone, and fish bone, were also found, which will be discussed in a separate report.

Phase 4: Medieval

Four samples were collected from deposits assigned to Phase 4, also dated to the medieval period. Of these, three, <13>, <21> and <22> were collected from the soil around human skeletal remains, and the remaining sample, <29>, was taken from the fill of a pit.

Sample <13>, taken from grave cut [274], contained only limited environmental remains. Wood charcoal was recorded in abundance; however none of the fragments exceeded 2mm in length/width, and no other archaeobotanical remains were identified. A moderate concentration of fragmented marine shell was

found, however pieces were too small for species to be recognised. This deposit also contained a large amount of fish bone, along with scattered specimens of small animal bone.

Samples <21> and <22> both taken from material associated with skeleton [291], were similarly poor in archaeobotanical, with only a small amount of wood charcoal encountered. No other ecofacts were recorded.

The fill of pit [594] was found to contain a large amount of charcoal, some of which was of a suitable size for identification (>4mm in length/width); between thirty and one hundred viable specimens were extracted. A small amount of seeds, including birch and sedge, were reported, though none in great enough concentrations to provide environmentally significant.

Summary

In terms of botanical remains, there is little of diagnostic value in these deposits, as no significantly sized assemblages were encountered (>100 specimens). The abundance of fish bone and fragmented shell is however likely to indicate that fish and marine molluscs may have been an important dietary staple during this period.

Phase 6: High Medieval

Samples were taken from two features thought to date to the high medieval period, [278] and [705]. Two samples were taken from the former, the fill of a construction cut for the Chapter House, and one from the latter, the fill of a high medieval pit.

Preservation of environmental material in the construction cut was mixed; the upper fill, <14>, was found to be rich in mollusc remains, with over one hundred land snail shells being reported, including specimens of *Vallonia* sp. and *Cecilioides acicula*, a subterranean species which, when found in archaeological deposits, is often interpreted as an indication of burrowing activity. Recovery of botanical material was however poor, with only a low concentration of elder seeds and burnt grass seeds encountered, along with a low concentration of bread wheat. Wood charcoal was also recorded, though no sizeable fragments were found. A small number of fish bone and scale suggests that fish may have been consumed during this period.

The lower fill of the same cut contained a larger density of seeds and wood charcoal, including specimens of fig and elder, however the charcoal was still too heavily fragmented to be identified, and the seed assemblage did not exceed thirty specimens. Terrestrial molluscs were present, but in low concentrations, along with a small amount of fish bone.

Pit [705] was found to contain only a small amount of sizeable charcoal (<10 specimens) and scattered weed seeds, including nettle (*Urtica* sp.) and charred grasses. A single grain of bread wheat was also recorded. Roots and tubers were abundant in this deposit, which may be a sign of bioturbation, a moderate number of insect remains were also recovered.

Summary

Aside from the shell assemblage in sample <14>, there is little diagnostic value in these deposits; the low concentration of bread wheat recovered from two samples may be a sign of domestic baking, however this cannot be substantiated due to the size of the sample set. It is also likely that fish may have been consumed on the site during this phase of activity however; again, the sample size is small.

Phase 9: Post-medieval

Five samples were taken from deposits thought to date to the post-medieval occupation of the site, four from archaeological layers, and one from a feature thought to be a cesspit.

Sample <7>, from a burnt dump layer, contained abundant wood charcoal (>100 pieces) including between eleven and thirty sizeable fragments. Weed seeds were scarce, with less than ten specimens recorded; species include fig (*Ficus* sp.) and buttercup (*Ranunculus* sp.). A small number of mineralized grape seeds were also reported. Fish and animal bone were discovered in moderate numbers, and may suggest a dietary influence. Preservation was similarly poor in the cess pit sample, <24>; only a small amount of wood charcoal, and possibly modern seeds were identified, along with a low frequency of bone.

The three associated layers, [546], [565] and [568] contained a greater concentration of archaeobotanical material, with each sample yielding between eleven and thirty seeds. Fig, bramble and elder were the most common, present in all three samples. Fruit seeds such as these are likely to be evidence of consumption; however densities are too low to speculate on the extent of this, or the level to which fruits are being deliberately cultivated during this period. Wood charcoal was recorded, however only sample <27 > contained any sizeable fragments. This sample also contained heavily fragmented marine shell, which may be evidence of dietary exploitation.

Summary

As with the previous samples, preservation of ecofacts, in particular archaeobotanical material was poor in these deposits. Little can be said about the local environment during the post-medieval phase, though the low concentration of fruit seeds suggests that fig, grape, elder and brambles (including blackberry and raspberry) may have been consumed on site.

Phase 10: Modern

Three samples were taken from modern drainage features, [98], [659] and [672]. Weed seeds were abundant in sample <8>, taken from a deposit filling the interior of a culvert; all of the species recorded are fruits, including grape (*Vitis vinifera*), fig, elder and wild strawberry (*Fragaria* sp.). Moderate densities of fish bone and scales, along with insect remains, were also recovered, indicating that this is likely to be an occupational waste deposit. Wood charcoal was present, but less than ten sizeable fragments were recorded.

Samples <30> and <31>, taken from the upper and lower layers of a metallised surface, contained little in the way of archaeobotanical material, aside from a small amount of charcoal, and scattered fig and birch (*Betula* sp.) seeds. A low concentration of terrestrial molluscs was also reported, however species diversity was low, with only two types recognised including burrowing specimens.

Roots and tubers were present throughout all of these assemblages, indicating the possibility of bioturbation.

Summary

Fruit seeds, such as fig and brambles, are abundant in feature [98], indicating that these fruits are either being picked from local wild populations to be consumed, or cultivated deliberately during the modern period. There is also significant evidence that fish is being eaten during this time.

Conclusions and Recommendations for Further Work

An assessment of the samples from Poet's Corner Yard has shown that preservation of environmental material is generally poor. There is some evidence to suggest that marine molluscs are being consumed during the medieval and modern periods, however the uncovered assemblages are small and unlikely to provide any further information regarding diet during these phases of occupation. Charcoal has also been identified across the sample set though, again, viable fragments are rare, and are likely to provide useful only for radiocarbon dating in deposits where dateable artefacts are scarce. Dating of charred grain is

however preferable, if it can be established that the containing deposits are undisturbed. Weed seeds are present throughout, although the only sample to contain more than one hundred specimens, sample <8> contains a very limited range of taxa. As a result additional specialist analysis is not suggested on this material.

Due to the generally poor preservation of ecofacts, and the potential for bioturbation in some of these deposits, no further work is suggested; however a summary of this assessment should be included in the final publication.

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Table 1: Context information for environmental samples, PSY12

Context No.	Cut	Context type	Context category	Phase	Interpretation
59	61	Fill	Deposit	3	Fill of chalk cist [61]
158	157	Skeleton	Supine	4	Skeleton contained within grave cut [157].
167	168	Skeleton	Supine	4	Skeleton contained within grave cut [168].
217		Layer	Dump	9	Layer of burnt material.
221	98	Fill	Natural silting/accumulation	10	Deposit filling the interior of culvert [97].
266	274	Skeleton	Supine	4	Skeleton contained within coffin [260] in grave cut [274].
277	278	Fill	Backfill/disuse	6	Upper fill of the construction cut [278] for the Chapter House.
284	278	Fill	Backfill/disuse	6	Lower fill of the construction cut [278] for the Chapter House.
316	319	Fill	Backfill/disuse	4	Backfill of grave [319].
321	310	Fill	Backfill/disuse	2	Lower fill of ditch [310].
332	312	Fill	Infilling/use	4	Lower fill of charnel pit [312].
342	291	Skeleton	Supine	4	Truncated adult skeleton.
353	354	Fill	Backfill/disuse	2	Fill of pit [354].
416	451	Fill	Backfill/disuse	9	Fill of cesspit/soak away [451].
564		Layer	Dump	9	Dump layer consisting of furnace waste.
565		Layer	Surface/floor (external)	9	Metalled surface.
568		Layer	Bedding/make-up/leveling	9	Bedding layer for surface [565].
593	594	Fill	Backfill/disuse	4	Fill of pit [594].
724	659	Fill	Backfill/disuse	10	Backfill of drain [666]

725	672	Fill		10	Fill of drainage [671]
730	705	Fill		6	Fill of pit [731]
740	741	Fill		3	Fill of cut [741], potentially related to pit [731]

Table 2: Assessment of environmental residues, PSY12

Sample No.	5	5	6	6	6	7	8	9	9	10	10	11
Context No.	158	158	167	167	167	217	221	59	59	59	59	59
Feature No.	157	157	168	168	168		98	61	61	61	61	61
Volume of bulk (liters)	3	3	9	9	9	8	36	<1	<1	<1	<1	1
Volume of flot (milliliters)	NO	NO	NO	NO	NO	300	100	NO	NO	NO	NO	NO
Method of processing	WS	WS	WS	WS	WS	F	F	WS	WS	WS	WS	WS
Fraction size	<5 mm	5-10 mm	<5 mm	5-10 mm	>10 mm	N/A	N/A	<5 mm	>10 mm	5-10 mm	>10 mm	<5 mm
HEAVY RESIDUE												
Charcoal												
Charcoal >4 mm						2	1			1		
Charcoal 2-4 mm						3		1				
Charcoal <2 mm						4		1				
Marine Molluscs												
Common oyster (left valve)												
Common oyster (fragments)												

Sample No.	5	5	6	6	6	7	8	9	9	10	10	11
Context No.	158	158	167	167	167	217	221	59	59	59	59	59
Feature No.	157	157	168	168	168		98	61	61	61	61	61
Shell fragments (No ID)												
Bone												
Human bone						2			1			1
Large animal bone												
Small animal bone						1						
Fish bone						1	2					
Burnt bone						2	1					
Bone fragments	1	1		1			2			1		
Building material												
Brick								1				
Stone						1	1					
Daub												
Plaster												
Mortar					1	1						
Tile					1	2	2					
Metalworking residue												
Iron						1	1					
Copper							1					
Tin							3					
Hammer-scale						1						
Slag						2						

Sample No.	5	5	6	6	6	7	8	9	9	10	10	11
Context No.	158	158	167	167	167	217	221	59	59	59	59	59
Feature No.	157	157	168	168	168		98	61	61	61	61	61
Crucible fragments												
Coal						3	1					
Clinker/burnt coal						3						
Other artefacts												
Pottery						1	1					
Clay pipe						2	1					
Button						1						
Glass						1	1					
Burnt flint												
Struck flint												

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Sample No.	12	12	12	13	14	15	17	17	17	18	19	19
Context No.	59	59	59	266	277	284	316	316	316	321	332	332
Feature No.	61	61	61	274	278	278	319	319	319	310	312	312
Volume of bulk (litres)	<1	<1	<1	0.25	34	19	9	9	9	36	5	5
Volume of flot (millilitres)	NO	NO	NO	140	6	1	NO	NO	NO	6	NO	NO
Method of processing	WS	WS	WS	WS	F	F	WS	WS	WS	F	WS	WS

Sample No.	12	12	12	13	14	15	17	17	17	18	19	19
Context No.	59	59	59	266	277	284	316	316	316	321	332	332
Feature No.	61	61	61	274	278	278	319	319	319	310	312	312
Fraction size	<5 mm	5-10 mm	>10 mm		N/A	N/A	<5 mm	5-10 mm	>10 mm	N/A	5-10 mm	>10 mm
HEAVY RESIDUE												
Charcoal												
Charcoal >4 mm								1	1	2		
Charcoal 2-4 mm	1	1			1	1	1	1		2		
Charcoal <2 mm	1									2		
Marine Molluscs												
Common oyster (left valve)												
Common oyster (fragments)												
Shell fragments (No ID)												
Bone												
Human bone			1					1	1		3	3
Large animal bone										1		
Small animal bone				1						2		
Fish bone						1	1		2	2		
Burnt bone												
Bone fragments				1	2	1	2					
Building material												

Sample No.	12	12	12	13	14	15	17	17	17	18	19	19
Context No.	59	59	59	266	277	284	316	316	316	321	332	332
Feature No.	61	61	61	274	278	278	319	319	319	310	312	312
Brick								1		1		
Stone					1	2						
Daub												
Plaster												
Mortar					2	2				1		
Tile					1							
Metalworking residue												
Iron												
Copper												
Tin												
Hammer-scale												
Slag										1		
Crucible fragments												
Coal												
Clinker/burnt coal												
Other artefacts												
Pottery					1	1	1					
Clay pipe												
Button												
Glass												
Burnt flint										1		

Sample No.	12	12	12	13	14	15	17	17	17	18	19	19
Context No.	59	59	59	266	277	284	316	316	316	321	332	332
Feature No.	61	61	61	274	278	278	319	319	319	310	312	312
Struck flint	1							1	1	1		

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Sample No.	21	22	23	24	25	26	27	29	30	31	32	33
Context No.	342	342	353	416	564	565	568	593	724	725	730	740
Feature No.	291	291	354	451				594	659	672	705	741
Volume of bulk (litres)	<1	<1	8	10	9	20	27	26	8	9	25	24
Volume of flot (millilitres)	0.5	0.5	3	76	27	12	200	65	17	41	40	41
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F
Fraction size	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEAVY RESIDUE												
Charcoal												
Charcoal >4 mm							1	2			1	1
Charcoal 2-4 mm			1					3				
Charcoal <2 mm								4				
Marine Molluscs												
Common oyster (left valve)												1

Sample No.	21	22	23	24	25	26	27	29	30	31	32	33
Context No.	342	342	353	416	564	565	568	593	724	725	730	740
Feature No.	291	291	354	451				594	659	672	705	741
Common oyster (fragments)												2
Shell fragments (No ID)									1	1	1	2
Bone												
Human bone		1		2								
Large animal bone											1	1
Small animal bone				1					1	1	1	3
Fish bone				1				1	1	1	1	1
Burnt bone												
Bone fragments	3	2	1			1	3	1		1	1	1
Building material												
Brick				1	2	1	1			1	1	2
Stone						1	1	1				
Daub								1				
Plaster									1			
Mortar				1		1	1	1		1		1
Tile						2	2	1				
Metalworking residue												
Iron				1					2	2		
Copper				1					1			
Tin												
Hammer-scale								4	3	3		

Sample No.	21	22	23	24	25	26	27	29	30	31	32	33
Context No.	342	342	353	416	564	565	568	593	724	725	730	740
Feature No.	291	291	354	451				594	659	672	705	741
Slag								4		1		
Crucible fragments								1				
Coal				2	4	2	3					
Clinker/burnt coal												
Other artefacts												
Pottery				1	1	1	1	1		1	1	1
Clay pipe					1		1					
Button												
Glass				1			1			1		
Burnt flint			1					1			2	1
Struck flint					1			1			1	1

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Table 3: Assessment of environmental flots, PSY12

Sample No.	7	8	13	14	15	18	21	22
Context No.	217	221	266	277	284	321	342	342
Feature No.		98	274	278	278	310	291	291
Volume of bulk (litres)	8	36	0.25	34	19	36	<1	<1
Volume of flot (millilitres)	300	100	140	6	1	6	0.5	0.5
Method of processing	F	F	WS	F	F	F	F	F
FLOT RESIDUE								
Charcoal								
Charcoal >4 mm	2	1		1	1	1		
Charcoal 2 - 4 mm	2	1		1	1	2		1
Charcoal <2 mm	4	4	4	4	3	4	2	1
Frag. of ID size	<10	X	X	X	X	<5	X	X
Seeds								
<i>Betula</i> sp.	Birch					1		
<i>Carex</i> sp.	Sedges							
<i>Chenopodium</i> sp.	Goosefoot				1			
<i>Drosera anglica</i>	English sundew				1	2		
<i>Ficus</i> sp.	Figs	1			1			
<i>Fragaria</i> sp.	Strawberries		4					
<i>Juncus</i> sp.	Rushes				1	2		
<i>Lemna</i> sp.	Duckweeds							
<i>Oxalis</i> sp.	Wood-sorrels					1		
<i>Ranunculus</i> sp.	Buttercups							
<i>Rubus</i> sp.	Brambles	1	4			1		
<i>Sambucus</i> sp.	Elder			1	1	1		
<i>Stachys</i> sp.	Woundworts							
<i>Urtica</i> sp.	Nettles							
Mineralized Seeds								
<i>Carex</i> sp.	Sedges							
<i>Vitis Vinifera</i>	Grape-vine	1						
Charred Seeds								
<i>Ficus</i> sp.	Figs		4					
<i>Poaceae</i> sp. (large)	Grasses			1		1		
<i>Sambucus</i> sp.	Elder		1					
<i>Vitis Vinifera</i>	Grape-vine		2					
Cereals								

Sample No.	7	8	13	14	15	18	21	22
Context No.	217	221	266	277	284	321	342	342
Feature No.		98	274	278	278	310	291	291
<i>Secale cereale</i>	Rye					1		
<i>Triticum aestivum/durum</i>	Bread wheat			1		1		
<i>Triticum spelta</i>	Spelt wheat							
Broken/distorted (No ID)					1	1		
Other plant macrofossils								
<i>Drosera anglica</i> (fruit)						1		
Fragmented wood		1						
Leaf fragments (no ID)						1		
Roots/tubers		3		2		1		1
Stamen fragments						1		
Molluscs								
<i>Bithynia tentaculata</i>	Terrestrial			1				
<i>Candidula</i> sp.	Terrestrial			1	1			
<i>Carychium tridentatum</i>	Terrestrial			1				
<i>Cecilioides acicula</i>	Terrestrial			3	1			
<i>Cochlicopa lubrica</i>	Terrestrial			1				
<i>Discus rotundatus</i>	Terrestrial			1				
<i>Lauria cylindracea</i>	Terrestrial			1				
<i>Oxychilus</i> sp.	Terrestrial	2		1				
<i>Vallonia</i> sp.	Terrestrial			3	1			
Juveniles (no ID)				3	1			
Broken shell (marine)			3		1			
Bone								
Fish bone	2	3	4	1		1		
Fish scales		1		2		1		
Small animal bone	1				1			
Bone fragments	1				1		2	
Other environmental remains								
Insect remains		3		1		1		
Insect eggs/worm cases						1		
Ostracods								
Other remains								

Sample No.	7	8	13	14	15	18	21	22
Context No.	217	221	266	277	284	321	342	342
Feature No.		98	274	278	278	310	291	291
Fuel ash slag		4						
Clinker/burnt coal	4	4	3	1				
Slag	2					1		
Hammer-scale						1		
Vitreous material	4						1	
Coal	3	4	3	1				

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Sample No.	23	24	25	26	27	29	30	31	32	33
Context No.	353	416	564	565	568	593	724	725	730	740
Feature No.	354	451				594	659	672	705	741
Volume of bulk (litres)	8	10	9	20	27	26	8	9	25	24
Volume of flot (millilitres)	3	76	27	12	200	65	17	41	40	41
Method of processing	F	F	F	F	F	F	F	F	F	F
FLOT RESIDUE										
Charcoal										
Charcoal >4 mm					1	3			1	2
Charcoal 2 - 4 mm	1	1		1	1	3		1	3	4
Charcoal <2 mm	4	3	2	2	3	4	3	3	4	4
Frag. of ID size	X	X	X	X	<5	<20	X	X	<5	<20
Seeds										
<i>Betula</i> sp.	Birch	1				1		1		
<i>Carex</i> sp.	Sedges			1	1	1				
<i>Chenopodium</i> sp.	Goosefoot	1								
<i>Drosera anglica</i>	English sundew		1							
<i>Ficus</i> sp.	Figs		1	1	1			1		
<i>Fragaria</i> sp.	Strawberries	1								
<i>Juncus</i> sp.	Rushes									
<i>Lemna</i> sp.	Duckweeds	1								
<i>Oxalis</i> sp.	Wood-sorrels			1						
<i>Ranunculus</i> sp.	Buttercups					1				
<i>Rubus</i> sp.	Brambles		1	1	1					
<i>Sambucus</i> sp.	Elder	1	1	1	1					2

Sample No.		23	24	25	26	27	29	30	31	32	33
Context No.		353	416	564	565	568	593	724	725	730	740
Feature No.		354	451				594	659	672	705	741
<i>Stachys</i> sp.	Woundworts				1	1					
<i>Urtica</i> sp.	Nettles									1	
Mineralized Seeds											
<i>Carex</i> sp.	Sedges										1
<i>Vitis Vinifera</i>	Grape-vine										
Charred Seeds											
<i>Ficus</i> sp.	Figs										
<i>Poaceae</i> sp. (large)	Grasses									1	1
<i>Sambucus</i> sp.	Elder										
<i>Vitis Vinifera</i>	Grape-vine										
Cereals											
<i>Secale cereale</i>	Rye										
<i>Triticum aestivum/durum</i>	Bread wheat									1	
<i>Triticum spelta</i>	Spelt wheat	1									
Broken/distorted (No ID)										1	
Other plant macrofossils											
<i>Drosera anglica</i> (fruit)			1			1					
Fragmented wood											
Leaf fragments (no ID)					1	2					
Roots/tubers			1	1	1		3	2	3	4	2
Stamen fragments			1								
Molluscs											
<i>Bithynia tentaculata</i>	Terrestrial										
<i>Candidula</i> sp.	Terrestrial										
<i>Carychium tridentatum</i>	Terrestrial										
<i>Cecilioides acicula</i>	Terrestrial							1			
<i>Cochlicopa lubrica</i>	Terrestrial										
<i>Discus rotundatus</i>	Terrestrial										
<i>Lauria cylindracea</i>	Terrestrial										
<i>Oxychilus</i> sp.	Terrestrial								2		
<i>Vallonia</i> sp.	Terrestrial										
Juveniles (no ID)											

Sample No.	23	24	25	26	27	29	30	31	32	33
Context No.	353	416	564	565	568	593	724	725	730	740
Feature No.	354	451				594	659	672	705	741
Broken shell (marine)					3					
Bone										
Fish bone									1	1
Fish scales										2
Small animal bone		1			1					
Bone fragments	1	1			2					
Other environmental remains										
Insect remains	1			1	1		2	1	3	2
Insect eggs/worm cases										
Ostracods					2					
Other remains										
Fuel ash slag								3		2
Clinker/burnt coal		4	2	1	4		4			
Slag		1			3					2
Hammer-scale						4				
Vitreous material	3	4	2	3	4					
Coal		4	4	4	4		1			

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

APPENDIX 15: SUMMARY REPORT OF A WATCHING BRIEF ON TRENCH 300 AT POETS' CORNER YARD

Leonardo Penades

Introduction

An archaeological Watching Brief was carried out by Pre-Construct Archaeology Ltd at the south-eastern side of Westminster Abbey, known as Poet's Corner Yard.

The work was undertaken during the excavation of a final trench necessary to replace an old lead water pipe with a new plastic one. The service replacement was associated with the recent works to construct the new lift by which the Queen's Diamond Jubilee Galleries will be accessed. In advance of that scheme, an extensive series of excavations and watching briefs have been undertaken by PCA, (see main report). The excavation which was monitored during the watching brief herein reported could only be conducted after the striking of all scaffolding for the new construction.

Works were carried out between 3rd and 9th April 2018 and were fully monitored by Leonardo Penades of Pre-Construct Archaeology Limited.

Methodology

The excavation work was undertaken by staff working for Daedalus Conservation Ltd and was closely monitored by the archaeologist Leonardo Penades.

The trench was excavated by hand, and measured approximately 3.50m long, 0.60 wide and a maximum depth of 0.75m.

The first stage of the work was to carefully record and lift the stone base of the iron railings which previously secured Poet's Corner Yard (Plate 1).

All deposits were hand-excavated with hand-tools and registered in pro-forma sheets, plans were drawn in 1:20 scale and sections in 1:10 scale. A photographic register was kept during all the work process.

The trench was identified as Trench 300, distinct from all previous work by PCA for the project. The previous site code PSY12 was continued, and all recording systems were sequential from the previous works.

The results presented in this summary are presented in phase with the chronology of the wider project by PCA, as presented in the main report.



Plate 1: Stone lifting in process. Threshold and buttress. Looking North.



Plate 1: Trench 300 as excavated. Looking East.

Archaeological sequence

Phase 10: 19th Century-Modern

The remains of a brick drain [6003] were uncovered at the bottom of the trench's southern side (Plate 3). This was a continuation of brick culvert [97], recorded to the west in Poets' Corner Yard by Pre-Construct Archaeology Limited in the Main Excavation Area.



Plate 2: Brick drain [6003]. Looking South.

The remains of a brick foundation [6004] were exposed at the northern side of the trench. This brick work (Plate 4) was interpreted as the brick foundation for the large threshold stone which sat above it, which received one jamb of the former cast iron gate next to the flying buttress, built under the supervision of George Gilbert Scott.



Plate 3: Brick foundation [6004]. Looking North.

Modern

The installation of multiple service pipes (main water, gas, drain, etc.) was seen to have disturbed the made ground around the above features.

The current cobblestoned pavement seems to have been opened and laid down again several times in this period in order to locate these services.

Conclusions

The final excavation undertaken at Poets' Corner Yard to allow the replacement of the water pipe revealed the continuation of the 19th-century culvert which had been seen to the west during previous excavations. A brick foundation to the cast iron gates was also seen.

All features were recorded and left *in situ*, with the new pipe laid around them.

APPENDIX 16: OASIS FORM

OASIS ID: preconst1-313695

Project details

Project name Poets' Corner Yard, Westminster Abbey Triforium Project,
Westminster Abbey, London: An Archaeological Assessment

Short description of the project An archaeological investigation consisted of an evaluation, several excavations and several watching briefs that took place within Poets' Corner Yard at Westminster Abbey between 24th September 2012 and 8th April 2018. Despite a moderate degree of truncation a near complete archaeological sequence was revealed in the course of the investigation. Natural sand was overlain by land reclamation deposits followed by early medieval activity including a monastic burial ground. The burial ground was superseded by the medieval foundations of various parts of the Abbey and its development including the building of the South Transept, the Chapter House and various chapels. A further phase of burials in the early post-medieval period was succeeded by a series of new properties and finally by 19th century restoration works and 19th century and modern service runs, principally drainage.

Project dates Start: 24-09-2012 End: 08-04-2018

Previous/future work Yes / Not known

Any associated project reference codes PSY12 - Sitecode

Type of project Recording project

Site status Local Authority Designated Archaeological Area

Site status Conservation Area

Site status World Heritage Site

Current Land use Other 4 - Churchyard

Monument type LAND RECLAMATION DEPOSITS Early Medieval

Monument type INHUMATIONS Medieval

Monument type FOUNDATION Medieval

Monument type	POSTHOLE Early Medieval
Monument type	PIT Early Medieval
Monument type	LAYER Early Medieval
Monument type	POSTHOLE Medieval
Monument type	PIT Medieval
Monument type	WALL Medieval
Monument type	LAYER Medieval
Monument type	BEAM SLOT Post Medieval
Monument type	SOAKAWAY Post Medieval
Monument type	INSPECTION CHAMBER Post Medieval
Monument type	DRAIN Post Medieval
Monument type	CULVERT Post Medieval
Monument type	ROBBER CUT Post Medieval
Monument type	CONSTRUCTION CUT Medieval
Monument type	CONSTRUCTION CUT Post Medieval
Monument type	PIT Post Medieval
Monument type	POSTHOLE Post Medieval
Monument type	LAYER Post Medieval
Monument type	WALL Post Medieval
Monument type	FOUNDATION Post Medieval
Monument type	MASONS' FLOOR Medieval
Monument type	MASONS' FLOOR Post Medieval
Significant Finds	STRUCK FLINT Late Prehistoric
Significant Finds	STRUCK FLINT Medieval
Significant Finds	POTTERY Late Iron Age
Significant Finds	POTTERY Roman
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Medieval

Significant Finds	POTTERY Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Significant Finds	CBM Roman
Significant Finds	CBM Medieval
Significant Finds	CBM Post Medieval
Significant Finds	IRON NAIL Early Medieval
Significant Finds	BONE IMPLEMENT Early Medieval
Significant Finds	IRON NAIL Medieval
Significant Finds	SLAG Medieval
Significant Finds	LEAD WASTE Medieval
Significant Finds	IRON HORSESHOE Medieval
Significant Finds	KNIFE BLADE Medieval
Significant Finds	IRON NAIL Post Medieval
Significant Finds	COPPER PINS Post Medieval
Significant Finds	LEAD COFFIN Post Medieval
Significant Finds	WIRE Post Medieval
Significant Finds	HOOK Post Medieval
Significant Finds	BUCKLE Post Medieval
Significant Finds	COIN Post Medieval
Methods & techniques	"Sample Trenches", "Targeted Trenches"
Development type	Public building (e.g. school, church, hospital, medical centre, law courts etc.)
Development type	Lift Tower
Prompt	Direction from Local Planning Authority - PPS
Prompt	Conservation Area Consent
Prompt	Listed Building Consent
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER WESTMINSTER Poets' Corner Yard, Westminster Abbey.
Postcode	SW1P 3PA
Study area	280 Square metres
Site coordinates	TQ 3010 7946 51.498588949123 -0.125506203349 51 29 54 N 000 07 31 W Point
Height OD / Depth	Min: 1.99m Max: 4.2m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	Consultant
Project design originator	Warwick Rodwell
Project director/manager	Chris Mayo
Project supervisor	Paw Jorgensen
Project supervisor	Guy Seddon
Project supervisor	Kari Bower
Project supervisor	Leonardo Penades
Project supervisor	Corso Dominici
Type of sponsor/funding body	Landowner
Name of sponsor/funding body	Dean & Chapter of Westminster Abbey

Project archives

Physical Archive recipient	Westminster Abbey Museum
Physical Archive ID	PSY12
Physical Contents	"Animal Bones", "Ceramics", "Glass", "Human Bones", "Industrial", "Metal", "Worked bone", "Worked stone/lithics"
Digital Archive recipient	Westminster Abbey Museum
Digital Archive ID	PSY12
Digital Contents	"none"
Digital Media available	"Images raster / digital photography", "Spreadsheets", "Text"
Paper Archive recipient	Westminster Abbey Museum
Paper Archive ID	PSY12
Paper Contents	"none"
Paper Media available	"Context sheet", "Drawing", "Matrices", "Plan", "Report", "Section"

Project

bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Title Poets' Corner Yard, Westminster Abbey Triforium Project, Westminster Abbey, London SW1P 3PA: An Archaeological Assessment

Author(s)/Editor(s) Langthorne J.

Date 2018

Issuer or publisher Pre-Construct Archaeology Ltd.

Place of issue or publication London

Description A4 softcover grey literature report.

Entered by James Langthorne (jlangthorne@pre-construct.com)

Entered on 9 April 2018

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