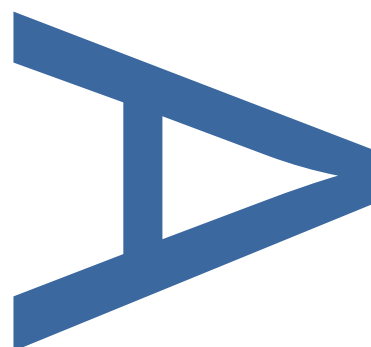
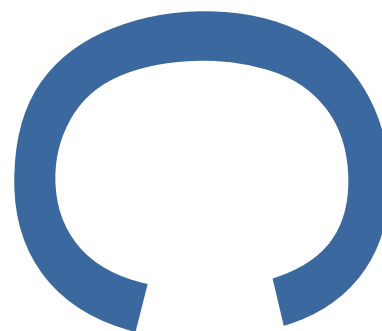


**THE TOWER OF LONDON
CHAPEL OF ST PETER AD VINCULA
REFURBISHMENT**

**AN ARCHAEOLOGICAL WATCHING
BRIEF**



PCA REPORT NO: R12516

SITE CODE: ToL146

JUNE 2016

PRE-CONSTRUCT ARCHAEOLOGY



DOCUMENT VERIFICATION

THE TOWER OF LONDON CHAPEL OF ST PETER
AD VINCULA REFURBISHMENT

AN ARCHAEOLOGICAL WATCHING BRIEF

Quality Control

Pre-Construct Archaeology Ltd	
Project Number	K3666
Report Number	R12516

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The Tower of London Chapel of St Peter ad Vincula Refurbishment

An Archaeological Watching Brief

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1 INTRODUCTION

- 1.1 An archaeological watching brief was conducted by Pre-Construct Archaeology Ltd at the Tower of London in the London Borough of Tower Hamlets (Figure 1). The watching brief monitored the excavation of a small trench for a new drainage pipe connecting the crypt of St Peter ad Vincula with the existing drainage system in the Inner Ward and also the installation of five hatches in the lead roof of the chapel itself. Both the chapel and the crypt are located in the northwest corner of the Inner Ward (Figure 2). The work was undertaken in order to observe and record anything of archaeological significance.
- 1.2 The work was completed in response to a brief for the project, prepared by Jane Spooner of Historic Royal Palaces (2014).

Plate 1: Devereux Screen and entrance to the crypt of St Peter's Chapel, looking west



- 1.3 The Tower of London is a World Heritage Site and a Scheduled Ancient Monument (Greater London No. 10).
- 1.4 The site investigation was carried out in August of 2014 and was commissioned by Historic Royal Palaces, Tower of London. The watching brief was supervised by Paw Jorgensen and Richard Humphrey and was managed by Chris Mayo, all of Pre-Construct Archaeology Limited. The archaeological works were inspected and monitored by Jane Spooner of Historic Royal Palaces, and also by Jane Sidell, Inspector of Ancient Monuments for Historic England. Historic Royal Palaces had secured Scheduled Monument Clearance for the work.
- 1.5 The watching brief was designed to monitor the excavation of a small trench for the installation of a new drainage pipe to serve the crypt of St Peter ad Vincula (Figure 3). New roof hatches were being installed in the chapel roof and the opening-up works necessary for this was also monitored during the watching brief.

- 1.6 The central National Grid Reference for the site is TQ 33575 80607 (533575,180607).
- 1.7 The site was allocated the unique site code ToL146. The completed archive comprising written and photographic records from the excavation will be deposited at the Historic Royal Palaces store at the Tower of London.

2 HISTORICAL BACKGROUND

2.1 The Tower of London, General Background

2.1.1 The construction of the Tower of London was begun shortly after the Conquest by William the Conqueror, with the great keep, the White Tower, sitting at its heart. The fortress was first constructed within the south eastern corner of the ancient Roman city walls, along the riverbank of the Thames. It was extended beyond the boundaries of the Roman city walls by Henry III and developed as a concentric castle by Edward I in the 13th century. The Tower became the home of major state institutions such as the Royal Mint as well as the setting for nationally significant historical events. The Tower is the home of the Coronation Regalia and Crown Jewels and is the birthplace of the Royal Armouries Museum which still displays part of its collection within the White Tower. The fortress is most strongly associated with in popular imagination with the Tudors and the turbulent events of the 16th century and in particular with the many prisoners kept within its walls. The 19th century Romantic perception of the Tower, together with the castle's emerging identity as a tourist attraction, led to the demolition of many institutional buildings and the addition of new medieval style neo-gothic edifices.

2.2 The Chapel of St Peter ad Vincula, Specific Background

2.2.1 While it may have been the case that the chapel of St Peter ad Vincula originated as a Saxon city church, the earliest mention of the chapel of St Peter was in 1128-34 when it was already associated with the Tower. During the 13th century the Tower was enlarged and embellished by Henry III and the chapel brought into the castle. Henry III was succeeded by his son Edward I, who rebuilt the chapel in 1286-7. The current building largely dates to 1519-20 when it was rebuilt following a fire in 1512 which destroyed its predecessor although the west tower was rebuilt in 1670-1 by Charles II. Internally the chapel saw further post-Restoration alterations which lasted until 1876-77 when they were removed during the extensive refurbishment scheme lead by John Taylor. Many of Taylor's additions to the chapel were removed during further work which took place over the winter of 1970-71 which created its modern appearance (Spooner 2014).

2.2.2 Most of the area to the northeast and east of the chapel of St Peter Ad Vincula was until 1841 occupied by a series of Ordnance storehouses, the construction of which had started in the Tudor period. The brick vaults which form the crypt to the north of the chapel are the only surviving features of the earliest storehouses. These were replaced by the Grand Storehouse which was built between 1688-1691 in order to consolidate the storehouses to the north of the White Tower into a single building (Spooner 2014). During construction of the storehouse the north front of the chapel was affected and the roof had to be raised on this side of the building. The area between the chapel and the inner northern curtain wall was occupied by first the old Ordnance office and from 1673 by the residence and workshops of the Furbisher of Small Arms and the gunsmiths and the semi-basemented vaults below these buildings were used to store saltpetre and grenades. Like the Grand Storehouse these buildings were greatly damaged by the fire of 1841 (Parnell 1995). While the Grand Storehouse and the workshops

were demolished following the fire, the vaults below the latter were converted to serve as the crypt for the chapel of St Peter ad Vincula (Historic Royal Palaces 2007).

3 ARCHAEOLOGICAL METHODOLOGY

- 3.1 A single trench was excavated to the north-east of the Chapel of St Peter ad Vincula, leading directly away to the east from the Devereux Screen. The trench measured 6.50m (E-W) x 0.5m (N-S); the maximum depth of the trench was 0.75m (Figure 3).
- 3.2 The trench was excavated by ground workers to depth and all works were monitored by the attending archaeologist.
- 3.3 Archaeological features were recorded using the single context recording system, with individual descriptions of all archaeological features and strata excavated and exposed entered onto pro-forma recording sheets. All detailed plans and sections of archaeological deposits and features were recorded on polyester based drawing film, the plans and sections being drawn at a scale of 1:10, 1:20 and 1:50 as appropriate. The OD height of all principal strata was calculated and indicated on the appropriate plans and sections. Features that were evidently modern were not given context numbers, and were recorded as modern intrusions in plan.
- 3.4 All levels were calculated from a topographic survey covering this part of the Tower¹.
- 3.5 Photographs in digital format were taken of the archaeological features and deposits where relevant.
- 3.6 The site was allocated the unique site code ToL146 and this was used to identify all aspects of the site archive. The completed archive comprising written and photographic records from the excavation will be deposited at the Historic Royal Palaces store at the Tower of London.

¹ Sterling Surveys, Drawing No: TOL/ENV/023/96, dated May 1996

4 SUMMARY OF RESULTS AND CONCLUSIONS

4.1 Drainage Trench: Archaeological Sequence

- 4.1.1 The earliest deposit recorded was a layer of moderately compacted lime mortar and chalk rubble, [3], likely representing a demolition deposit. Excavation of the deposit produced sherds of pottery dated 1480-1600 as well as residual medieval pottery and CBM. It is possible that the deposit represents the demolition of the buildings occupying the area before the construction of the Grand Storehouse in 1688-91. The layer was at least 50mm thick and continued below the base of the trench, from an upper height of approximately 10.88m OD. It was sealed by another demolition deposit, [2], consisting largely of a mixture of small to medium chalk fragments and red brick fragments in a yellowish brown sandy lime mortar matrix. Based on the pottery recovered this could be dated 1580-1700. The layer was approximately 0.42m thick from an upper height of approximately 11.49m OD.
- 4.1.2 At the western end of the trench this had been truncated by the construction cut, [4], for the east wall of the Devereux tower, [5]. Due to the shallow nature of the trench the base of the construction cut was not reached. It is therefore uncertain whether or not the stepped footing of the Devereux wall continued to step out at the base to fill the entire width of the construction cut. Only the upper two steps were exposed during the watching brief: the uppermost step was first seen directly below the bedding for the current York stone surface and consisted of three courses of brickwork laid in a stretcher bond. Below this, approximately 11.33m OD, the footing stepped out another 100mm. The upper course of the second step consisted of a York stone paving slab under which was brickwork laid in a stretcher bond. Red bricks had been used for the construction of the lower step while yellow stock bricks had been used to build the upper step. While the bricks were different the mortar was consistent throughout the observed part of the footing, consisting of very hard mid grey Portland cement like mortar. Following the construction of the Devereux footing the construction cut was backfilled with dark greyish brown sandy silt, [1], with frequent small to medium sub-angular and sub-rounded pebbles and occasional rounded cobble sized stones. Excavation of the construction cut backfill produced a limited amount of pottery, which could be dated 1789-1900+.
- 4.1.3 To the south both the fill of the construction cut and the underlying demolition rubble was cut by a modern trench for a ceramic drain pipe servicing the crypt of St Peter's ad Vincula immediately west of the Devereux screen.

Plate 2: Brick footing for the Devereux Screen, looking west



4.2 Drainage Trench: Interpretation

4.2.1 During the watching brief deposits related to the demolition of the old store houses prior to the construction of the Grand Storehouse in 1688-91 were observed. The watching brief also examined a small part of the foundations of the east wall of the crypt exposed in the drainage trench. This showed that the stone wall (known as the Devereux screen) was at least in parts resting on stepped yellow brick footings. Due to the small section of the footing exposed it could, unfortunately, not be determined whether this simply represented underpinning of an earlier wall or if the wall was, in its entirety, a 19th century construction. However, when part of the area was excavated in 1993 in preparation for the installation of the 'inner ring main' the northern part of the foundations for the Devereux screen was exposed along with part of the foundations of the Grand Storehouse. This showed a similar stepped footing at the northern end of the screen just below the surface of the yard. It was noted during the 1993 excavation that the Devereux screen was clearly bonded to the Victorian rebuilt Inner Curtain wall to the north (Hiller and Keevill 1994). This then suggests that the Devereux screen was partially, if not wholly rebuilt in the 19th century.

4.3 The Roof of St Peter ad Vincula

4.3.1 As part of the watching brief the installation of roof hatches was observed and this produced a limited amount of information about the roof structure. This demonstrated that at least three phases of roof timbers survived. The earliest of the timbers may represent the original roof of the 1519-20 rebuilt chapel. Where these survive they seemed to form a low pitched M-shaped, or double gabled roof. Surviving members include part of the ridge beams, king posts and some of the rafters. Pegged mortise and tenon joints were used to connect the ridge beams and king posts with the mortises cut about half way through from the underside of the ridge

beams. The tenoned king post was then secured to the ridge beam using timber pegs. Half lap joints were then used to secure the rafters to the ridge beams.

- 4.3.2 During the second phase the roof was changed from a double gabled to a singled gabled roof. This was achieved by raising the ridge line of the roof by installing a new row of king posts within what had been the central valley of the double gabled roof and then resting a ridge beam atop this. New rafters were then installed from the ridge beam to new concrete padstones cast against the inside of the parapet gutter. The new roof structure mostly respected the original roof structure, which was left largely intact.
- 4.3.3 The date of the second phase of renovation to the roof is uncertain, and it is not considered that restoration works by John Taylor in the 19th century involved any work on the roof (pers comm G. Roberts). There are, however, confirmed records of work on the roof in the 17th century, firstly when the roof was re-leaded in 1630-31. The leads were replaced again in 1670 and a gutter was laid on the roof (100ft long and 3 ft wide) which may perhaps have necessitated the change from a double to a single gable as was seen during the investigation.
- 4.3.4 The third phase of work was carried out in 1976 and included supporting the roof ridge by inserting a metal bearing frame and propping several of the rafters using timber supports.
- Plate 3 shows one of the (Phase 1) pegged mortice and tenon jointed king post and ridge beams (Phase 2) rafters and (Phase 3) supports under the rafters.

Plate 3: Three phases of roof construction, looking south



5 ACKNOWLEDGEMENTS

- 5.1 Pre-Construct Archaeology Ltd would like to thank Tracy Simmons of Historic Royal Palaces for commissioning this project and Jane Spooner of Historic Royal Palaces and Jane Sidell of Historic England for monitoring it.
- 5.2 We also thank Dr George Roberts for commenting on early drafts of this report and providing invaluable information on the previous works to the roof of the chapel.
- 5.3 The author would like to thank Chris Mayo for his project management and editing, and Jennifer Simonson of PCA's CAD department for the illustrations.

6 BIBLIOGRAPHY

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- Historic Royal Palaces 2007 *Tower of London World Heritage Site Management Plan*
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- Spooner, J. 2014 *St Peter's Chapel Refurbishment (ToL 146): Brief for Archaeological Watching Brief*. Historic Royal Palaces unpublished manuscript.

7 APPENDIX 1: CONTEXT INDEX

Context	Type	Description
1	Fill	Fill of [4]
2	Layer	Demolition layer
3	Layer	Demolition layer
4	Cut	Construction cut for [5]
5	Masonry	Footing for the Devereux Screen

8 APPENDIX 2: OASIS REPORT FORM

OASIS ID: preconst1-255350

Project details

Project name	The Tower of London Chapel of St Peter ad Vincula Refurbishment: An Archaeological Watching Brief
Short description of the project	The watching brief monitored the excavation of a small trench for a new drainage pipe connecting the crypt of St Peter with the existing drainage system in the Inner Ward and also the installation of five hatches in the lead roof of the chapel itself. Deposits related to the demolition of the old store houses prior to the construction of the Grand Storehouse in 1688-91 were observed. The watching brief also examined a small part of the foundations of the east wall of the crypt exposed in the drainage trench. The watching brief during the installation of the roof hatches demonstrated that at least three phases of roof timbers survived.
Project dates	Start: 06-08-2014 End: 19-08-2014
Previous/future work	Yes / Not known
Any associated project reference codes	ToL146 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Other 8 - Land dedicated to the display of a monument
Monument type	FOUNDATION Post Medieval
Significant Finds	POTTERY Post Medieval
Investigation type	"Watching Brief"
Prompt	Scheduled Monument Consent

Project location

Country	England
Site location	GREATER LONDON TOWER HAMLETS TOWER HAMLETS St Peter's Chapel, The Tower of London
Postcode	EC3N 4AB
Study area	20 Square metres

Site coordinates TQ 33575 80607 51.508085264009 -0.075033574099 51 30 29 N 000 04
 30 W Point

Lat/Long Datum Unknown

Project creators

Name of Organisation Pre-Construct Archaeology Limited

Project brief originator Self (i.e. landowner, developer, etc.)

Project design originator Chris Mayo

Project director/manager Chris Mayo

Project supervisor Paw Jorgensen

Project supervisor Richard Humphrey

Type of sponsor/funding body Charitable Trust

Name of sponsor/funding body Historic Royal Palaces

Project archives

Physical Archive recipient Historic Royal Palaces

Physical Archive ID ToL146

Physical Contents "Ceramics"

Digital Archive recipient Historic Royal Palaces

Digital Archive ID ToL146

Digital Contents "Stratigraphic"

Digital Media available "Images raster / digital photography", "Images vector", "Spreadsheets", "Text"

Paper Archive recipient Historic Royal palaces

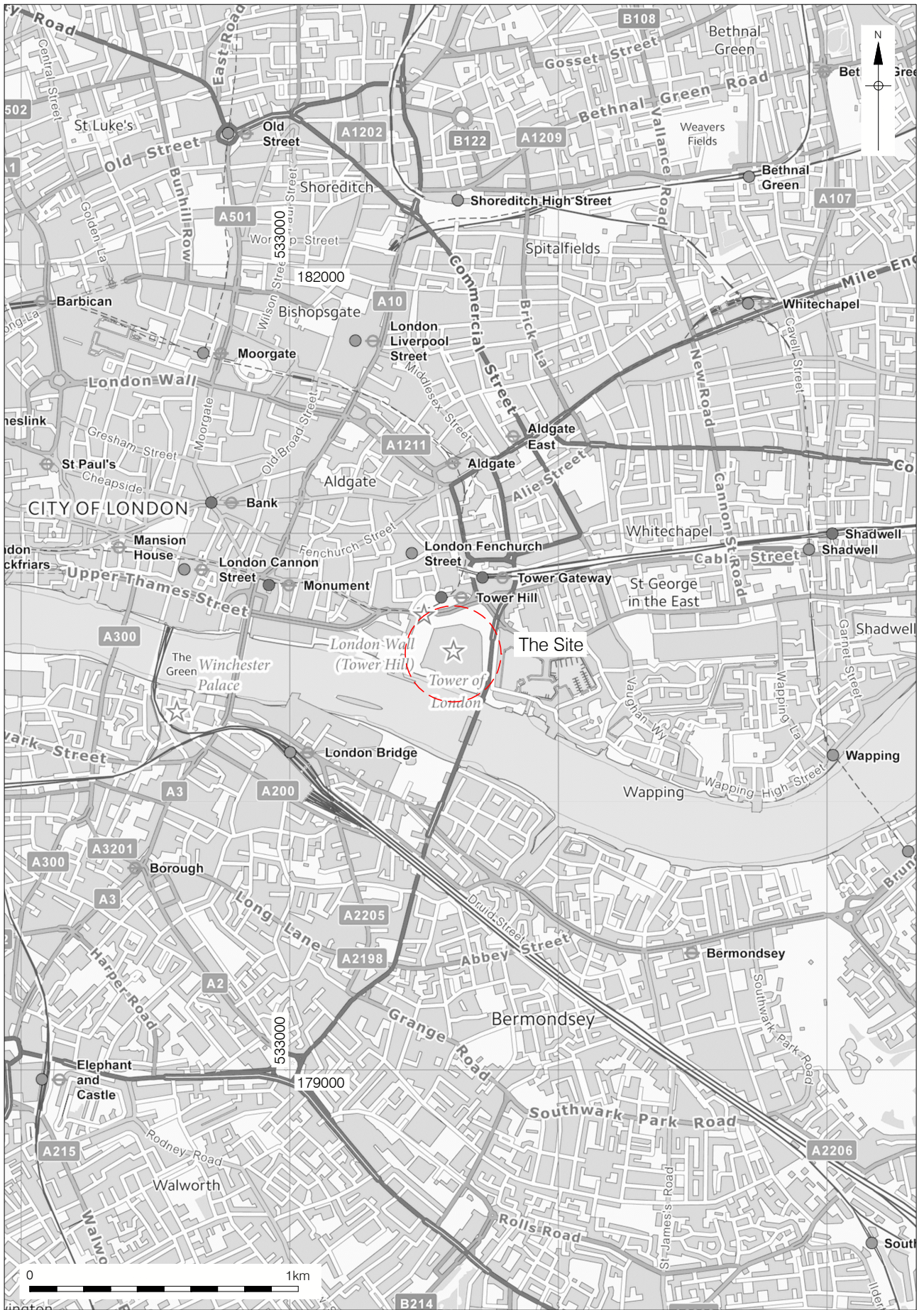
Paper Archive ID ToL146
Paper Contents "Stratigraphic"
Paper Media available "Context sheet", "Notebook - Excavation', ' Research', ' General Notes", "Plan", "Section"

Project bibliography

1

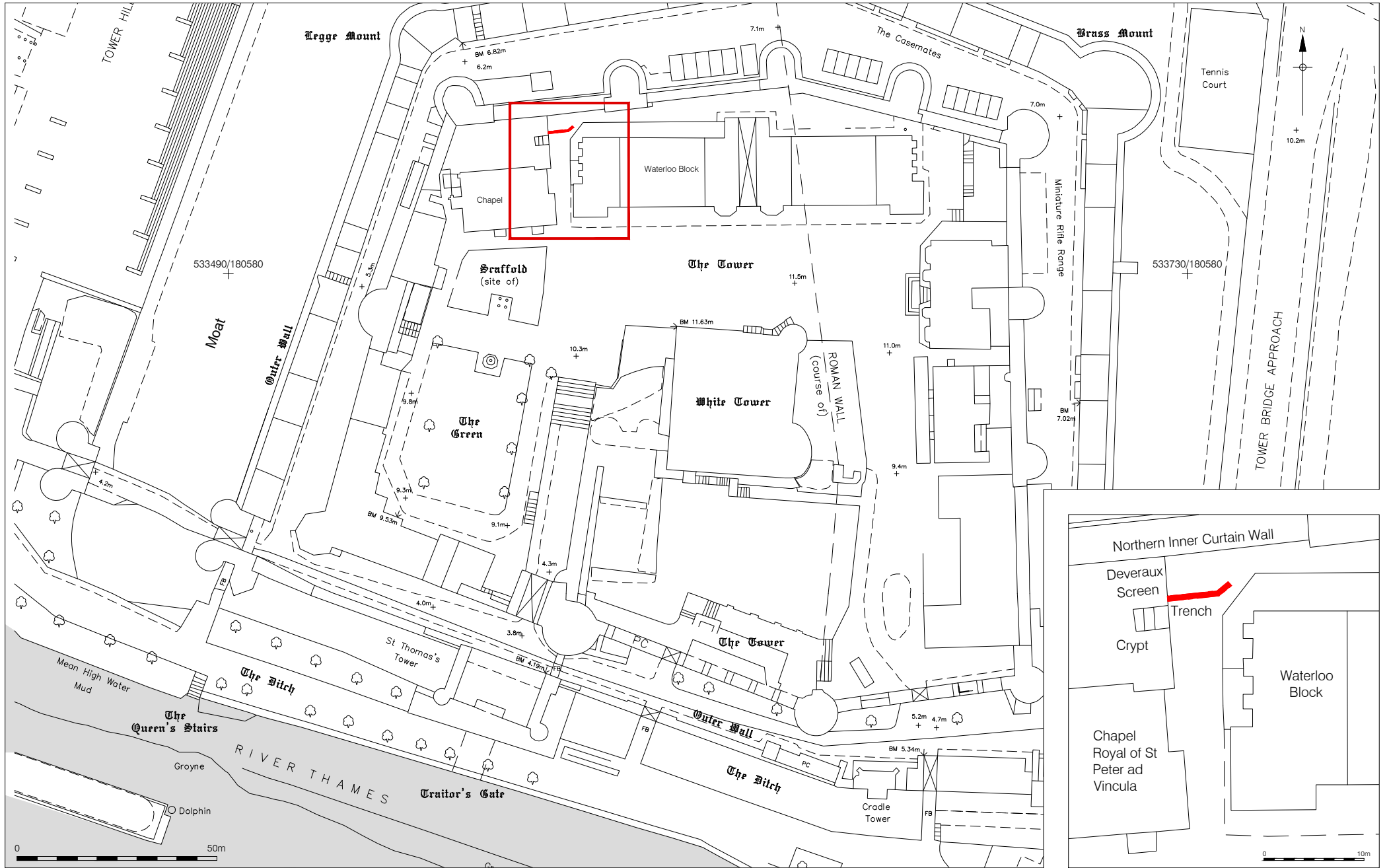
Publication type Grey literature (unpublished document/manuscript)
Title The Tower of London Chapel of St Peter ad Vincula Refurbishment: An Archaeological Watching Brief
Author(s)/Editor(s) Jorgensen, P.
Other bibliographic details PCA R12516
Date 2016
Issuer or publisher Pre-Construct Archaeology Limited
Place of issue or publication London
Description A4 grey literature document with PCA covers

Entered by Chris Mayo (cmayo@pre-construct.com)
Entered on 20-Jun-16



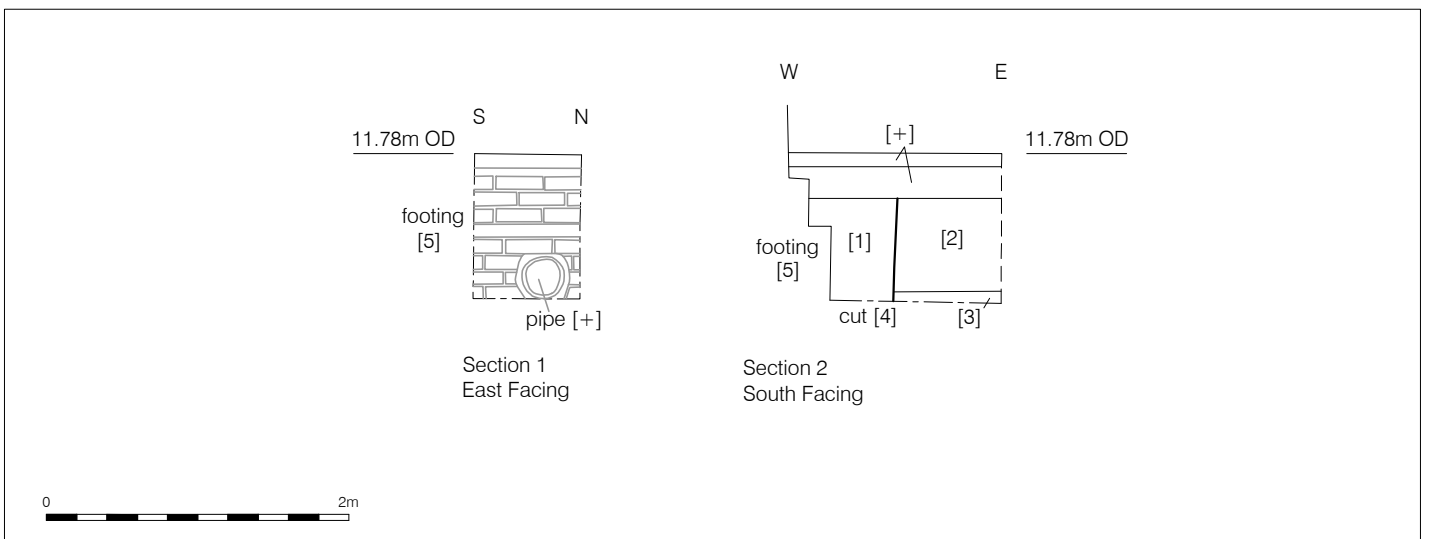
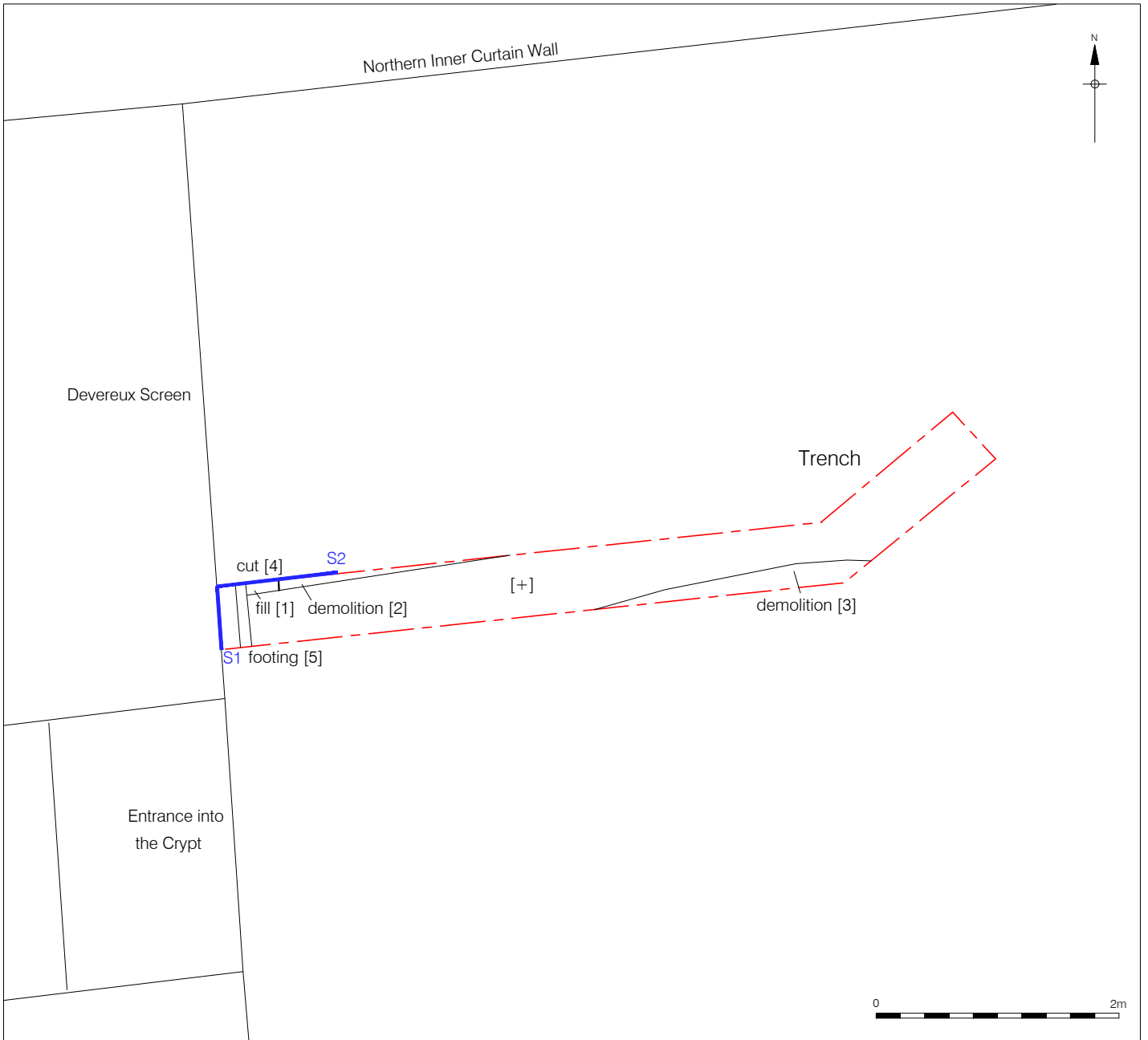
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Figure 1
 Site Location
 1:20,000 at A4



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Figure 2
 Detailed Site Location
 1:1,250 and 1:500 at A4



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