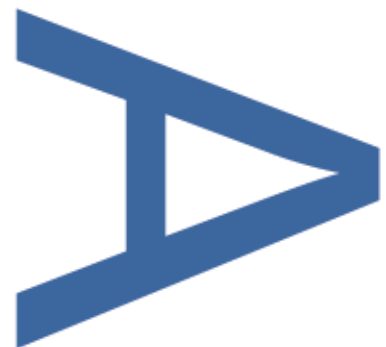


**BUILT HERITAGE RECORDING OF
STEPS IN THE LANTHORN TOWER,
HM TOWER OF LONDON,
LONDON BOROUGH OF TOWER
HAMLETS**

SITE CODE: TOL 167

PCA REPORT NO: R12898

MAY 2017



PRE-CONSTRUCT ARCHAEOLOGY

Built Heritage Recording of Steps in the Lanthorn Tower, HM Tower of London, London Borough of Tower Hamlets

Written by Adam Garwood

Site Code: ToL 167

Project Manager: Charlotte Matthews

Commissioning Client: Historic Royal Palaces

Central National Grid Reference: TQ 33616 80542

Contractor:

**Pre-Construct Archaeology Limited
Unit 54, Brockley Cross Business Centre
96 Endwell Road, Brockley
London SE4 2PD**

Tel: 020 7732 3925

Fax: 020 7732 7896

Email: cmatthews@pre-construct.com

Web: www.pre-construct.com

© Pre-Construct Archaeology Limited

May 2017

© The material contained herein is and remains the sole property of Pre-Construct Archaeology Limited and is not for publication to third parties without prior consent. Whilst every effort has been made to provide detailed and accurate information, Pre-Construct Archaeology Limited cannot be held responsible for errors or inaccuracies herein contained.

PCA Report Number: R12898

DOCUMENT VERIFICATION

Site Name

Steps in the Lanthorn Tower,
HM Tower of London,
London Borough of Tower Hamlets

Type of project

Built Heritage Recording

Quality Control

Pre-Construct Archaeology Limited Project Code		K4920	
Pre-Construct Archaeology Limited Report Number		R12898	
	Name & Title	Signature	Date
Text Prepared by:	Adam Garwood		31/05/2017
Graphics Prepared by:	Hayley Baxter		31/05/2017
Graphics Checked by:	Josephine Brown	<i>Josephine Brown</i>	31/05/2017
Project Manager Sign-off:	Charlotte Matthews	<i>Charlotte Matthews</i>	31/05/2017

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Ltd
Unit 54
Brockley Cross Business Centre
96 Endwell Road
London
SE4 2PD

CONTENTS

1	NON TECHNICAL SUMMARY	3
2	INTRODUCTION	4
3	METHODOLOGY	6
4	HISTORICAL BACKGROUND	7
5	DESCRIPTIONS	8
6	DISCUSSION AND CONCLUSIONS	9
7	ACKNOWLEDGEMENTS	10
8	BIBLIOGRAPHY	10

APPENDICES

1	OASIS RECORD SHEET	10
---	--------------------	----

FIGURES

Figure 1: Site Location

Figure 2: Detailed Site Location

Figure 3: Plan of Lanthorn Tower showing Location of Staircase & External Plate locations

Figure 4: Plan of Staircase & sub-structure

Figure 5: Section through Staircase & sub-structure

Plates

- Plate 1 Lanthorn Tower from the wall walk, looking east (photograph provided by Historic Royal Palaces)
- Plate 2 Lanthorn Tower from the wall walk, looking east
- Plate 3 West doorway of the Lanthorn Tower and staircase (before alteration work), looking east (photograph provided by Historic Royal Palaces)
- Plate 4 Staircase (before alteration work) in the Lanthorn Tower, looking west (photograph provided by Historic Royal Palaces)
- Plate 5 Upper flight of Yorkstone steps, from wall walk looking into Tower
- Plate 6 Upper flight of stairs looking west toward wall walk
- Plate 7 Wear to treads
- Plate 8 Sub-structure to modern stair
- Plate 9 Detail of sub-structure
- Plate 10 Detail of posts and modern blockwork in adjacent wall
- Plate 11 Plaster skirting and cast-iron ventilator

1 NON TECHNICAL SUMMARY

- 1.1.1 Pre-Construct Archaeology Limited was commissioned by Historic Royal Palaces to undertake an Historic England Level 2 built heritage recording of a staircase within the Lanthorn Tower, HM Tower of London, London Borough of Tower Hamlets.
- 1.1.2 The Tower of London is a Scheduled Monument (Greater London SM No 10) and a UNESCO World Heritage Site (No 488). The Lanthorn Tower lies within the boundaries of these designations. Designations of this level recognise that the Tower of London and its buildings are of international significance. The Tower of London also lies in the Tower of London Conservation Area. The Lanthorn Tower is of exceptional significance because it forms part of the defence of the south side of the Tower site despite its rebuilding in the late 19th century. The Lanthorn Tower forms part of the Grade I listed *Inner Curtain Wall, with Mural towers...*, which is described in its listing citation as follows: 'Lanthorn Tower: rebuilt 1883, with lancets and 2-light windows.'
- 1.1.3 The aim of the project as set out in the Brief was to record the nineteenth-century flight of stairs which was to be uncovered during the installation of a new wooden staircase over the top of it. The objective was to clarify the materials used in the construction of the staircase and identify evidence for earlier alterations or repair to the staircase. The recording was carried out on 21st February 2017 following the removal of the modern flight of stairs.
- 1.1.4 Historic Royal Palaces, as custodian of the Tower, seek the agreement of Historic England regarding any repairs, improvements or alterations that may impact upon historic fabric. Scheduled Monument Consent has been granted by Historic England for the renovation work. The recording during the alteration work was carried out as a condition of this consent.
- 1.1.5 The Lanthorn Tower is now used as offices for the Royal Armouries on the ground floor, an exhibition space on the mezzanine floor (between the ground floor and the first floor), with the upper floors used for storage and a conservation studio. The recorded stairs provide access from the wall walk through the west door of the Lanthorn Tower down into the mezzanine floor. The stairs currently form part of the visitor route through the Medieval Palace exhibition.
- 1.1.6 The removal of timber stairs uncovered five upper steps constructed of Yorkstone that were original to John Taylor's rebuilding of this tower in 1883. The removal of the timber treads and risers of the lower three steps revealed a modern softwood sub-structure built to form a quarter landing and support for this lower flight of stairs. The use of rough construction timber and zinc-coated nails used in the construction of the sub-structure suggests that the former stair had been removed within the recent past, at most in the last 30 years. The wall to the east of the stairs was constructed of concrete block covered with thistle-type gypsum plaster suggesting that this wall was built at the same time that the lower three steps were built.
- 1.1.7 Clearly given the height difference between the base of the stone flight of steps and the present internal floor level (78cm) a lower flight of steps must have once have been present. This flight of stairs had been entirely removed to enable the construction of the replacement modern stair. The only evidence of the 19th century work in this area was a small cast-iron ventilator and a moulded plaster skirting in the wall below the Yorkstone steps.
- 1.1.8 The evidence suggests that renovation works took place in the Lanthorn Tower within the last 30 years. This work involved the construction of the internal east wall to the stairs in concrete block, covering the upper five steps with timber and the construction of the three timber lower steps with a new timber substructure.

2 INTRODUCTION

2.1 Background

2.1.1 Pre-Construct Archaeology Limited was commissioned by Historic Royal Palaces to undertake an Historic England Level 2 built heritage recording focused upon a flight of stairs within the Lanthorn Tower, HM Tower of London, London Borough of Tower Hamlets (**Figures 1 and 2; Plates 1 and 2**). The recording was undertaken at the request of George Roberts, Tower Future Projects Curator. The aim of the project as set out in the Brief (Roberts, 2017) was to record the nineteenth-century flight of stairs which was to be uncovered during the installation of a new wooden staircase over the top of it. The renovation work involved the removal of the timber stairs and their replacement with new timber stairs. The built heritage recording was carried out on 21st February 2017 following the removal of the existing timber flight of stairs in accordance with the Brief (Roberts, 2017).

2.1.2 The Tower of London is a Scheduled Monument (Greater London SM No 10) and a UNESCO World Heritage Site (No 488). The Lanthorn Tower lies within the boundaries of these designations. Designations of this level recognise that the Tower of London and its buildings are of international significance. The Tower of London also lies in the Tower of London Conservation Area. The Lanthorn Tower is of exceptional significance because it forms part of the defence of the south side of the Tower site despite its rebuilding in the late 19th century. The Lanthorn Tower forms part of the Grade I listed *Inner Curtain Wall, with Mural towers, The Queen's House, Nos 1, 2, 4, 5 and 7 Tower Green and the New Armouries*, which are described in their listing citation as follows:

'Inner curtain wall and towers. Bell Tower and curtain wall (of which lower courses remain) to Bloody Tower built c.1170; Wakefield Tower, Lanthorn (demolished and rebuilt in C19) and curtain wall and postern between them built c.1220-40 for Henry III; Watergate, later incorporated into Bloody Tower, also built c.1220-40; curtain wall and towers from Devereaux Tower in north-west corner to Salt Tower in south-east corner built 1238-75; west side of curtain wall, including Beauchamp Tower, built 1275-85 for Edward I; southern side of curtain wall heightened and crenellated 1339; Bloody Tower remodelled 1360-1362. Restored in C19, principally by A Salvin in 1840s to 1860s. Squared and coursed ragstone with ashlar dressings; lead and copper roofs to towers. Curtain Walls: gunports, loops and crenellation reworked in C19; west side of curtain wall has fine continuous line of embrasures, built in late C13 brick, to loops...Lanthorn Tower: rebuilt 1883, with lancets and 2-light windows.'

2.1.3 Historic Royal Palaces, as custodian of the Tower, seek the agreement of Historic England regarding any repairs, improvements or alterations that may impact upon historic fabric. Scheduled Monument Consent has been granted by Historic England for the renovation work. The recording following removal of the timber stair was carried out as a condition of this consent.

2.2 Site Description

2.2.1 The Lanthorn Tower is situated within the medieval fortress of the Tower of London, traditionally thought to have been constructed by William the Conqueror at a point where the eastern Roman fortifications abutted the north side of the River Thames. It is located on the north bank of the River Thames in central London and lies within the London Borough of Tower Hamlets, separated from the square mile of the City of London by Tower Hill.

2.2.2 UNESCO's decision to award World Heritage Site status to the Tower of London, was a recognition of this significance and that 'The White Tower is the example par excellence of the royal Norman castle in the late 11th century' (Gregory, 2015). The Lanthorn Tower is located within the innermost ward which encloses an area immediately south of the White Tower, stretching to what was once the edge of the River Thames and forms one of four towers built along the southern circuit of the inner defences.

- 2.2.3 The Lanthorn Tower is now used as offices for the Royal Armouries on the ground floor, an exhibition space on the mezzanine floor (between the ground floor and the first floor), with the upper floors are used for storage and a conservation studio.
- 2.2.4 The stairs that are the subject of this recording exercise provide access from the wall walk through the west door of the Lanthorn Tower down into the mezzanine floor (**Plates 3 and 4**). The stairs currently form part of the visitor route through the medieval Palace exhibition.

3 METHODOLOGY

3.1 Aims and Objectives

- 3.1.1 The aim of the project as set out in the Brief (Roberts, 2017) was to record the nineteenth-century flight of stairs which was to be uncovered during the installation of a new wooden staircase over the top of it. The aim was to clarify the materials used in the construction of the staircase and identify evidence for earlier alterations or repair to the staircase.
- 3.1.2 This survey was to be carried out in accordance with a Level 2 built heritage recording as defined by guidance published by Historic England's (2016) *Understanding Historic Buildings: A Guide to Good Recording Practice*. The outcome is to provide a better understanding of the structures present, to analyse the results and to compile a lasting archive.

3.2 Documentary Research

- 3.2.1 No research of primary resources was undertaken.

3.3 On-Site Recording

- 3.3.1 The building survey was carried out on the 21st February 2017.
- 3.3.2 A photographic survey comprising high resolution digital images was completed to record the stair structure revealed *in situ*. A selection of photographs has been included in this report as plates (**Plates 2, 5 to 11**) and **Figure 3** and **4** shows the location and direction of these photographs.

3.4 Project Archive

- 3.4.1 The project archive is currently held at the offices of Pre-Construct Archaeology Limited in Brockley, London, under the site code ToL 167. It is anticipated that the archive (copies of the report, drawings and photographs) will be lodged with Historic Royal Palaces. The report will be prepared as soon as possible after completion of the on-site work and a copy will be submitted to Historic Royal Palaces and the GLHER (Greater London Historic Environment Record).

3.5 Guidance

- 3.5.1 All works were undertaken in accordance with standards set out in:
- ClfA (2014) *Standard and guidance for the archaeological investigation and recording of standing buildings or structures*
 - English Heritage (now Historic England) (2005) *The presentation of historic building survey in CAD*
 - Historic England (2015) *Greater London Archaeology Advisory Service: Guidelines for Archaeological Projects in Greater London*
 - Historic England (2016) *Understanding Historic Buildings: A Guide to Good Recording Practice*

4 HISTORICAL BACKGROUND

4.1 Tower of London

- 4.1.1 The building of the Tower of London was traditionally thought to have been constructed by William the Conqueror and his third son William Rufus between 1077-1100, and under the guiding hand of Gundulf, Bishop of Rochester.
- 4.1.2 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 – the monarch’s stronghold amidst an often hostile city – became the home of major State Institutions such as the Royal Mint, as well as the setting for nationally significant historical events.
- 4.1.3 The fortress is most strongly associated in the popular imagination with the Tudors, and the turbulent events of the 16th century, particularly with the many prisoners kept within its walls. The 19th century Romantic perception of the Tower, and the castle’s emerging identity as a tourist attraction, led to the demolition of many institutional structures and the addition of new ‘medieval’ style neo-gothic buildings.

4.2 Lanthorn Tower

- 4.2.1 The Lanthorn Tower was constructed by Henry III around 1220, possibly on the location of the South-East bastion of the Roman City Wall.
- 4.2.2 When first built it is likely that it contained the Queen’s Chambers and comprised three, or even four floors. By the 1340s, however, it was put to use as the location for the King’s Chambers, an arrangement that continued into the reign of Henry VIII (Keay, 2001, 45-47).
- 4.2.3 By the eighteenth century the Lanthorn Tower had been incorporated into the Ordnance Offices, which were located in the inmost ward. The Lanthorn Tower was badly damaged by a fire in 1774 and demolished three years later (1777).
- 4.2.4 In 1883 the Lanthorn was rebuilt as part of John Taylor’s scheme to ‘re-medievalise’ the Tower of London and accordingly the entire current structure is Victorian in date (Spooner and Keevil, 2010, 85).

5 DESCRIPTIONS

- 5.1.1 The agreed method statement for works required the analysis and detailed recording, equivalent to Historic England Level 2 of the structures revealed following the removal of the timber internal staircase within the tower. The following descriptive text and interpretation is based on observations made at the time of the survey.
- 5.1.2 The Lanthorn Tower has a circular floor plan (**Figure 3; Plate 1**) over five levels (basement, ground, mezzanine, first and second floor). A semi-octagonal stair turret, built central to the inner northernmost face of the tower (**Figure 3; Plate 1**) provides internal access between the floors. Wall walks along the top of the inner wall defences about the Lanthorn Tower along its north-eastern and north-western quadrants and provide access into the mezzanine floor level (between the ground floor and the first floor) through corresponding door openings.
- 5.1.3 The site of the recorded stairs lay immediately east (internal) of the western doorway to the wall walk (**Figure 3**). This doorway has a chamfered Portland stone dressings and a shouldered head (**Plates 1 to 3**). The removal of timber from the upper five steps (**Figures 4 and 5; Plate 4**) revealed five Yorkstone steps below (**Plates 5 and 6**). These steps descend from the threshold of the doorway at the level of the wall walk into the internal mezzanine floor level of the tower (a descent of some 1.63m). The upper four treads descend as a straight flight of steps, while the lowest stone step is trapezoid in plan (as a winder) to accommodate the turning of the staircase mid-flight towards the south. The steps typically have a 7½ inch rise and 10 inch tread, although the upper step at the threshold has a greater rise at just below 10 inches. The top step at the threshold has a prominent Yorkstone nosing. All the steps showed signs of wear, through foot fall, particularly centrally within each tread (**Plate 7**).
- 5.1.4 At the time of the survey, the modern timber treads and risers of the lower three steps built between the stone steps and the internal mezzanine floor level to the tower (**Plate 4**) had been removed (**Plates 8 and 9**). This revealed a modern softwood frame, which had been constructed to form a quarter landing and support for the modern stair. It appears that the former 19th century stairs in this area had been entirely removed to enable the construction of the replacement modern flight of timber steps.
- 5.1.5 The modern stair sub-structure had been built using unplanned construction softwood of 4 x 3 inch scantling (**Plate 8**). The quarter landing was formed using four main timbers jointed together using simple rebated joints and nailed using flat headed zinc nails, and two lighter central cross braces. This landing structure was set onto four vertical posts of similar scantling, all crudely fixed into position by through-nailing into the brickwork of the side walls and set directly onto a softwood close-boarded floor. The latter only extended for a short distance (50cm) to the south of the sub-structure, before the floor materials changed to a 9 inch quarry tile floor.
- 5.1.6 No evidence of the former stair was visible in the side walls adjacent to or beneath the modern sub-structure. A plaster skirting with a simple moulding was present along the western and northern walls to this alcove. The eastern wall did not have a plaster skirting and instead was constructed of modern blockwork (visible in the area of wall below the sub-structure) covered with a gypsum plaster (**Plate 10**). The only feature that could be dated to the 19th century was a small cast-iron ventilator set off-centre into the plaster skirting of the north-west wall and below the stone steps (**Plate 11**).

6 DISCUSSION AND CONCLUSIONS

- 6.1.1 The removal of timber stairs within the Lanthorn Tower that led from the wall walk down through the west door to the mezzanine uncovered five upper steps constructed of Yorkstone that were original to John Taylor's rebuilding of the tower in 1883. The removal of the timber treads and risers of the lower three steps revealed a modern softwood sub-structure built to form a quarter landing and support for this lower flight of stairs. The use of rough construction timber and zinc-coated nails used in the construction of the sub-structure suggests that the former stair had been removed within the recent past, at most in the last 30 years. The wall to the east of the stairs was constructed of concrete block covered with thistle-type gypsum plaster suggesting that this wall was built at the same time that the lower three steps were built.
- 6.1.2 Clearly given the height difference between the base of the stone flight of steps and the present internal floor level (78cm) a lower flight of steps must have once have been present. This flight of stairs had been entirely removed to enable the construction of the replacement modern stair. The only evidence of the 19th century work in this area was a small cast-iron ventilator and a moulded plaster skirting in the wall below the Yorkstone steps.
- 6.1.3 The evidence suggests that renovation works took place in the Lanthorn Tower within the last 30 years. This work involved the construction of the internal east wall to the stairs in concrete block, covering the upper five steps with timber and the construction of the three timber lower steps with a new timber substructure.

7 ACKNOWLEDGEMENTS

- 7.1.1 Pre-Construct Archaeology Limited would like to thank Historic Royal Palaces for commissioning the project.
- 7.1.2 The project was managed by Charlotte Mathews. The built heritage recording and report were completed by Adam Garwood. Hayley Baxter compiled the illustrations

8 BIBLIOGRAPHY

Gregory, A., 2015 *The White Tower, Spine Wall and Ceilings: Interim Statement of Significance for Fire Compartmentation*

Historic England 2016 *Understanding Historic Buildings; a guide to good recording practice*

Impey, E. & Parnell, G., 2000 *The Tower of London- The Official Illustrated History* (Merrell, London)

Keay, A., 2001. *The Elizabethan Tower of London; The Haiward and Gascoyne Plan of 1597*. London.

Roberts, G., 2017 *Brief for Lanthorn Tower Steps, Historic Building Recording (ToL 167)* HM Tower of London

Spooner, J. & Keevil, G., 2010. *Her Majesty's Palace and Fortress – The Tower of London; Conservation Plan: First Revision*, 2010.

APPENDIX 1: OASIS FORM

OASIS ID: preconst1-284285

Project details

Project name Built Heritage Recording of Steps in the Lanthorn Tower, Tower of London, London Borough of Tower Hamlets

Short description of the project Pre-Construct Archaeology was commissioned by Historic Royal Palaces to undertake an Historic England Level 2 built heritage recording within the Lanthorn Tower, HM Tower of London, London Borough of Tower Hamlets. The Tower of London is a Scheduled Monument, a World Heritage Site and lies within a Conservation Area. The Grade I listed Lanthorn Tower is described as: 'Lanthorn Tower: rebuilt 1883, with lancets and 2-light windows.' Renovation work involved the replacement of an existing timber flight of stairs with a new timber flight of stairs. The objective was to record any evidence for the former 19th century flight of stairs that might be revealed during the work. The recording was carried out in February 2017 as a condition of Scheduled Monument Consent. The recorded stairs provide access from the wall walk through the west door down into the mezzanine floor and form part of the visitor route. The renovation work revealed that the upper five steps were constructed of Yorkstone and were original to John Taylor's rebuilding of the tower in 1883. The removal of the timber treads and risers of the lower three steps revealed a modern softwood sub-structure and that the adjacent internal partition wall was also a modern addition. The original 19th century lower steps had been removed to enable the construction of the replacement modern steps. The only evidence of the 19th century work was a small cast-iron ventilator and a moulded plaster skirting in the wall below the Yorkstone steps.

Project dates Start: 21-02-2017 End: 21-02-2017

Previous/future work No / No

Any associated project reference codes ToL 167 - Sitecode

Type of project Building Recording

Site status World Heritage Site

Site status Scheduled Monument (SM)

Site status Listed Building

Site status Conservation Area

Monument type TOWER Post Medieval

Methods & techniques "Measured Survey","Photographic Survey","Survey/Recording Of Fabric/Structure"

Prompt Scheduled Monument Consent

Project location

Country England

Site location GREATER LONDON TOWER HAMLETS TOWER HAMLETS Lanthorn Tower, Tower of London, London Borough of Tower Hamlets.

Study area 0 Square metres
Site coordinates TQ 33616 80542 51.507491368239 -0.074467710139 51 30 26 N
000 04 28 W Point

Project creators

Name of Organisation Pre-Construct Archaeology Limited
Project brief originator Historic Royal Palaces
Project design originator Charlotte Matthews
Project director/manager Charlotte Matthews
Project supervisor Adam Garwood
Type of sponsor/funding body Historic Royal Palaces

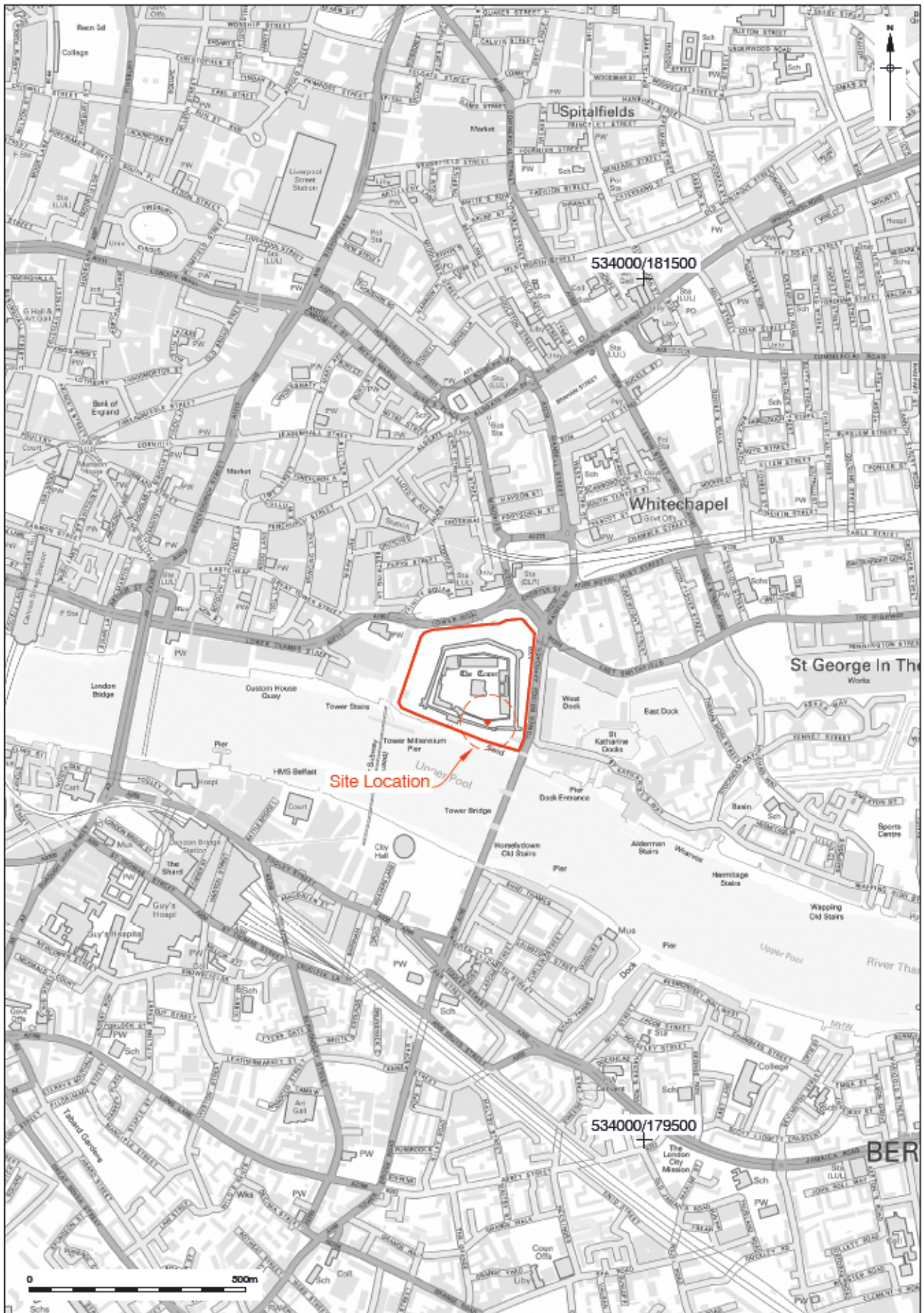
Project archives

Physical Archive Exists? No
Digital Archive recipient Historic Royal Palaces
Digital Media available "Images raster / digital photography", "Text"
Paper Archive recipient Historic Royal Palaces
Paper Media available "Plan"

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
Title Built Heritage Recording of Steps in the Lanthorn Tower, Tower of London, London Borough of Tower Hamlets.
Author(s)/Editor(s) Garwood, A
Date 2017
Issuer or publisher Pre-Construct Archaeology Ltd
Place of issue or publication London Office
Description A4

Entered by Charlotte Matthews (cmatthews@pre-construct.com)
Entered on 31 May 2017



Contains Ordnance Survey data © Crown copyright and database right 2017
 © Pre-Construct Archaeology Ltd 2017
 31/05/17 HB

Figure 1
 Site Location
 1:12,500 at A4

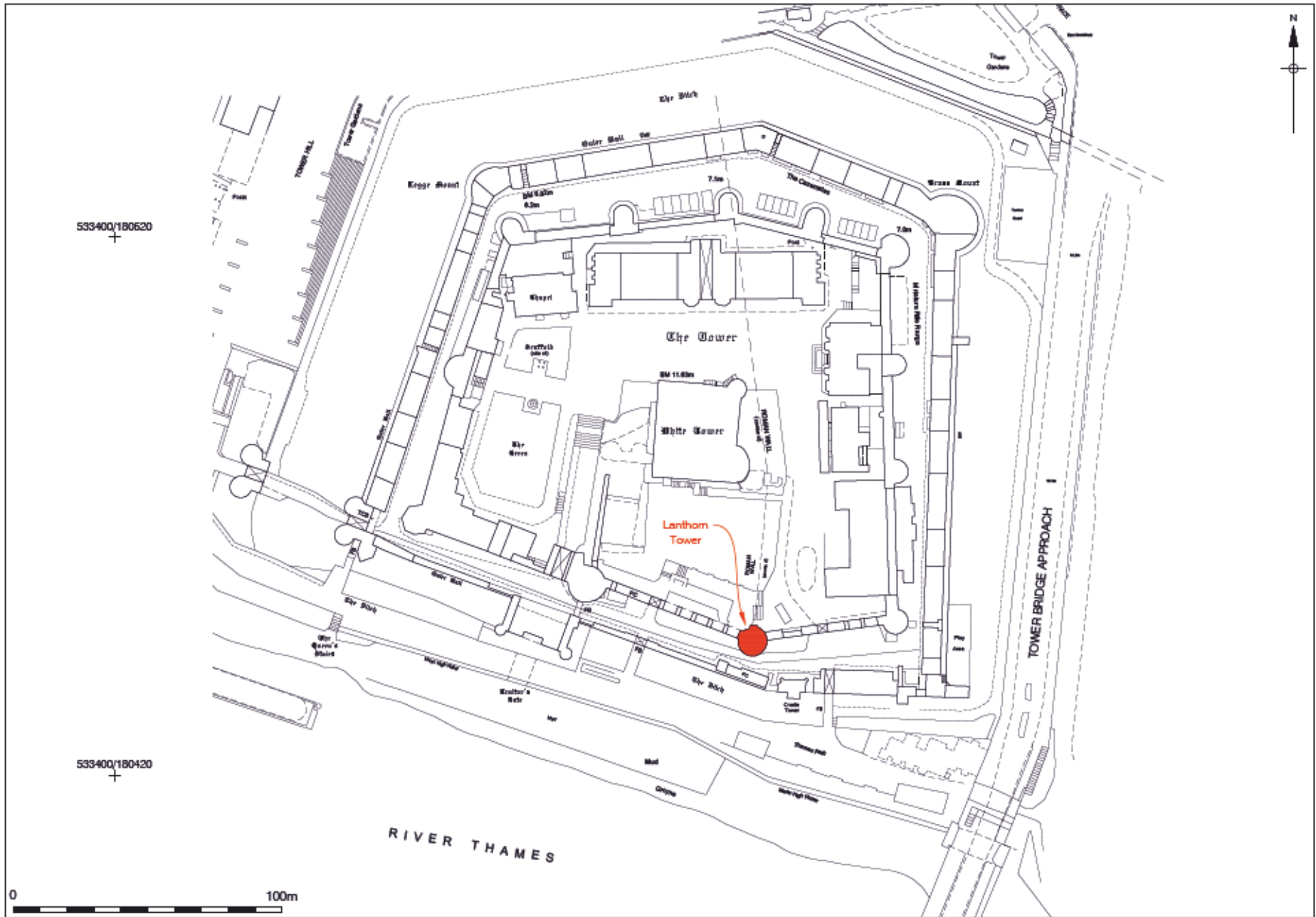
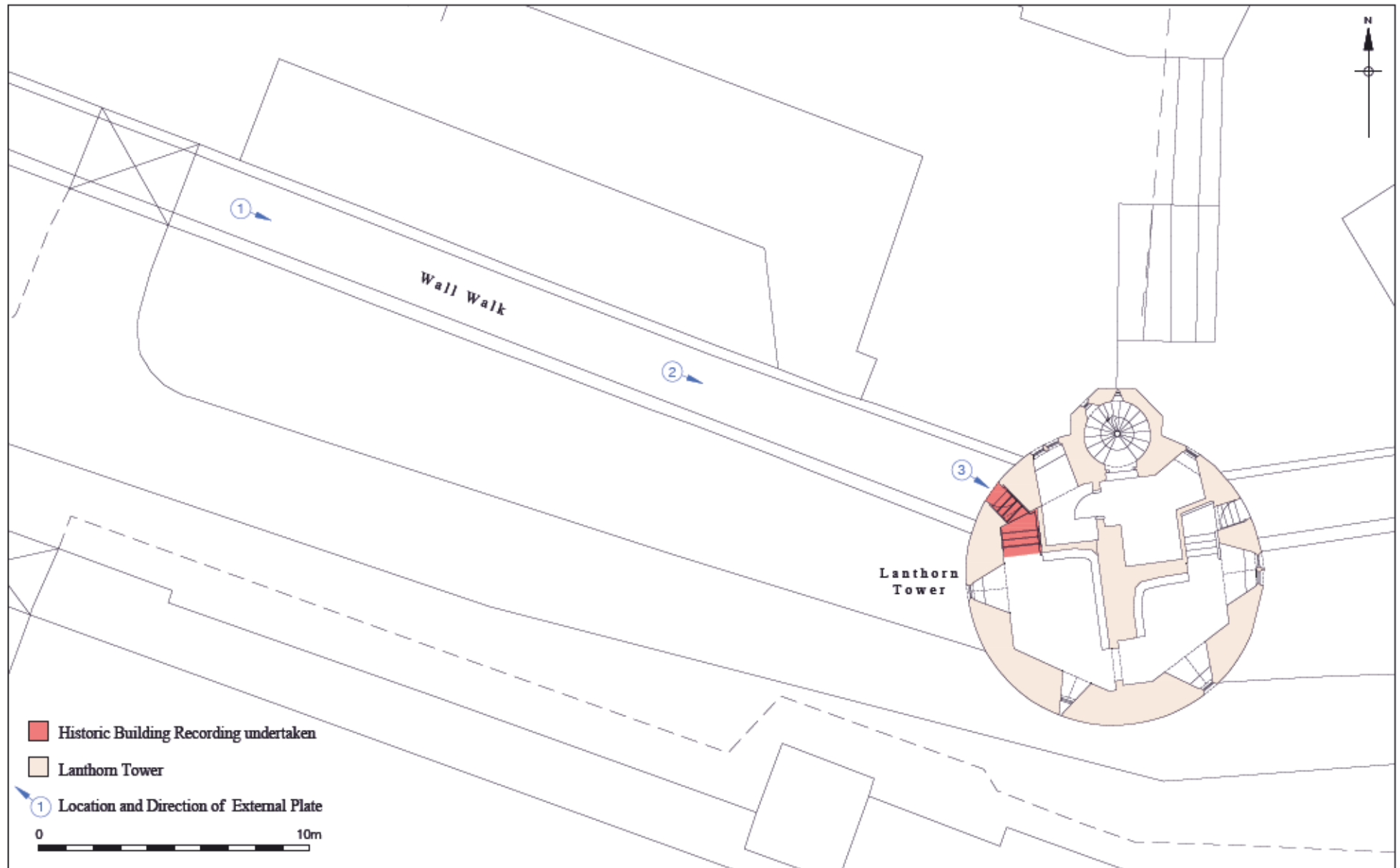


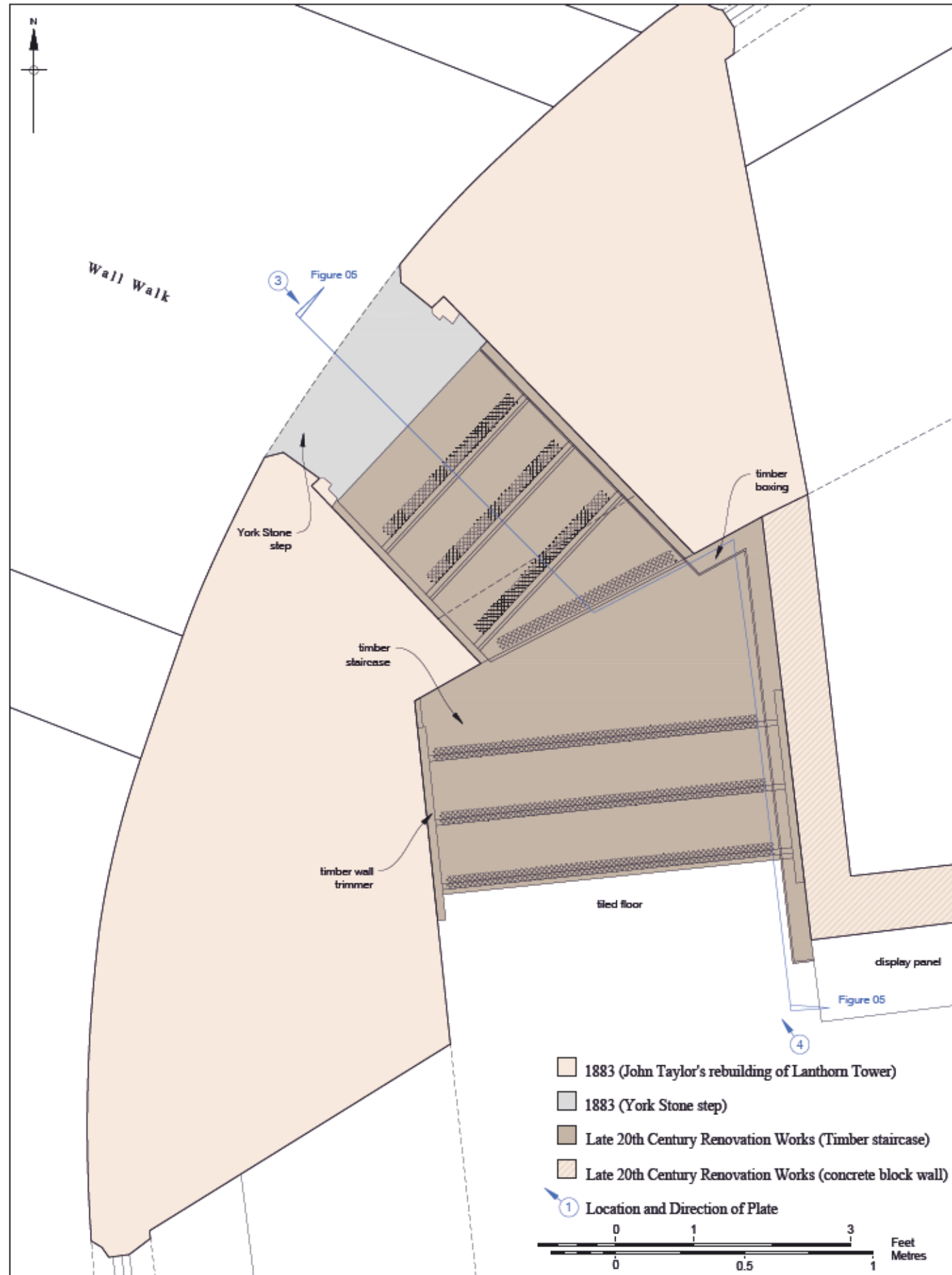
Figure 2
 Detailed Site Location
 1:2,000 at A4



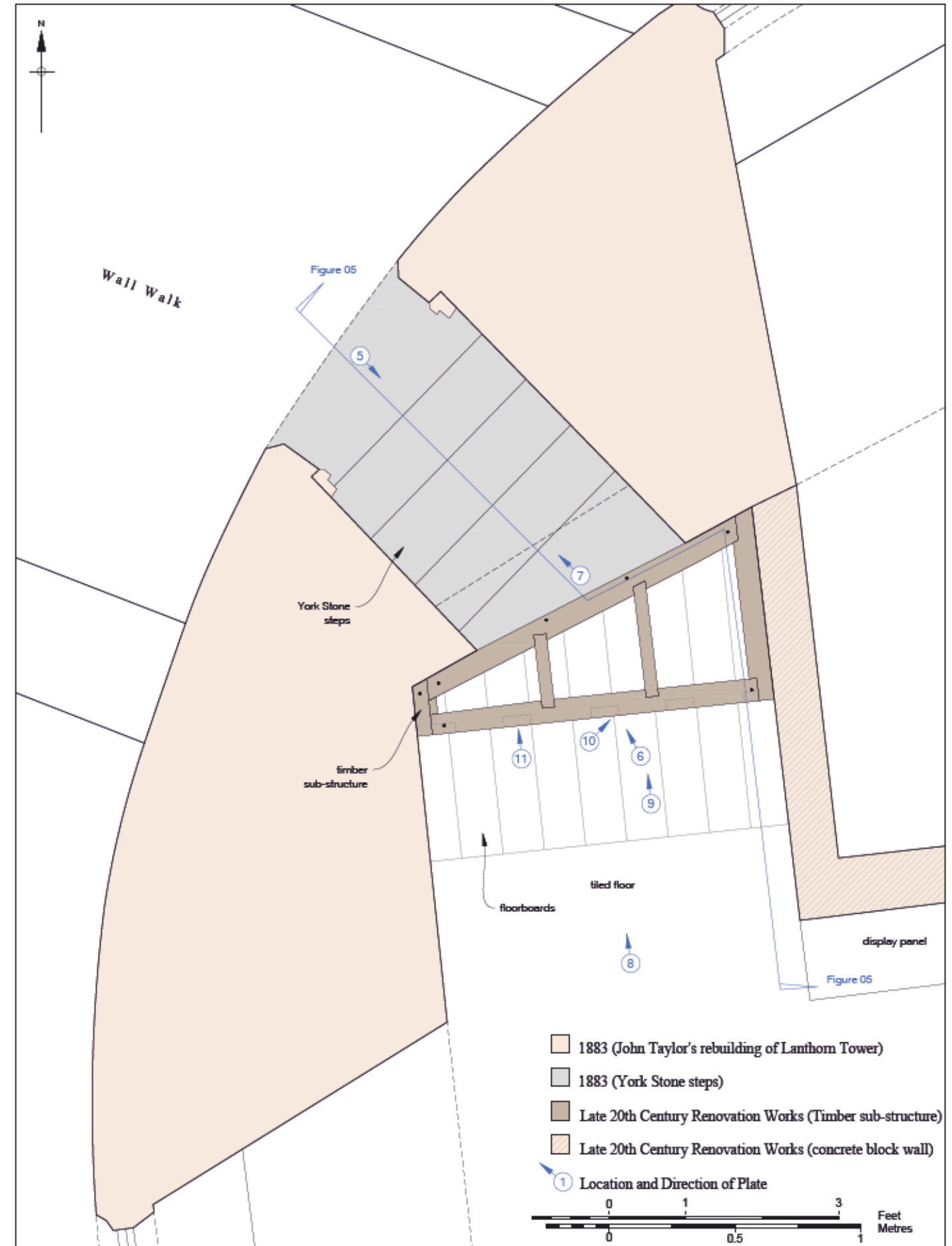
© Crown copyright 2017. All rights reserved. Licensee number PMP36110309
 Lanthorn Tower plan based on drawing LAN_MF001_ENTRY_01 Rev 00 supplied by Historic Royal Palaces, June 2016
 © Pre-Construct Archaeology Ltd 2017
 31/05/17 HB

Figure 3
 Plan of Lanthorn Tower showing location of Staircase
 and External Plate Locations
 1:200 at A4

Before alteration work

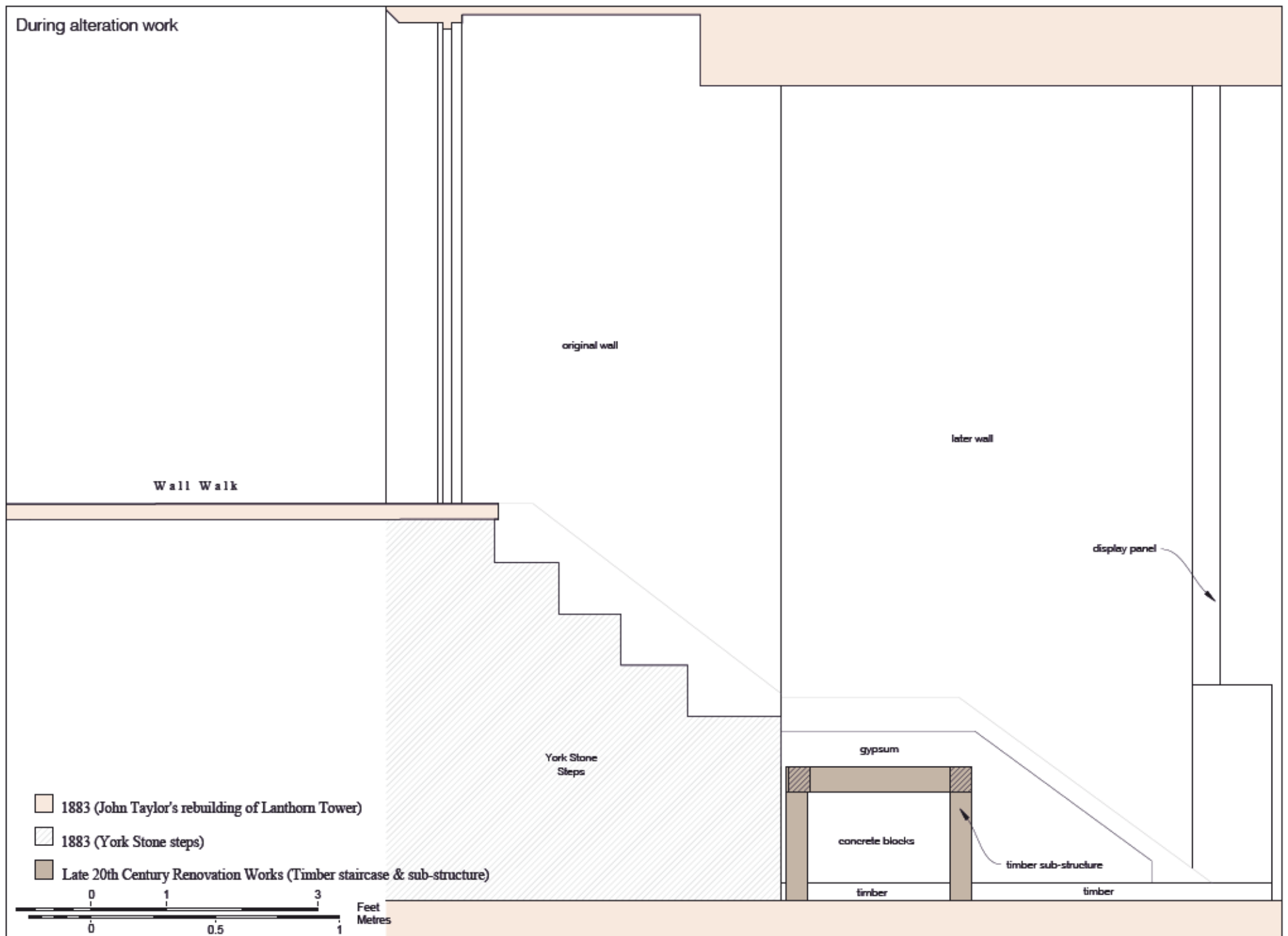
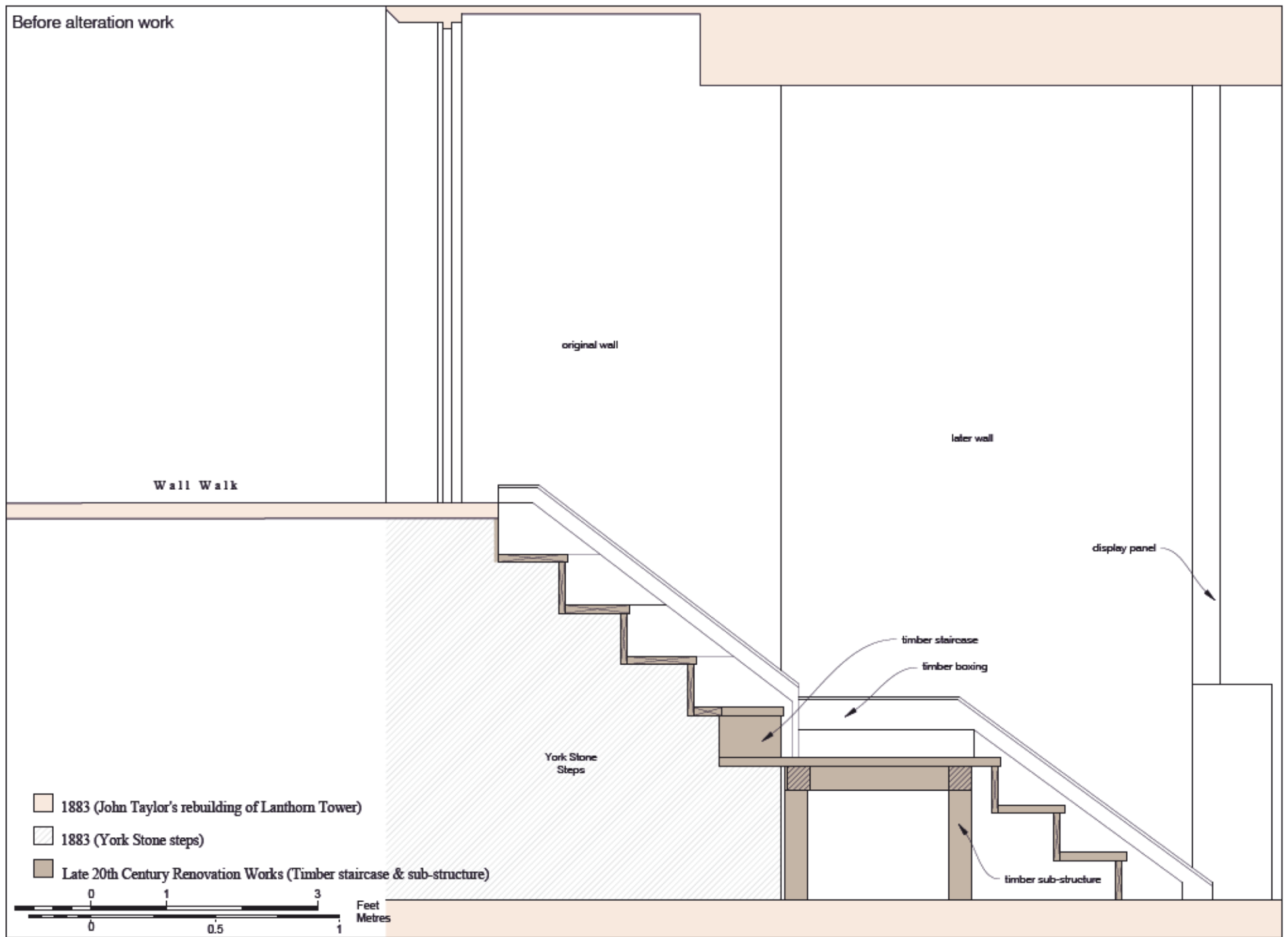


During alteration work



Based on drawing LAN_MF001_ENTRY_01 Rev 00 supplied by Historic Royal Palaces, June 2016
© Pre-Construct Archaeology Ltd 2017
31/05/17 HB

Figure 4
Plan of Existing Stair and sub-structure
1:20 at A3



Based on drawing LAN_MF001_ENTRY_05 Rev 00 supplied by Historic Royal Palaces, June 2016
 © Pre-Construct Archaeology Ltd 2017
 31/05/17 HB

Figure 5
 Section through Stair and sub-structure
 1:20 at A3



Plate 1 Lanthorn Tower from the wall walk, looking east (photograph provided by Historic Royal Palaces)



Plate 2 Lanthorn Tower from the wall walk, looking east



Plate 3 West doorway of the Lanthorn Tower and staircase (before alteration work), looking east (photograph provided by Historic Royal Palaces)



Plate 4 Staircase (before alteration work) in the Lanthorn Tower, looking west (photograph provided by Historic Royal Palaces)



Plate 5 Upper flight of Yorkstone steps, from wall walk looking into Tower



Plate 6 Upper flight of stairs looking west toward wall walk



Plate 7 Wear to treads



Plate 8 Sub-structure to modern stair



Plate 9 Detail of sub-structure



Plate 10 Detail of posts and modern blockwork in adjacent wall



Plate 11 Plaster skirting and cast-iron ventilator

PCA

PCA SOUTH

UNIT 54
BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD
BROCKLEY
LONDON SE4 2PD
TEL: 020 7732 3925 / 020 7639 9091
FAX: 020 7639 9588
EMAIL: info@pre-construct.com

PCA NORTH

UNIT 19A
TURSDALE BUSINESS PARK
DURHAM DH6 5PG
TEL: 0191 377 1111
FAX: 0191 377 0101
EMAIL: info.north@pre-construct.com

PCA CENTRAL

THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN
TEL: 01223 845 522
FAX: 01223 845 522
EMAIL: info.central@pre-construct.com

PCA WEST

BLOCK 4
CHILCOMB HOUSE
CHILCOMB LANE
WINCHESTER
HAMPSHIRE SO23 8RB
TEL: 01962 849 549
EMAIL: info.west@pre-construct.com

PCA MIDLANDS

17-19 KETTERING RD
LITTLE BOWDEN
MARKET HARBOROUGH
LEICESTERSHIRE LE16 8AN
TEL: 01858 468 333
EMAIL: info.midlands@pre-construct.com

