



**WORLD WAR II DEFENCES:  
within and extending from the former Manor Garden Allotments  
and on the Northern Outfall Sewer bridge over the River Lea**

**PLANNING DELIVERY ZONES 6 & 3  
London  
E15**

London Borough of Newham

A standing building survey report

April 2008



**WORLD WAR II DEFENCES:  
within and extending from the former Manor Garden Allotments  
and on the Northern Outfall Sewer bridge over the River Lea**

**PLANNING DELIVERY ZONES 6 & 3  
London  
E15**

London Borough of Newham

Site Code: OL-01907 and OL-08007  
National Grid Reference: 537546 185335 (OL-01907); 537321 183845 (OL-08007)

|                 |                  |
|-----------------|------------------|
| Project Manager | Alex Rose-Deacon |
| Author          | Helen Robertson  |

**Museum of London Archaeology Service**

**© Museum of London 2008**

Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED

tel 020 7410 2200 fax 020 7410 2201

email [molas@molas.org.uk](mailto:molas@molas.org.uk)

web [www.molas.org.uk](http://www.molas.org.uk)

**PCA**

Unit 54, Brockley Cross Business Centre, 96 Endwell Road, Brockley, London SE4 2PD

tel 020 7732 3925 fax 020 7732 7896

© MoLAS-Pre-Construct Archaeology Limited 2008

## **SUMMARY (non technical)**

*The Museum of London Archaeology Service and Pre-Construct Archaeology (MoLAS-PCA) were commissioned by the Olympic Delivery Authority to analyse and record the built structures relating to two World War II defences sites within the Olympic Park; one immediately to the south of the Eastway, within and extending from Manor Garden Allotments (OL-01907), and one on the Northern Outfall Sewer bridge over the River Lea, by Old Ford Locks (OL-08007). All the structures were to be demolished or altered in order to redevelop the site, and the archaeological investigation and a subsequent report were required as a condition of planning consent for the redevelopment. The investigation was undertaken in three phases, and took place periodically from March to November 2007.*

*The buildings around Manor Garden Allotments (Buildings 1–10) comprise two gun platforms, a possible cordite room, a magazine (all with associated poured concrete paving), a possible Bofor gunsite, three pillboxes, a radar station and a possible remnant of a storage compound. The items on the Northern Outfall Sewer comprise a further pillbox with associated tank-traps.*

*The main gunsite (Buildings 1-4) was constructed 1938, and represent the oldest remains. The other structures were constructed between 1940/41 and 1943.*

*Buildings 1-5, just north of Manor Garden Allotments, formed part of a HAA (Heavy Anti-Aircraft) gun emplacement, assigned the code ZE21 by AA Command. It was manned throughout the war, playing an important part in the defence of London. As part of the Inner Artillery Zone (IAZ) London, ZE21 was the first emplacement to lay claim to shooting down an enemy aircraft, on September 7<sup>th</sup> 1940. The emplacement was converted to a Civil Defence training ground during the 1950s and was decommissioned in 1968, before being partially demolished in 1971. At some point soon after this, the remains of the emplacement were buried beneath several metres of made ground.*

*The HAA gun emplacement originally consisted of four octagonal gun platforms connected by a concrete road loop, with an associated command post and auxiliary buildings. All structures were built of reinforced concrete. Though the buildings were partially demolished post-decommission and suffered some damage during the dumping of made ground, the bases of the structures remain intact and some walls still stand. The fabric of these structures is largely, if not completely, original, and the structures retain remnants and ghosts of their original fixtures and fittings.*

*Buildings 6-10, on Manor Garden Allotments, form part of a complex centred around a radar station. The pillboxes and radar station were constructed after 1941, in connection with and possibly in defence of the HAA gun emplacement which lay to the north. The radar station would have originally had a series of auxiliary structures associated with it, only traces of which remain. The site was decommissioned after the war and the area became allotments, with the remaining structures being used as potting sheds, last occupied in September 2007.*

*Buildings 11 and 12 (OL-08007) are located on the pedestrian path (known as the Greenway) atop the Northern Outfall Sewer, and comprise a pillbox and set of tank traps. These were constructed during 1940-41 and were positioned to defend the Greenway, a direct route into the centre of London. They were decommissioned around 1945 and have remained in situ, unused, since that time.*

## CONTENTS

|          |  |            |
|----------|--|------------|
| <b>1</b> | <b>Introduction</b>  | <b>1</b>   |
| 1.1      | Site background  | 1          |
| 1.2      | Planning and legislative framework                                     | 1          |
| 1.3      | Planning background  | 6          |
| 1.4      | Origin and scope of this report  | 6          |
| 1.5      | Research aims and method of work                                       | 6          |
| 1.6      | Organisation of this report and conventions used                       | 7          |
| <b>2</b> | <b>Topographical and historical background</b>                         | <b>9</b>   |
| 2.1      | Geology and Natural Topography   | 9          |
| 2.2      | Development and Function of the Standing Buildings                     | 10         |
| 2.2.1    | <i>OL-01907: HAA gun emplacement and radar station</i>                 | <i>10</i>  |
| 2.2.2    | <i>OL-08007: pillbox and tank traps on the Greenway</i>                | <i>26</i>  |
| <b>3</b> | <b>The standing building survey</b>                                    | <b>30</b>  |
| 3.1      | Methodology  | 30         |
| 3.2      | Description of the standing buildings                                  | 30         |
| 3.2.1    | <i>General</i>   | <i>30</i>  |
| 3.2.2    | <i>HAA gun emplacement (OL-01907: Buildings 1–5)</i>                   | <i>35</i>  |
| 3.2.3    | <i>Radar station complex (OL-01907: buildings 6–10)</i>                | <i>58</i>  |
| 3.2.4    | <i>Greenway pillbox and tank traps (OL-08007: Buildings 11 and 12)</i> | <i>87</i>  |
| 3.3      | Development of structures  | 96         |
| 3.3.1    | <i>Overview</i>  | <i>96</i>  |
| 3.3.2    | <i>The design and fabric of the World War II defences</i>              | <i>99</i>  |
| 3.4      | Function of the structures   | 104        |
| 3.4.1    | <i>HAA gun emplacement</i>   | <i>104</i> |



|           |  |            |
|-----------|--|------------|
| 3.4.2     | <i>Radar complex</i>                                     | 105        |
| 3.4.3     | <i>Pillbox and tank traps on the Greenway</i>            | 108        |
| 3.5       | <b>The occupants of the structures</b>                   | 109        |
| <b>4</b>  | <b>Conclusion</b>  | <b>111</b> |
| 4.1       | <b>Buildings 1–4 (OL-01907)</b>                          | 111        |
| 4.2       | <b>Buildings 6–10 (OL-01907)</b>                         | 111        |
| 4.3       | <b>Buildings 11 and 12 (OL-08007)</b>                    | 111        |
| 4.4       | <b>Collective discussion</b>                             | 111        |
| <b>5</b>  | <b>Potential of the Archaeology</b>                      | <b>113</b> |
| 5.1       | <b>Original research aims</b>                            | 113        |
| 5.2       | <b>New research aims</b>                                 | 113        |
| 5.3       | <b>Significance of the data</b>                          | 113        |
| 5.4       | <b>Salvaged fixtures, fittings and materials</b>         | 113        |
| <b>6</b>  | <b>Publication and archiving</b>                         | <b>114</b> |
| <b>7</b>  | <b>Acknowledgements</b>                                  | <b>115</b> |
| <b>8</b>  | <b>Bibliography and references</b>                       | <b>116</b> |
| <b>9</b>  | <b>Appendix 1: NMR OASIS archaeological report form</b>  | <b>119</b> |
| <b>10</b> | <b>Appendix 2: list of archaeological photographs</b>    | <b>123</b> |
| <b>11</b> | <b>Appendix 3: list of working drawings made on site</b> | <b>148</b> |

## LIST OF FIGURES

|   |     |
|---|-----|
| Cover: Salvaged World War II helmet   |     |
| Figure 1 General location plan  | 3   |
| Figure 2 Detailed location plan: OL-01907   | 4   |
| Figure 3 Detailed location plan: OL-08007   | 5   |
| Figure 4 1867 OS map: OL-01907  | 11  |
| Figure 5 1893 OS map: OL-01907  | 12  |
| Figure 6 1914 OS map: OL-01907  | 13  |
| Figure 7 1935–38 London County Council Map revised from the 1893 OS Map: OL-01907                           | 15  |
| Figure 8 1949 OS map: OL-01907  | 21  |
| Figure 9 1963 OS Map: OL-01907  | 25  |
| Figure 10 1869 OS Map: OL-08007   | 27  |
| Figure 11 1916 OS Map: OL-08007   | 28  |
| Figure 12 1982 OS Map: OL-08007   | 29  |
| Figure 13 Buildings 1–5 Trenches 1 and 2 and Buildings 1–5  | 34  |
| Figure 14 Building 1, north gun platform  | 37  |
| Figure 15 Buildings 2 & 3, cordite store and magazine   | 40  |
| Figure 16 Building 2, magazine, north-east elevation  | 41  |
| Figure 17 Building 3, cordite store, south-west elevation   | 44  |
| Figure 18 Building 4, south gun platform  | 49  |
| Figure 19 Building 5  | 54  |
| Figure 20 Building 5, north–east facing section   | 55  |
| Figure 21 Building 5, south–west facing section   | 56  |
| Figure 22 Building 5, metal drain cover, detail   | 57  |
| Figure 23 Building 6, pillbox, plan   | 60  |
| Figure 24 Building 6, pillbox, west facing section  | 61  |
| Figure 25 Building 6, pillbox, east elevation   | 62  |
| Figure 26 Building 7, pillbox, plan   | 66  |
| Figure 27 Building 7, pillbox, west facing section  | 67  |
| Figure 28 Building 7, pillbox, west elevation   | 68  |
| Figure 29 Building 8, pillbox, west elevation   | 71  |
| Figure 30 Building 9, possible remnant of storage compound  | 73  |
| Figure 31 Building 9, possible remnant of storage compound, north-east elevation                            | 74  |
| Figure 32 Wind driven pump  | 77  |
| Figure 33 Concrete base with brick footings   | 78  |
| Figure 34 Building 10, radar station  | 83  |
| Figure 35 Building 10, radar station, west facing section   | 84  |
| Figure 36 Building 10, radar station, south elevation   | 85  |
| Figure 37 Building 10, radar station, G1, detail drawing of stove against north wall                        | 86  |
| Figure 38 Buildings 11 and 12, pillbox and tank traps, plan   | 89  |
| Figure 39 Building 11, pillbox, north facing section  | 90  |
| Figure 40 Building 11, pillbox, west elevation  | 91  |
| Figure 41 Building 12, tank traps, north elevation of typical block   | 94  |
| Figure 42 Building 12, tank traps, south elevation of typical block   | 95  |
| Figure 43 HAA gun emplacement design (March 1938 pattern), plan and section (reproduced from Dobinson 2001) | 102 |
| Figure 44 Design for holdfast sunk in centre of HAA gun emplacement (March 1938 pattern), detail            | 103 |

Figure 45 The GL Mk II radar receiver, elevation (reproduced from Dobinson 2001)

107

## LIST OF PLATES

|   |    |
|---|----|
| Plate 1 View of OL-01907: aerial photograph taken by the RAF, 17 <sup>th</sup> June 1941                                      | 16 |
| Plate 2 View of OL-01907: aerial photograph taken by the RAF, 7 <sup>th</sup> August 1944                                     | 17 |
| Plate 3 View of OL-01907: aerial photograph taken by the RAF, 2 <sup>nd</sup> April 1946                                      | 19 |
| Plate 4 View of OL-01907: aerial photograph taken by the RAF, 24 <sup>th</sup> June 1947                                      | 20 |
| Plate 5 View of OL-01907: aerial photograph taken by commercial company, 20 <sup>th</sup> May 1971                            | 23 |
| Plate 6 View of Trench 1: OL-01907, looking east  | 31 |
| Plate 7 View of Building 5:OL-01907, looking south-east   | 32 |
| Plate 8 View of radar station complex, Buildings 6-10: OL-01907, looking south  | 33 |
| Plate 9 View of pillbox and tank traps, Buildings 11 and 12: OL-08007, looking west   | 33 |
| Plate 10 View of north gun platform, Building 1: OL-01907, looking north-east   | 35 |
| Plate 11 Detail of plinth, north gun platform, Building 1: OL-01907, looking north-east                                       | 36 |
| Plate 12 View of bays within magazine, Building 2: OL-01907, looking east   | 38 |
| Plate 13 View of walkway between magazine and cordite store, Buildings 2 and 3: OL-01907, looking north-east                  | 39 |
| Plate 14 View of walkway and cordite store, Building 3: OL-01907, looking west  | 42 |
| Plate 15 View of metal fixtures on window and door of cordite store, Building 3: OL-01907, looking south-west                 | 43 |
| Plate 16 View of south gun platform, Building 4: OL-01907, looking south-east   | 46 |
| Plate 17 View of south gun platform, Building 4: OL-01907, looking north  | 47 |
| Plate 18 Detail of drainage system, Building 4: OL-01907, looking north-east  | 48 |
| Plate 19 View of magazine, cordite store, concrete ramps and walkway, Building 2 and 3: OL-01907, looking east                | 50 |
| Plate 20 View of Building 5: OL-01907, looking south-east   | 51 |
| Plate 21 View of key-hole recess, Building 5: OL-01907, looking north-east  | 52 |
| Plate 22 View of concrete plinth and iron rings, Building 5: OL-01907, looking south-west                                     | 52 |
| Plate 23 View of pillbox, Building 6: OL-01907, looking east  | 58 |
| Plate 24 View of doorway from within pillbox, Building 6: OL-01907, looking north-west  | 59 |
| Plate 25 View of interior of pillbox, Building 6: OL-01907, looking north-west  | 59 |
| Plate 26 View of interior of pillbox, Building 7: OL-01907, looking south   | 63 |
| Plate 27 View of pillbox, Building 7: OL-01907, looking east  | 64 |
| Plate 28 View of pillbox, Building 7: Ol-01907, looking south-east  | 65 |
| Plate 29 View of pillbox, Building 8: OL-01907, looking north   | 69 |
| Plate 30 View of pillbox, Building 8: OL-01907, looking south-east  | 70 |
| Plate 31 View of possible remnant of storage compound, Building 9: OL-01907, looking south-west                               | 72 |
| Plate 32 View of wind driven pump: OL-01907, looking west   | 75 |
| Plate 33 View of concrete base with brick footings: OL-01907, looking east  | 76 |
| Plate 34 View of rear of radar station, Building 10, with pillbox, Building 6 in the background: OL-01907, looking north-east | 79 |
| Plate 35 View of concrete base for generator, radar station, Building 10: OL-01907, looking north-west                        | 80 |
| Plate 36 View of socket and ramps on radar station roof, Building 10: OL-01907, looking east                                  | 80 |

|  |     |
|--|-----|
| Plate 37 Internal view of G1, radar station, Building 10: OL-01907, looking north-east                       | 81  |
| Plate 38 View of blocking detail in G2, radar station, Building 10: OL-01907, looking south-east             | 82  |
| Plate 39 View of pillbox, Building 11, with Old Ford Lock in background: OL-08007, looking north             | 87  |
| Plate 40 Internal view of pillbox, Building 11, showing ricochet wall and embrasures: OL-08007, looking west | 88  |
| Plate 41 View of pillbox and tank traps, Buildings 11 and 12, showing location: OL-08007, looking east       | 92  |
| Plate 42 View of tank traps, Building 12: OL-08007, looking north-west                                       | 93  |
| Plate 43 View of pillbox, Building 11: OL-08007, looking north-west  | 101 |
| Plate 44 View from within pillbox, Building 11, looking south-east along the Greenway: OL-08007              | 108 |
| Plate 45 View of items recovered from re-deposited material: OL-01907  | 110 |

## **LIST OF TABLES**

|   |   |
|---|---|
| Table 1 Abbreviations used in this report | 8 |
|---|---|

# 1 Introduction

## 1.1 Site background

The structures surveyed are located in two areas (Figure 1).

The first area includes Buildings 1-10 and is situated between the River Lea and the Channelsea River, south of the Eastway and west of the former Eastway Cycle Circuit (Figure 1, Figure 2). The Ordnance Survey national grid reference to the approximate centre of the site is 537546 185335. The Museum of London site code, by which the records are indexed and archived, is OL-01907 for Buildings 1-10. For reference, these structures are known within the project as BH128. This area is designated Planning Delivery Zone 6 of the Olympic Park (PDZ6).

The second area includes Buildings 11 and 12 which are situated on the Northern Outfall Sewer bridge over the River Lea, immediately south of Old Ford Locks (Figure 1, Figure 3). The Ordnance Survey national grid reference to the approximate centre of the site is 537321 183845. The Museum of London site code, by which the records are indexed and archived, is OL-08007 for Buildings 11 and 12. For reference, these structures are known within the project as BH147. This area is designated Planning Delivery Zone 3 of the Olympic Park (PDZ3).

Desktop *Archaeological (impact) assessments* were previously prepared by MoLAS-PCA, each of which covers the whole of PDZ6 and PDZ3 respectively (MoLAS-PCA, 2007a, MoLAS-PCA, 2007b).

These documents should be referred to for information on the natural geology, archaeological and historical background of the sites, and the initial assessment of its archaeological potential.

Basic descriptions and location details had been made for Buildings 11 and 12, and are noted on the Archaeology Data Service website: <http://ads.ahds.ac.uk>, record ID-NMR\_NATINV-1241314. Also, Buildings 1-5 can be found on the Archaeology Data Service website under record ID- GLSMR-300019, record ID- CMA\_DOBNAI-1915 and also on the Defence of Britain Database by the same reference. Otherwise, no previous description or investigation of the buildings is known, with the exception of information contained within the MoLAS-PCA documents noted above.

Under the Copyright, Designs and Patents Act 1988 MoLAS-PCA retains the copyright to this document.

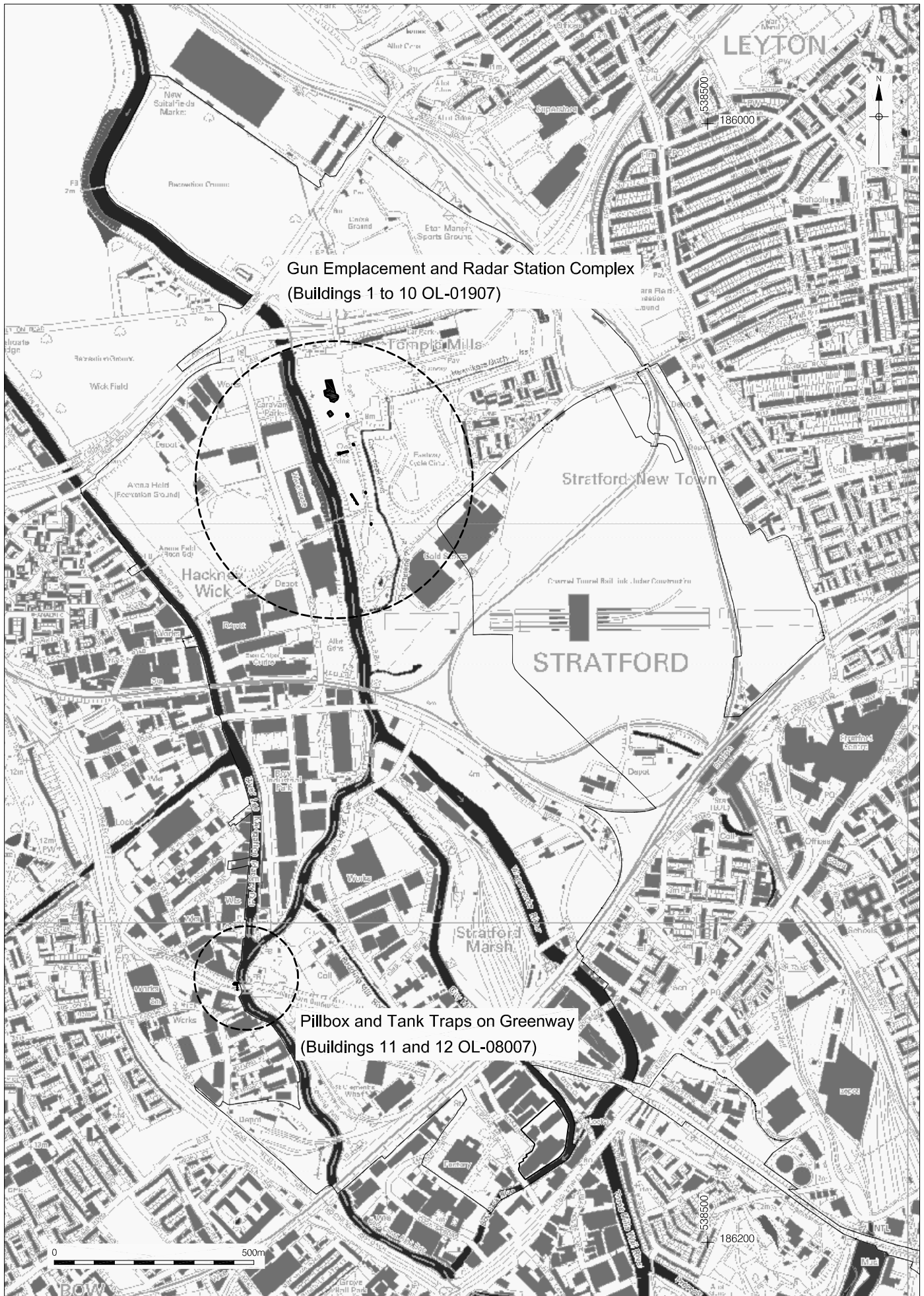
*Note: within the limitations imposed by dealing with historical material and maps, the information in this document is, to the best knowledge of the author and MoLAS-PCA, correct at the time of writing. Further archaeological investigation, or more information about the nature of the present buildings may require changes to all or parts of the document.*

## 1.2 Planning and legislative framework

The legislative and planning framework in which the archaeological exercise took place was summarised in the desktop *Archaeological and Built Heritage impact assessment* was previously prepared by MoLAS-PCA, which covers the whole area of the site (MoLAS-

PCA, 2007a, MoLAS-PCA, 2007b) and the *Written Scheme of Investigation* (MoLAS-PCA 2007c), which formed the project design for the survey.

Neither of the sites is a Scheduled Monument, and none of the structures is listed as a building of special architectural or historic interest. The sites are located within an Archaeological Priority Area as defined by the London Borough of Newham.



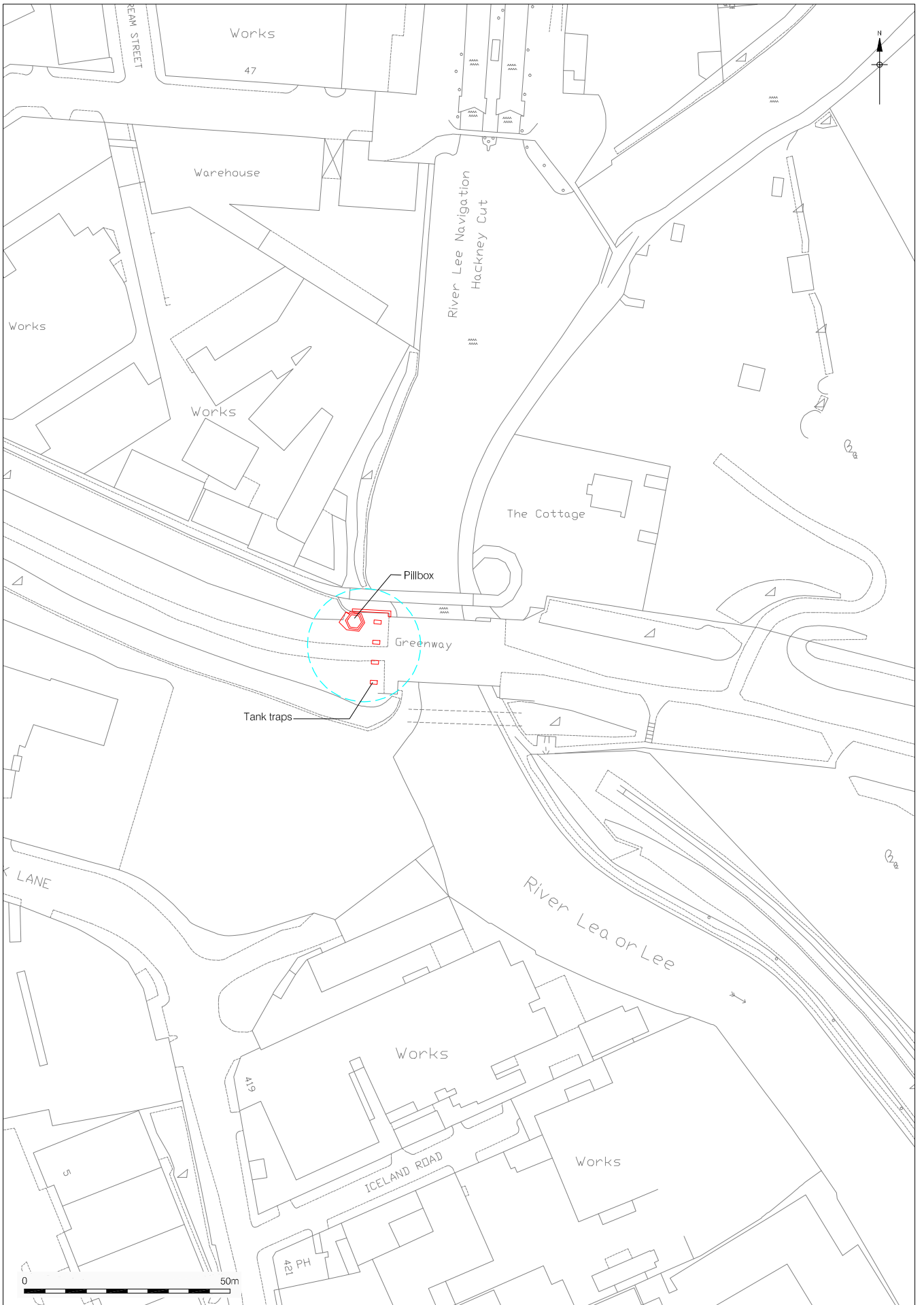
This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. All rights reserved. Olympic Delivery Authority. 100046062. 2007

© MoLAS/PCA April 2008

Figure 1  
 General location plan: OL-01907 and OL-08007  
 1:12,500 at A4







Based on Ordnance Survey Mapping and Reproduced by Capita Symonds Limited.  
 Licence Number AL549851 With the Permission of the Controller of HMSO. © Crown Copyright

© MoLAS/PCA Ltd April 2008

Figure 3  
 Detailed location plan: OL-08007  
 1:1,250 at A3

### 1.3 Planning background

In accordance with local and national policies, archaeological evaluation and built heritage survey of the areas of PDZ6 and PDZ3 to be impacted upon in advance of its redevelopment was required as part of the planning process. Evaluation is intended to define the archaeological potential and significance of any deposits present on the site, so that the local authority can formulate responses appropriate to any identified archaeological resource.

The recording of the subject sites in PDZ6 and PDZ3 will be undertaken in support of a condition required by English Heritage and attached to the consent granted by the Olympic Delivery Authority Planning Decisions Team with respect to Olympic, Paralympic and Legacy Transformation Planning Application Reference 07/90010/OUMODA and Site Preparation Planning Application Reference 07/90011/FUMODA. Condition SP.0.39 of planning permission 07/90011/FUMODA states:

*Demolition of any historic building specified for recording in the submitted Built Heritage Written Schemes of Investigation shall not take place until the recording set out in the relevant Written Scheme of Investigation has been undertaken and written confirmation received from English Heritage that the recording is satisfactory and that the building can be demolished. A report detailing the recording shall be submitted to the Local Planning Authority within six months of the written confirmation received from English Heritage.*

Reason: To ensure that buildings with an identified historic interest are recorded.

### 1.4 Origin and scope of this report

The archaeological work of analysis and recording, and the production of this report, were commissioned from the Museum of London Archaeology Service and Pre-Construct Archaeology (MoLAS-PCA) by the Olympic Delivery Authority. The work was carried out in accordance with a single *Written Scheme of Investigation* (MoLAS-PCA, 2007c). Subsequent to the completion/submission of this WSI, English Heritage advised that the outlined methodology should apply to both OL-01907 and OL-08007.

The report has been prepared within the terms of the relevant standards specified by the Institute of Field Archaeologists (IFA 2001) and corresponds approximately to the form of record and reporting at 'Level 3' for Buildings 1–5, and 'Level 2' for Buildings 6–12, in the specification *Understanding Historic Buildings: A guide to good recording practice*, recommended by English Heritage (2006).

This report presents the results of an analytical survey carried out on the site between March and November 2007, combined with the available results of documentary research.

### 1.5 Research aims and method of work

The research aims of this archaeological work were defined in the *Written Scheme of Investigation* (MoLAS-PCA, 2007c) in conformity with applicable planning policies and English Heritage guidelines (Archaeological Guidance Paper No. 3, revised June 1998).

The overall aim of the programme of work was to secure 'preservation by record' of those aspects of the standing building and the site that were of architectural, archaeological and historical interest. The scope of the work as defined in the *Written Scheme of Investigation* was as follows:

Level 3:

‘The exterior and interior of the structures will be viewed, described and photographed. Measured plans of the remains will be undertaken. A systematic written description will be undertaken, and a report presenting conclusions regarding the development, use, historical context and significance of the structures will be produced.’ (MoLAS-PCA 2007, 3.3)

Level 2:

‘The exterior and interior of the structure will be viewed, described and photographed. Sketch plans of the interior and elevations of the exterior will be undertaken. A brief written description will be undertaken, and a report presenting conclusions regarding the development and use of the structure will be produced’ (MoLAS-PCA 2007, 3.3).

A landscape survey was also undertaken on the Manor Garden Allotments site.

The investigation satisfied the research aims, and it was determined that it would not be necessary to investigate the buildings further during demolition.

## 1.6 Organisation of this report and conventions used

The areas and rooms formed by the structures are numbered as follows:

Heavy Anti-Aircraft (HAA) gun emplacement (OL-01907):

- Building 1- North gun platform
- Building 2- Magazine
- Building 3- Cordite store with blast walls. Contains rooms G1&G2
- Building 4 -South gun platform
- Building 5- Possible Bofor gun emplacement

Radar station complex (OL-01907):

- Building 6- Pillbox
- Building 7- Pillbox
- Building 8- Pillbox
- Building 9- Possible remnant of storage compound
- Building 10- Radar station. Contains rooms G1 and G2

Greenway pillbox and tank traps (OL-08007):

- Building 11- Pillbox
- Building 12- Tank traps

For the purpose of this report, the tank traps are grouped together and have been allocated one building number.

All dimensions are given in metres or millimetres, except possibly for certain brick and timber sizes, and heights are given where appropriate in metres above Ordnance Datum (mean sea level), abbreviated ‘m OD’.

|       |   |
|-------|---|
| AA    | Anti-Aircraft   |
| ADGB  | Air Defence of Great Britain  |
| ATS   | Auxiliary Territorial Service: women's branch of the British Army during WWII |
| Bldg  | Building  |
| Bty   | Battery   |
| DC(S) | Defence Committee (Supply)  |
| DFW   | Directorate of Fortifications and Works                                       |
| DIY   | Do It Yourself  |
| EH    | English Heritage  |
| GPO   | Gun Positioning Officer   |
| HAA   | Heavy Anti-Aircraft   |
| HO    | Home Office   |
| IAZ   | Inner Artillery Zone  |
| MoLAS | Museum of London Archaeology Service  |
| MoWB  | Ministry of Works and Buildings   |
| MoWP  | Ministry of Works and Planning  |
| OD    | Ordnance Datum (mean sea level at Newlyn, Cornwall)                           |
| OS    | Ordnance Survey   |
| NCO   | Non Commissioned Officer  |
| PCA   | Pre-Construct Archaeology Ltd   |
| RA    | Royal Artillery   |
| RCHME | Royal Commission on Historical Monuments, England                             |
| RSJ   | Rolled steel joist  |
| SSSI  | Site of Special Scientific Interest   |
| TA    | Territorial Army  |
| WO    | War Office  |
| WWII  | World War II  |
| ZE 21 | Zone East 21: code identifying gun emplacement                                |

*Table 1* Abbreviations used in this report

## 2 Topographical and historical background

The historical background of the site draws upon historical documents and photographs, Ordnance Survey Maps and recent publications.

### 2.1 Geology and Natural Topography

Buildings 1 to 10 (OL-01907) are located on the eastern side of the floodplain of the Lea Valley, immediately to the east of the River Lea, which forms the western boundary of the future Olympic Park. The site is bounded to the north by the Eastway, north-east by the Eastway Cycle Circuit, east by the Channelsea River, and south by Bully Point Nature Reserve. Buildings 11 and 12 (OL-08007) are located on the western side of a bridge carrying the Northern Outfall Sewer (and Greenway) across the River Lea, directly to the south of Old Ford Locks.

The changes in topography of the area around site OL-08007 are of limited relevance, as the structure is located on top of the Northern Outfall Sewer, constructed 1862–3. Therefore the geology and natural topography of the surrounding area will not be discussed.

The topography of site OL-01907 has changed considerably throughout its history, in particular following modifications to watercourses.

The course of the rivers to the east of the site has been much altered. The river currently known as the Channelsea is in fact an amalgam of the old courses of the Channelsea and the Waterworks. In the early 20th century, the Waterworks River connected to the Lea directly to the west of the current position of New Spitalfields Market. From there it flowed alongside Quartermile Lane, down the eastern side of the gun emplacement site and Manor Garden Allotments and then connected with the River Lea at Bully Point as it passed.

Later, the section of the Waterworks between Bully Point and Carpenter's Road was infilled, and the Waterworks connected to the Lea further south. The Channelsea River, which originally flowed alongside the Waterworks to the east, was connected to the northern stretch of the Waterworks at Bully Point, and the river to the east of OL-01907 became known as the Channelsea.

This meant that at the time the defences were created, the site area was a raised island, defined to the east by the Channelsea and the west by the Lea; a strong defensive site for the HAA gun emplacement and radar station complex.

During the 1960s, the Channelsea was culverted north of the allotments and land access to the east was created.

The Channelsea currently lies at the base of a deep, artificial canyon, its flow being controlled by sluices. To the west, the Lea flows between modern banks. The ancient topography has been partially obscured due to extensive ground raising in the area around Buildings 1–10 and the former Eastway Cycle Circuit. Modern ground level varies greatly across the site as ground level in the allotments (Buildings 6–10) rises to over 16m OD in places, whereas adjacent to the rivers and where little ground raising has taken place, the modern land surface lies at around 5m OD.

## 2.2 Development and Function of the Standing Buildings

The archaeological building recording was aimed at recording the HAA gun emplacement and radar station complex (OL-01907) in the context of their original function and their subsequent alteration to a civil defence training ground and allotments site.

It was also aimed at recording the defensive structures on the Northern Outfall Sewer bridge over the River Lea, south of Old Ford Locks (OL-08007), in the context of their original function.

### 2.2.1 OL-01907: HAA gun emplacement and radar station

#### 2.2.1.1 Phase 1: 1800s–1937

The site originally lay in the County of Essex, which fell within the ancient parishes of West Ham and (at the north-eastern extent) Leyton. More recently the site has been absorbed into the London Borough of Newham (Figure 1).

Site OL-01907 (Buildings 1–10) is within the medieval manor of Chobhams, later owned by Lord Henniker, which survived at least until the 1860s. The Lea Valley at that date was mainly marshland, divided by drainage ditches into uniform plots.

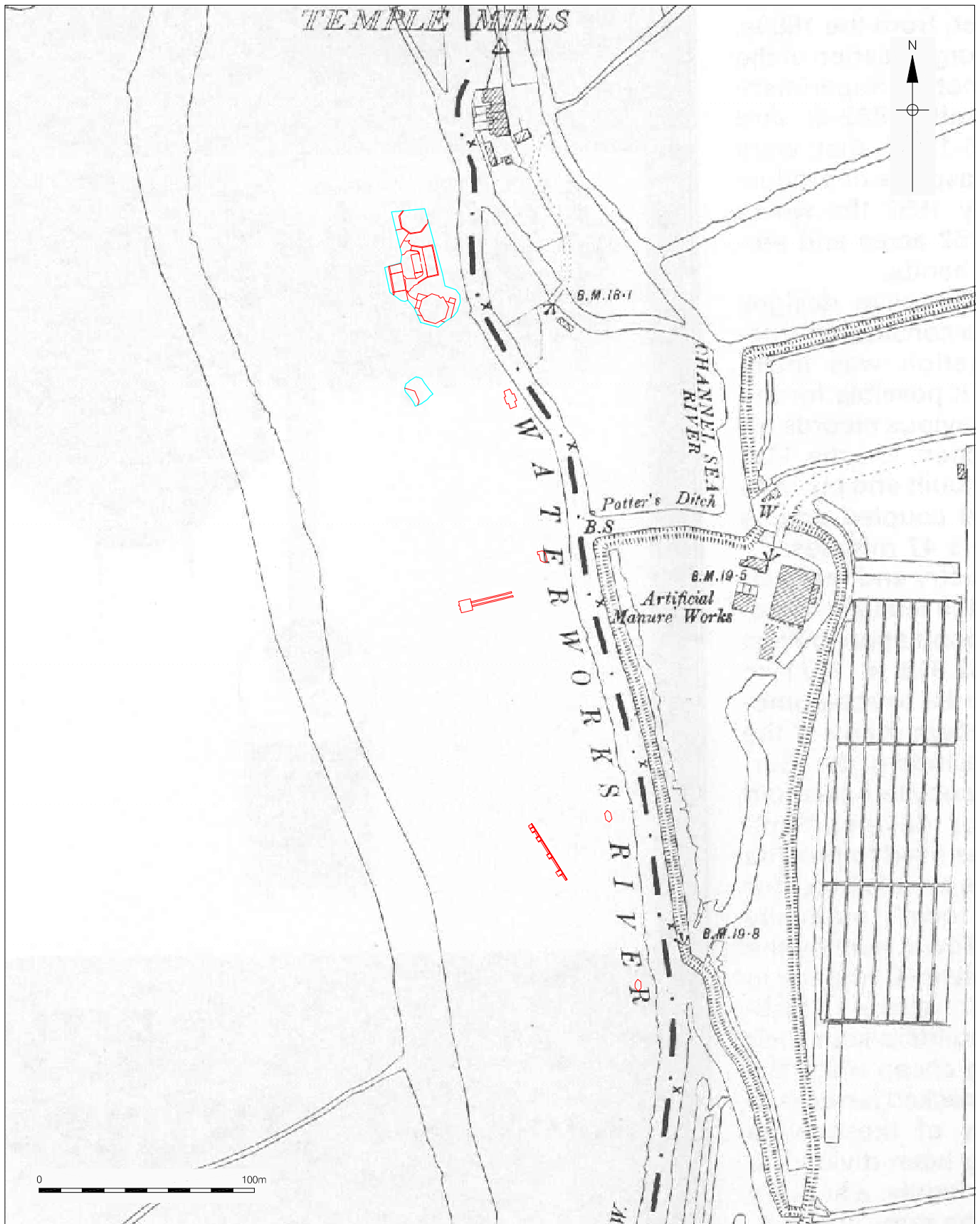
Map regression suggests that the area immediately south of Temple Mills has remained unaffected by the rise of heavy industry which colonised the rest of the Lea Valley. It is likely that this area was prone to flooding, as it lay between two waterways - the River Lea and the Channelsea River (see 2.1) - and this probably discouraged development.

On the 1867 OS map (Figure 4), site OL-01907 lies at the south of a large island, bounded to the west and far north by the River Lea, and to the east and south by the Waterworks River (see 3.1 for details of changes to waterway courses). The land around the site was used for farming, or was given over to marsh. The closest buildings to the site were Temple Mills, immediately to the east, and a public house immediately to the north, which appears to have gained trade from traffic on the Waterworks River. The landscape is much the same on the 1893 OS map (Figure 5), with only slight alterations to the river courses due to natural shifts in banking.

The 1893 OS map shows the arrival of some new industry in the area, with an Artificial Manure Works and Brickfields noted to the east (Figure 5). The Lea Back Rivers, their tributaries and distributaries, extend throughout the area to the east, dividing the land in to inaccessible parcels and preventing development.

By the 1914 OS map (Figure 6), the Brickfields have disappeared, but the Artificial Manure Works remains. A few terraced houses and a cluster of industrial buildings have emerged to the east of the area. There is evidence of a small bridge crossing onto the island on the east side, between the later locations of Buildings 1–5 and Buildings 6–10. The site itself remains unaltered and undeveloped throughout this period, most likely due to limited access and the waterlogged nature of the land.



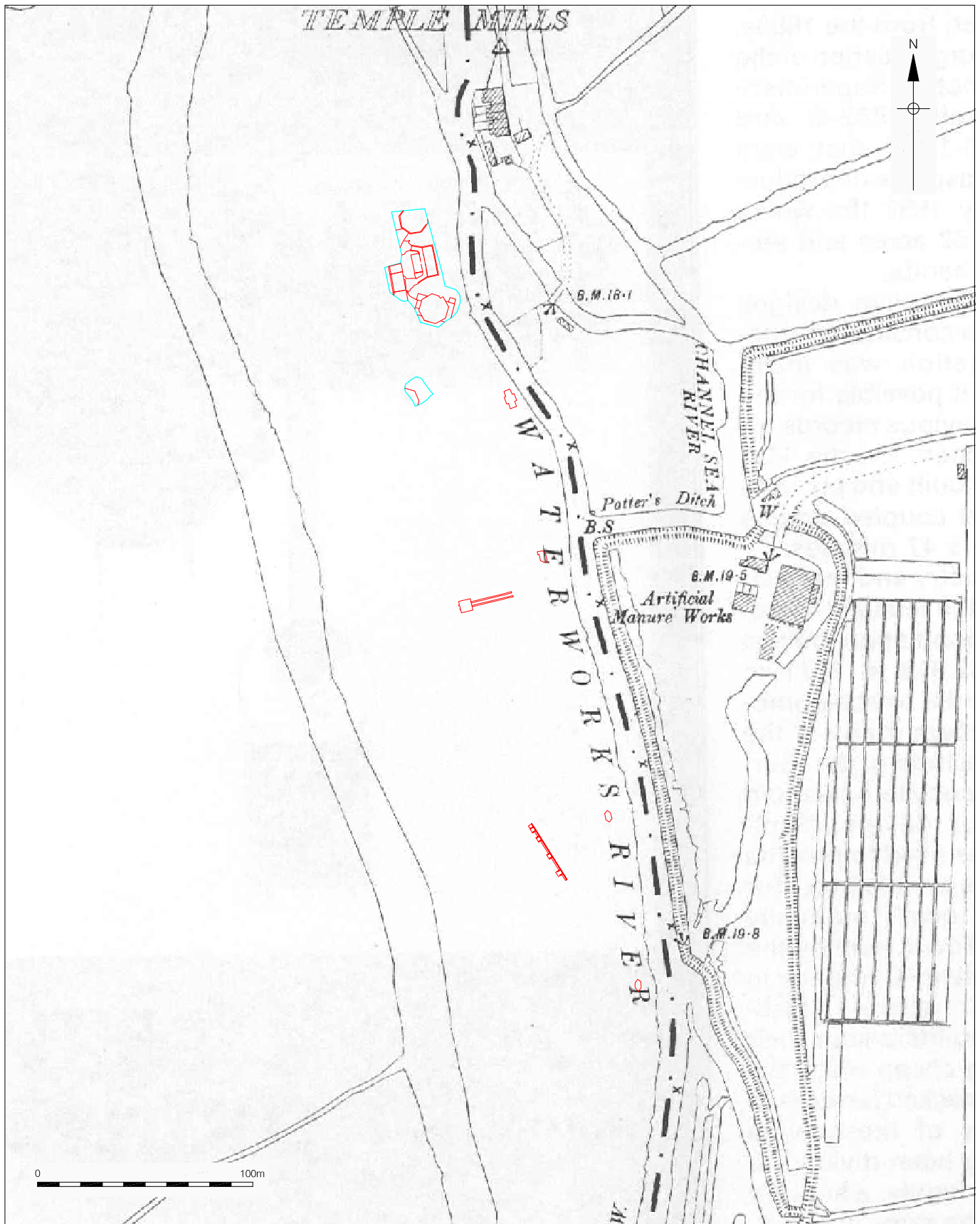


— Exact location of revealed structures  
 — Limit of excavation

©MoLAS/PCA Ltd April 2008

Figure 4  
 1867 OS Map: OL-01907  
 1:2,500 at A4

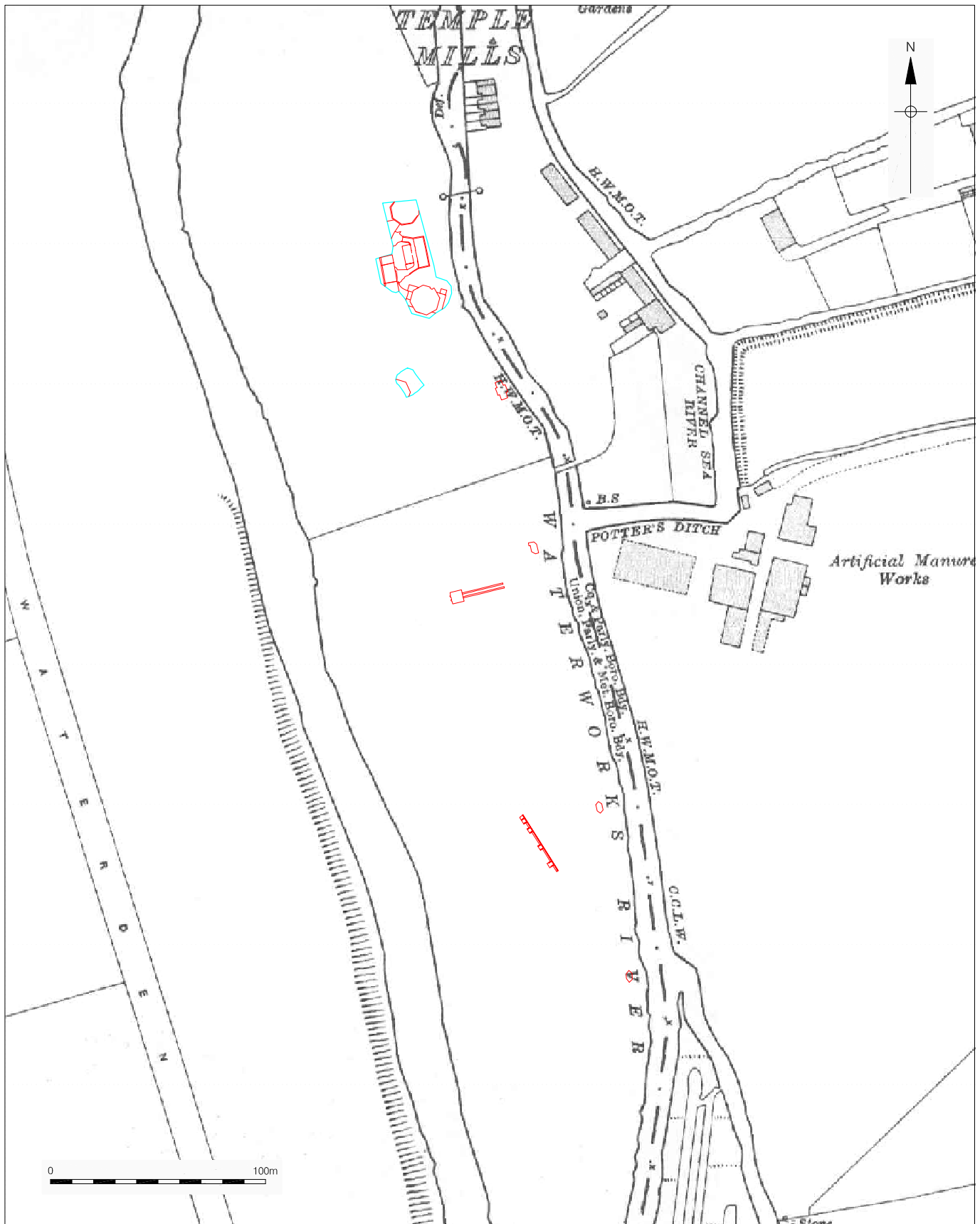




— Exact location of revealed structures  
 — Limit of excavation

©MoLAS/PCA Ltd April 2008

Figure 5  
 1893 OS Map: OL-01907  
 1:2,500 at A4



— Exact location of revealed structures  
 — Limit of excavation

©MoLAS/PCA Ltd April 2008

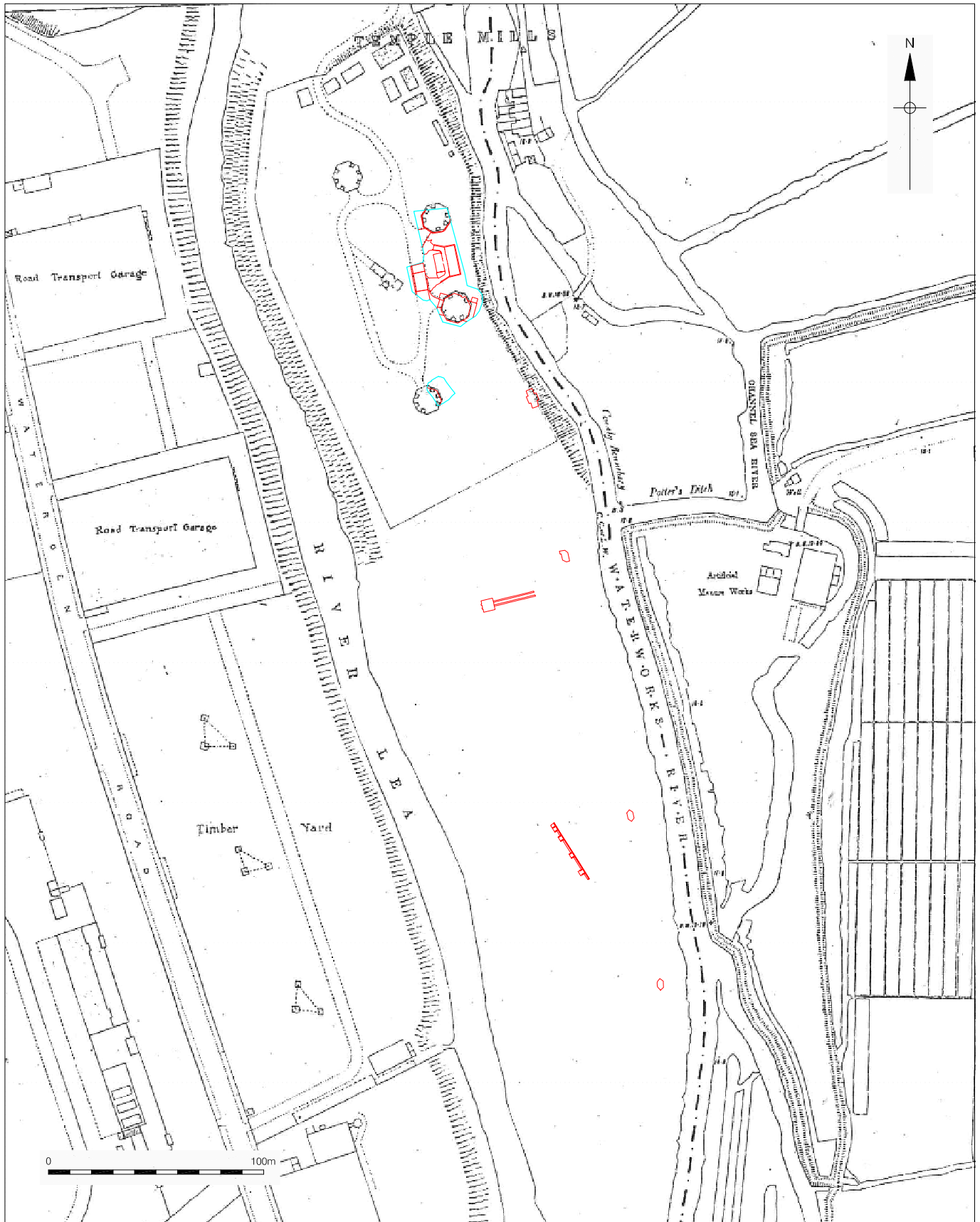
Figure 6  
 1914 OS Map: OL-01907  
 1:2,500 at A4

### 2.2.1.2 Phase 2: 1938–1943

The HAA gun emplacement is shown for the first time on a London County Council map dated 1935–8 (Figure 7), revised from an OS map dated 1893. This map is an amalgamation of the 1893 OS map (to the east of the site) and the 1916–1919 OS map (to the west), with 1930s features added. It was commissioned by the British Petroleum Company as part of unspecified ‘stability works’. Many of its features are unreliable, as they are copied over without amendment from the earlier two base maps. It does not show the full length of the revetments either side of the allotment area, neither does it show the ditch between Buildings 1–5 and Buildings 6–10. However, it is the first record of the HAA gun emplacement showing the standard template. The blueprint of the emplacement type was developed in 1938, therefore the map must be attributed to the latest date possible (i.e. 1938).

The allotment area continued to be used as agricultural land until the advent of the Second World War in 1939. There is no evidence of any other structures on this part of the site before the war.

The first photographic confirmation of the existence of the gun emplacement (Buildings 1–4) can be found on an aerial photograph dated to June 1941 (Plate 1). The four gun platforms surrounding the central command post are clearly identifiable, with two structures to the east (Buildings 2 and 3) and a compound to the north-east around the original public house. The two blast rooms of Building 3 are also visible. The command post is in the centre and there also appears to be a circular framework set out immediately north of the command post for radar equipment. Also visible on the photograph are two structures to the west of the gun emplacement, which appear to be related to it. The area appears to have a perimeter fence dividing Buildings 1–4 from the rest of the site. The only visible access is from the north, then Temple Mills Road, which appears to be protected by a gate and two sentry posts either side.



— Exact location of revealed structures  
— Limit of excavation

©MoLAS/PCA Ltd April 2008

Figure 7  
 1935-38 London County Council Map revised from the 1893 OS map: OL-01907  
 1:2,500 at A4



*Plate 1 View of OL-01907: aerial photograph taken by the RAF, 17<sup>th</sup> June 1941*

Building 5 is not visible at this time, and neither are Buildings 6–8 and 10. Building 9 is visible in the southern section of the photograph, and appears to be part of a larger, irregularly-shaped compound which may have been used for storage. To the north is a barrage balloon station. To the north-east of the emplacement is a compound of Nissen and Romney huts, which may have been the location of the soldiers' encampment.

The mass of railway lines, sidings and sheds strike through the centre of the photograph and must have been an obvious target for enemy bombers. The sheer scale of the defences set up to deter aerial and land attack is clearly illustrated. To the far north of the site, lines of banked earth and blast craters indicate the location of a bomb cemetery. Within the relatively small scope of the photograph are four barrage balloon sites, situated at key vantage points along the railway. It is most likely that their purpose was to protect the railway from low-level attacks and pinpoint bombing. Each balloon was moored to a wagon by a cable; the cable was strong enough to destroy any aircraft colliding with it.



2.2.1.3 Phase 3: 1944–1951

During this period, alterations appear to have occurred to the gun emplacement. An aerial photograph dating to 1944 (Plate 2) indicates that another emplacement was developed immediately to the north of the original, within the area currently designated PDZ15. However, the author is unable to locate records of the transition from one site to the other, or any written evidence for the second site.



Plate 2 View of OL-01907: aerial photograph taken by the RAF, 7<sup>th</sup> August 1944

The new HAA gun emplacement is D-shaped with four gun platforms, their guns clearly visible. It appears to be in the process of construction, with the blast mounds protecting the gun platforms incomplete.

The original HAA gun emplacement is still extant, with Buildings 1–4 visible. The associated compound to the north-east and the structures to the west are also still visible. The encampment to the north-east of the site has increased in size, perhaps to house additional gun operators. There is now a road link, stretching from the south of the emplacement, leading into the radar station compound.

Within the radar station complex, Buildings 6, 7, 9 and 10 are visible. A large gate blocks the access to the complex at the north. The radar station itself (Building 10) is clearly identifiable, as is Building 6 to the east. To the south-west of Building 9, on the east bank of the Lea directly opposite the landing stage on the west bank, there appears to be a small structure with a footpath leading towards and away from it. It is possible that this is a further pillbox which was destroyed by the time of recording, or a building which had some functional relationship with the landing stage opposite.

A small trackway leads down the revetments of the bank of the Waterworks, linking two pillboxes, Buildings 6 and 7. This is likely to be a sentry path used to patrol the banks of the river.

A new footbridge appears crossing the Waterworks at the centre of the allotments site, connecting to the area in which a barrage balloon was located in 1941 (Plate 1). No balloon is visible, but the area in which it was anchored is indicated by a patch of lighter ground. To the south-west of this is what appears to be a watching-post for aeroplanes. The rest of the barrage balloons, so visible in the 1941 photograph, have all but disappeared. The only traces of them that remain are the mounds and wagons to which they were attached.

At the very south of the site, where the Waterworks merges with the Lea, it appears that there has been some work undertaken, damming or culverting the Waterworks. To the east of the site there is evidence of a quarry and to the far north-west of the site there are large-scale unidentified earthworks. Some factory buildings to the west of the site appear to have been bombed.

The aerial photograph dated April 1946 (Plate 3) shows a fully completed 5.25-inch AA gun emplacement to the north, complete with guns and sentry posts at the gates. The original gun emplacement (Buildings 1–4) remains, though there are no longer any guns located on the platforms. The command post appears to be altered; however, this effect could have been created by camouflage. The photograph shows considerable development in the area around the original emplacement, with ranks of long sheds surrounding it. The encampment to the north-east still remains.



*Plate 3 View of OL-01907: aerial photograph taken by the RAF, 2<sup>nd</sup> April 1946*

Buildings 10 and 6 are clearly visible, but the photograph does not cover the areas where the Buildings 7, 8 and 9 are located. There is still no sign of Building 5.

No records could be found of the type of materials which were stored in the depot, making this a question for future investigation.

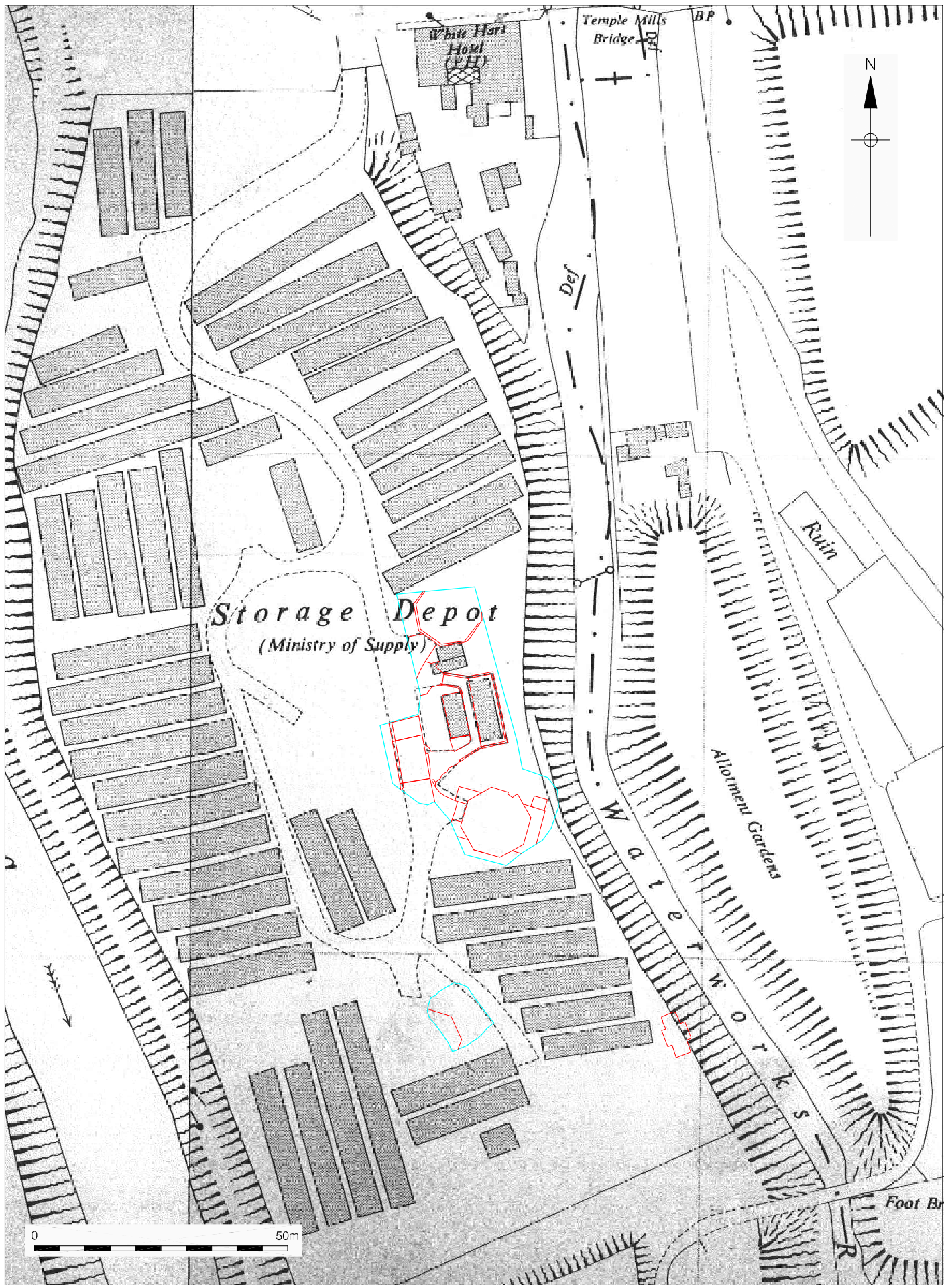
The aerial photograph dated June 1947 (Plate 4) is very similar to that of 1946. It shows the radar station complex in its entirety, and Buildings 1–4 and 6–10 are clearly visible. It now appears that Buildings 1–4 are being used as storage. The encampment to the north-east of the site still remains. Towards the south of the site, a new road bridge has been built across the Lea. To the far south, the channel connecting the Waterworks to the Lea appears unobstructed.





*Plate 4 View of OL-01907: aerial photograph taken by the RAF, 24<sup>th</sup> June 1947*

The OS map of 1949 (Figure 8) shows the buildings surrounding the gun emplacement, which are marked 'Storage Depot, (Ministry of Supply)'. However, the gun platforms and command post are not mapped. The only defence features represented are Buildings 2 and 3 and the concrete road system that served the platforms. The 1951 OS map (not reproduced) labels a 'wind pump' located between Buildings 6 and 7.



— Exact location of revealed structures  
 — Limit of excavation

© MoLAS/PCA Ltd April 2008

Figure 8  
 1949 OS Map: OL-01907  
 1:1,000 at A4

#### *2.2.1.4 Phase 4: 1952–1968*

By 1952, an aerial photograph (not reproduced) shows the storage sheds have been removed and the area is overgrown. In 1954, a training village for the Civil Defence was constructed on the site of the gun emplacement (OL-01907) (Ward 2007, pers comm).

Subsequent OS maps dating from the 1950s (not reproduced) show considerable development in the area around the site, comprising of two massive goods sheds and extensive additional sidings to the southeast of the site (currently a container terminal).

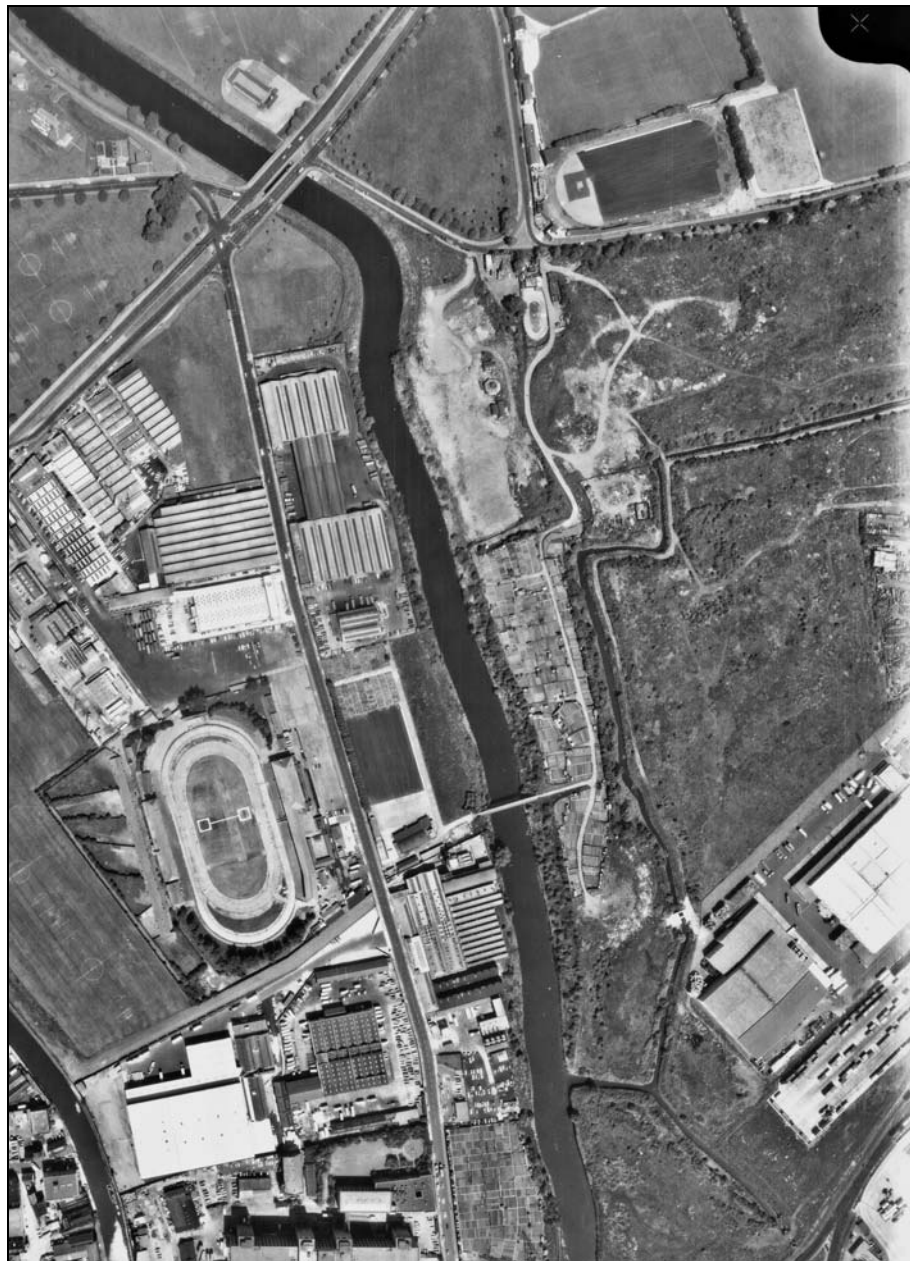
Most of the waterways in the northern part of the site were significantly altered during this phase, although the River Lea watercourse has remained relatively constant. The 1963 OS map shows the Waterworks River culverted along the eastern boundary of the HAA gun emplacement site, but continuing along the eastern side of the radar station complex (Figure 9). The Waterworks has been altered at Bully Point, increasing the area of the southern tip of the site.

By 1963, the map shows the Civil Defence training ground had replaced the storage depot and Buildings 1–4 are clearly visible. Building 4 appears to have undergone amendments and additions in the form of concrete aprons either side of the platform. The photograph also shows the trackway around the emplacement which originally gave access to all four platforms, only two of which remain. 1963 is the first time that Building 5 is visible on the map. It is likely that it was constructed as part of the civil defences.

The civil defence training ground continued to function until 1968 when massive government cutbacks forced the London Boroughs Association to close the grounds (London Boroughs Association LBH/J B).

#### *2.2.1.5 Phase 5: 1969–present day*

An aerial photograph of the site taken in May 1971 (Plate 5) shows that the site is in the process of a significant change. Earth is being dumped on the plot, a process will eventually raise the ground level another 3 metres, covering the whole of the gun emplacement.



*Plate 5 View of OL-01907: aerial photograph taken by commercial company, 20<sup>th</sup> May 1971*

At the time of the photograph, it appears that the dumping was only a short way advanced. The emplacement is severely depleted in size, with only Buildings 1–3 remaining. These, too, are much changed; Building 1 appears to have a dome-like roof covering its entirety, while Buildings 2 and 3 appear to have been re-roofed and the walkway between them covered over for protection against the elements.

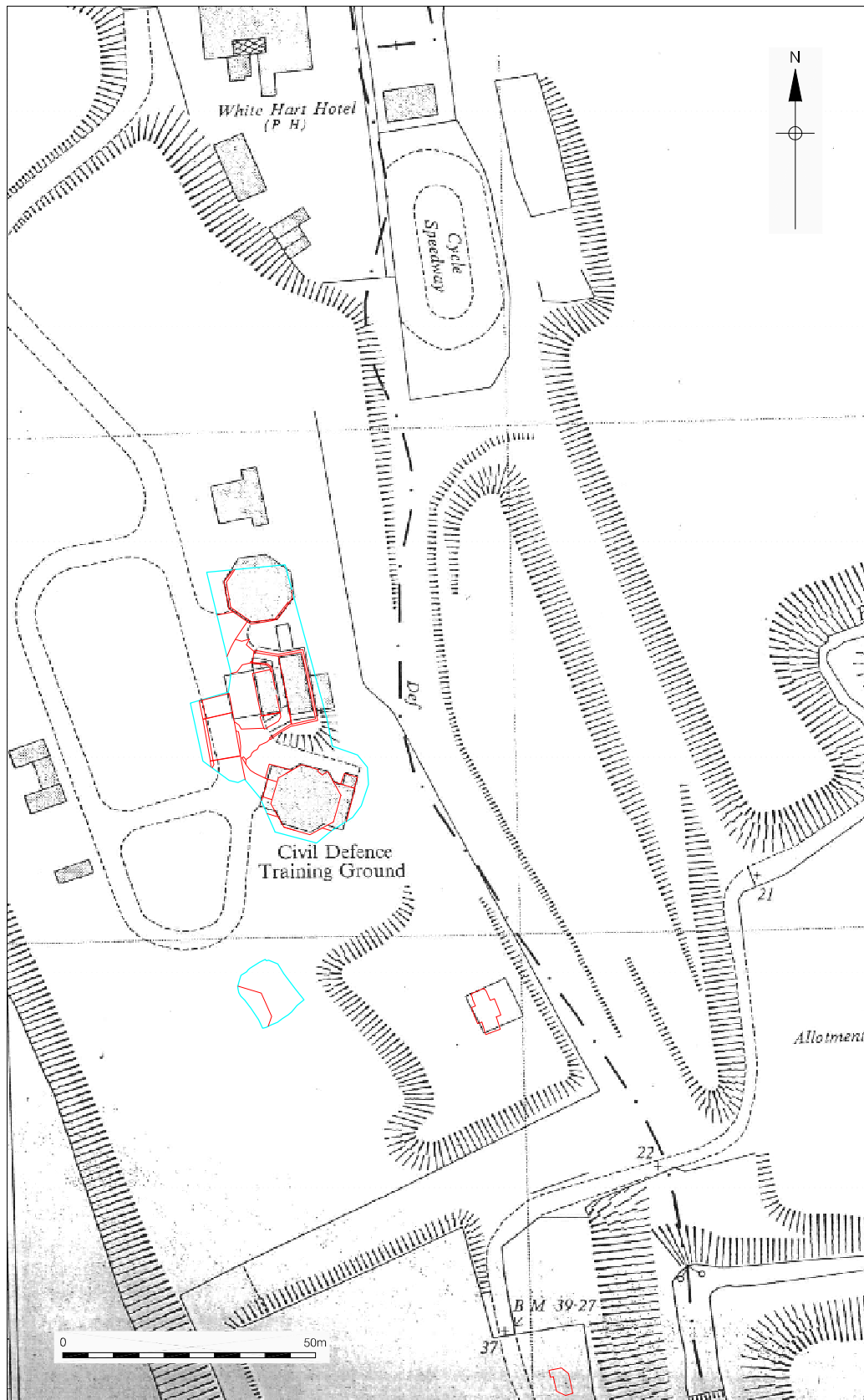
A further structure is visible immediately north of Building 1 which certainly relates to the Civil Defence phase of occupation. The encampment to the north-east has now given way to a new training field and several blocks of houses. Building 5 is visible amongst scrubland to the south of the HAA gun emplacement.

This date evidence for the raising of the landscape is supported by the physical evidence discovered during excavation. Within the made ground above Buildings 1 and 3, which

comprised a combination of earth, rubble and rubbish, were a number of dental records and cards dating to 1971–1972.

Also visible in the photograph are Buildings 6–10, now beginning to be surrounded and abutted by allotment sheds and lean-tos. The long ramps of the radar station (Building 10) appear to have disappeared completely under a jumble of temporary structures.

The northern half of the site (Buildings 1–5) was most recently scrub ground, used informally as a site for off-road cycling. To the south (Buildings 6–10), the last use of the land was as Manor Garden Allotments.



Reproduced from the 1963 1:1,250 Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright PCA Ltd, Unit 54 Brockley Cross Business Centre, London SE4 2PD. Licence number 100020795.

©MoLAS/PCA Ltd April 2008

- Exact location of revealed structures
- Limit of excavation

Figure 9  
1963 OS Map: OL-01907  
1:1,250 at A4



## **2.2.2 OL-08007: pillbox and tank traps on the Greenway**

### *2.2.2.1 Phase 1: 1862–1940*

The pillbox and tank traps are located on the Northern Outfall Sewer, on the western side of the bridge which carries the sewer over the River Lea. The sewer is covered with an earthen embankment, along the top of which runs a public footpath, now known as the Greenway.

The Northern Outfall Sewer was a vital part of London's main drainage system, engineered by Joseph Bazalgette for the Metropolitan Board of Works and constructed between 1859–75. The section which crosses the River Lea by Old Ford Locks was built in 1862–3.

The first map to show the Northern Outfall Sewer at the site is the 1869 OS map (Figure 10). It is clear that at this date, the bridge over the Lea was much narrower than its current form. The piers of the current bridge show two phases of construction, which the map evidence dates to 1862–3 and 1894–1916, showing that it was widened after its initial date of construction. By 1916, the bridge was at its current width (Figure 11).

### *2.2.2.2 Phase 2: c 1940–c 1945*

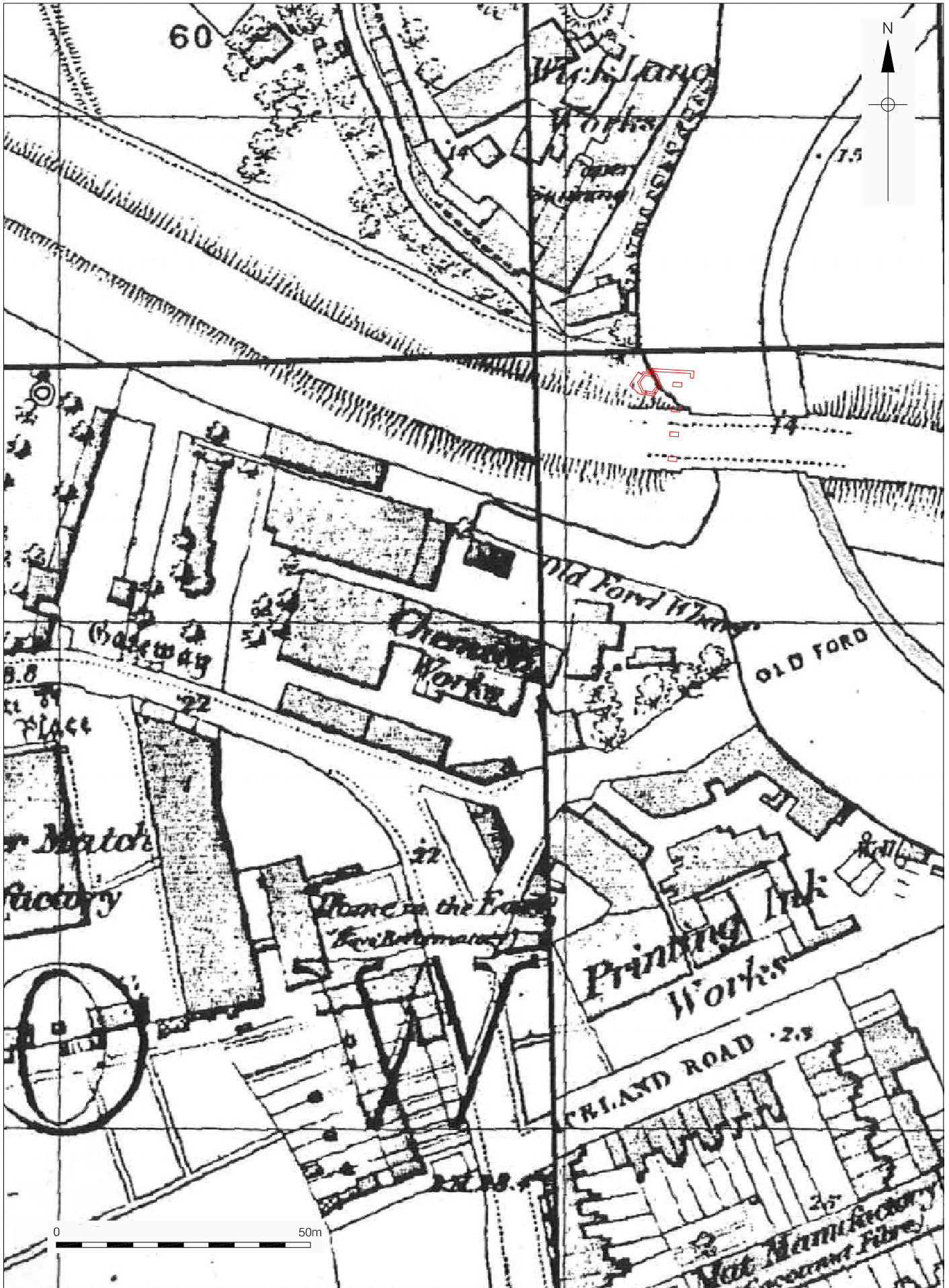
Between 1940 and 1941, an anti-tank line was thrown around London, of which the pillbox and tank traps were a component.

The pillbox and tank traps were certainly constructed during 1940–41, as after 1941 the emphasis moved from static stoplines towards focusing defence around the coastal regions of Britain and strengthening a mobile defensive army (Foot 2006, 7). The pillbox is a Type 22 (or FW3/22), the blueprint for which was issued in 1940. It is likely that the pillbox was manned by the Home Guard from 1940–1 until 1945 at the latest.

Unfortunately, there is no supporting map, photographic or documentary evidence for this phase.

### *2.2.2.3 Phase 3: c.1945–present day*

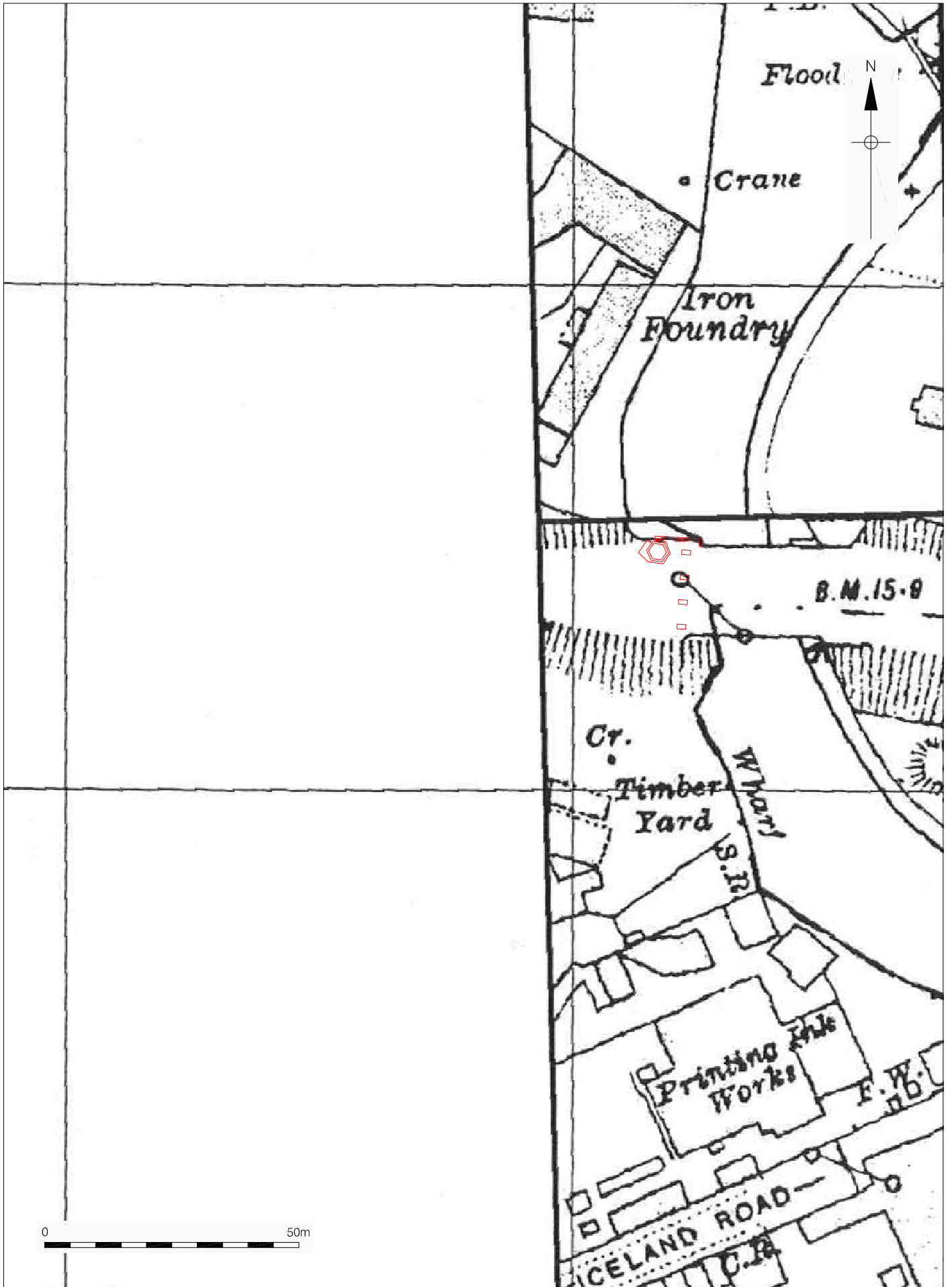
After their decommission, it appears that the pillbox and tank traps remained vacant and unaltered until the present day. The first map reference to the structure finally occurs on the 1982 OS (Figure 12), which shows the hexagonal pillbox but no tank traps.



©MoLAS/PCA Ltd April 2008

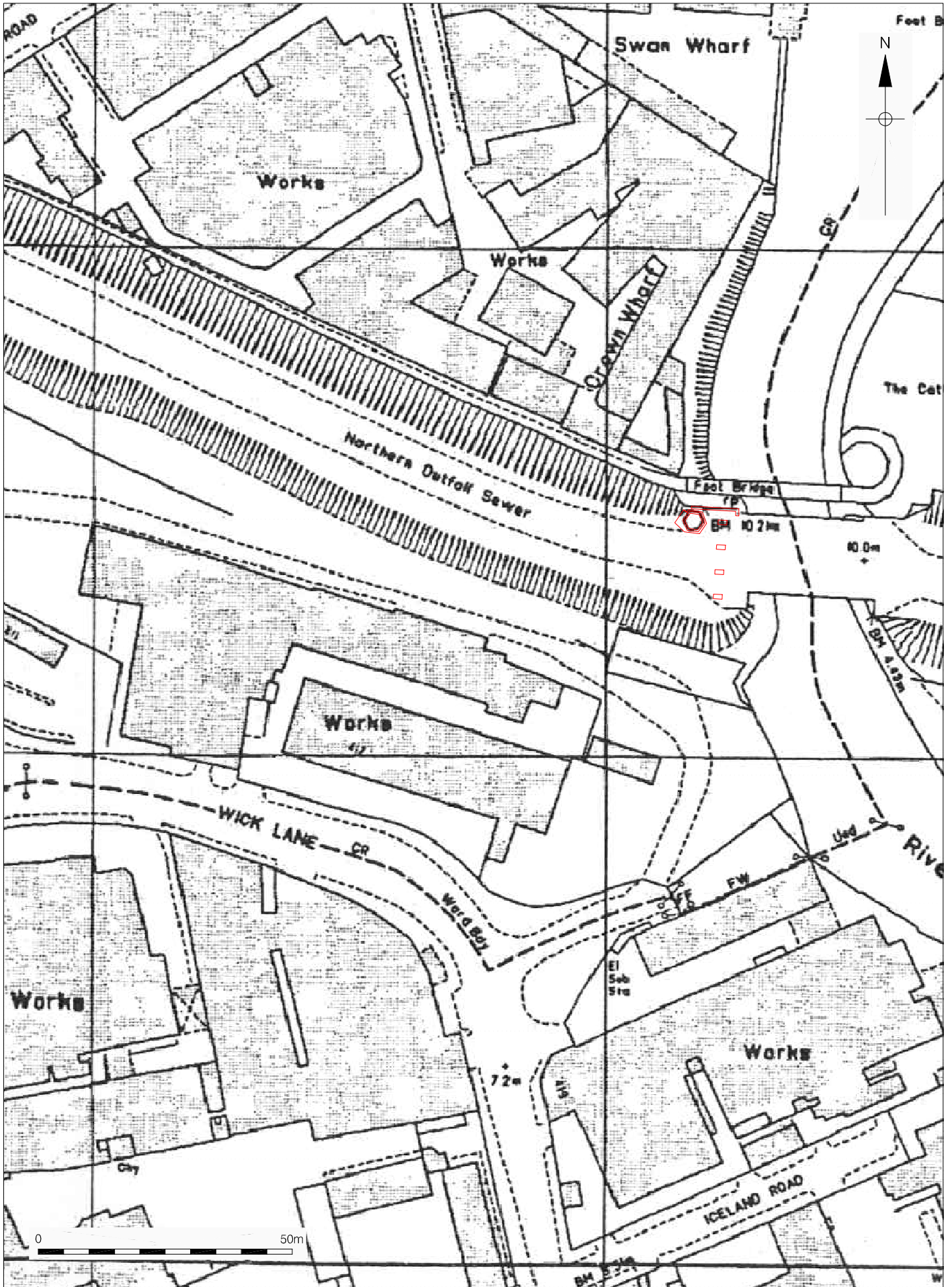
Figure 10  
 1869 OS Map: OL-08007  
 1:1,000 at A4





© MoLAS/PCA Ltd April 2008

Figure 11  
1916 OS Map: OL-08007  
1:1,000 at A4



Reproduced from the 1982 1:1,250 Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright PCA Ltd, Unit 54 Brockley Cross Business Centre, London SE4 2PD. Licence number 100020795.

© MoLAS/PCA Ltd April 2008

Figure 12  
1982 OS Map: OL-08007  
1:1,000 at A4

## 3 The standing building survey

### 3.1 Methodology

All archaeological analysis and recording during the investigation on site was done in accordance with the *Written Scheme of Investigation* (MoLAS-PCA, 2007), the *Museum of London Archaeological Site Manual* (1994) and MoLAS *health and safety policy* (2005).

This description should be read in conjunction with the plans and sectional elevations (Figs 13–42) and selected photographs taken in March to November 2007.

The location and exterior of the structures were determined by site survey, and this information was imposed on the modern Ordnance Survey plan to show their location (Figure 1–Figure 3). Please note that Figure 2 shows both revealed/extant structures in the area of the gun emplacement, and the projected location of structures not revealed/extant. The latter includes **all** structures shown by map and photograph evidence over the several phases of development at the emplacement, many of which were not contemporary. For more detailed information on the phasing and development of the site, please see the map regression figures and section 3.2.

Plans of Buildings 1–4 were drawn by EDM survey, and supplemented by dimensioned manual sectional elevations and external elevations. Dimensioned plans were drawn by hand on site of the possible Bofor gun emplacement (Building 5); pillboxes (Buildings 6, 7, 8 and 11); radar station (Building 10) and tank trap structures (Building 12), together with dimensioned drawings of selected elevations, sections and other details of these structures, with sufficient information to locate them accurately in plan.

Based on these site drawings, 9 plans, 6 sections, 10 elevations and 2 detail drawings have been plotted, positioned to demonstrate the construction and layout of the buildings as clearly as possible and are included in this report.

The original plot scales range from 1:5 to 1:100.

Written descriptions of the structures' construction, development and function were also undertaken.

The site records comprise a total of 33 digital colour photographic images, 58 site drawings, site notes and notes on the documentary evidence. No objects or samples were collected. The site records will be deposited and indexed in due course in the Museum of London archaeological archive under the site code OL-01907 (Buildings 1–10) and OL-08007 (Buildings 11 and 12).

### 3.2 Description of the standing buildings

#### 3.2.1 General

At the north-west of PDZ6, made ground covering the HAA gun emplacement was removed and the structures revealed at a depth of 3m below the surface. Due to work undertaken by Murphy Construction immediately to the north of the site, the excavation was limited in area.

Map evidence located the northernmost gun platform (Figure 2) within a SSSI, meaning the ground could not be disturbed.

Further south, two areas were excavated: Trench 1, which revealed the two gun platforms (Buildings 1 and 4) located either side of a central magazine (Building 2) and cordite store (Building 3), connected by concrete pathways and ramps (Plate 6); and Trench 2, which located the southernmost gun platform but did not reveal its full extent (Figure 13). It was deemed that no further excavation and clearance within Trench 2 was necessary, as Buildings 1 and 4 had already been revealed and all platforms were of a standard type. To the far south, a possible Bofor gun emplacement (Building 5) was discovered (Plate 7). This was located on the land surface, and required only superficial clearance of topsoil and vegetation.



*Plate 6 View of Trench 1: OL-01907, looking east*





*Plate 7 View of Building 5:OL-01907, looking south-east*

Within Manor Garden Allotments, the buildings to be surveyed were all at modern ground level, as no dumping of made ground had taken place (Plate 8). Superficial clearance of topsoil and vegetation was undertaken to fully reveal the standing buildings. These consisted of a radar station at the north of the allotments site, a possible remnant of storage compound at the centre of the site, and a series of three pillboxes located along the eastern side of the allotments at the top of the west bank of the Channelsea River. A number of walls and bases which appeared to be contemporary with these structures were also uncovered and recorded.



*Plate 8 View of radar station complex, Buildings 6-10: OL-01907, looking south*

On the Northern Outfall Sewer bridge over the River Lea, the pillbox and tank traps were at modern ground level, and were not substantially obscured by soil or vegetation. These structures were recorded as found (Plate 9).



*Plate 9 View of pillbox and tank traps, Buildings 11 and 12: OL-08007, looking west*

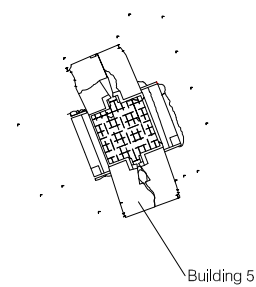
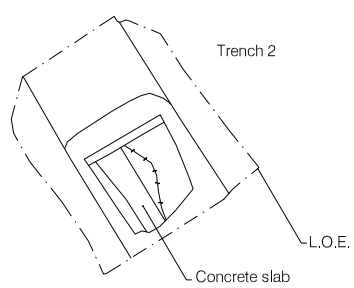
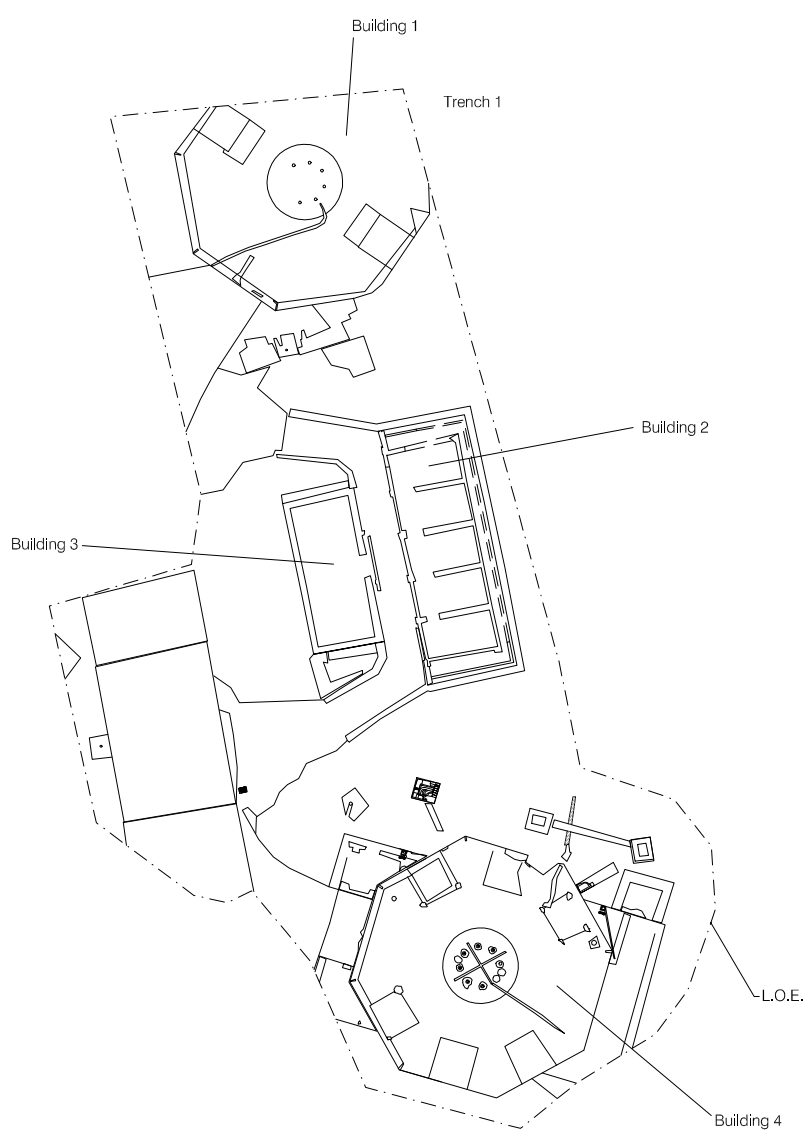


Figure 13  
Buildings 1-5: Trenches 1 and 2 and Buildings 1-5, plan  
1:400 at A3



### 3.2.2 HAA gun emplacement (OL-01907: Buildings 1–5)

#### 3.2.2.1 Building 1: North gun platform (Figure 14)

Building 1 comprises a hexagonal concrete base (Figure 2), located at the north-west corner of PDZ6, to the south of Quarter Mile Lane.

In plan, Building 1 measures roughly 11m north–south and 13m east–west, and was only partially revealed during excavation. It is constructed of reinforced poured concrete, with several phases of repair and alteration.

A linear scar runs parallel to the perimeter of the platform, showing the original wall line (Plate 10). There are two low plinths on opposing sides of the platform, to the north-west and south-east. Both plinths have rectangular ghosts imprinted over them, which extend out from each plinth towards the centre of the platform. Within the southern half of the north-west ghost is red pigmentation, and within the northern half are small metal protrusions. The south-east ghost has red pigmentation within its northern half, and small metal protrusions within its southern half. These scars are the remnants of rectangular ammunition lockers that were structurally integral with the walls. These lockers were originally open at either end for the removal of ammunition rounds and they were closed by steel doors:

*“Unlike later gunpit designs, this early example had no integral shelter for the crew, nor any covered space reserved for first-hand maintenance. In time one of the ammunition recesses came to be adapted for this latter role, while shelters adjacent to the emplacements were widely improvised once the sites came to be permanently occupied (Dobinson 2001, 143).”*



Plate 10 View of north gun platform, Building 1: OL-01907, looking north-east



The centre of gun emplacement has a thin circular scar indicating the location of a gun ‘babbett’, a holdfast anchoring the gun to the concrete base. The scar contains 8 circular metal rings set into the concrete. These have been infilled with concrete, but would originally have been sockets through which the gun was fixed to the platform.

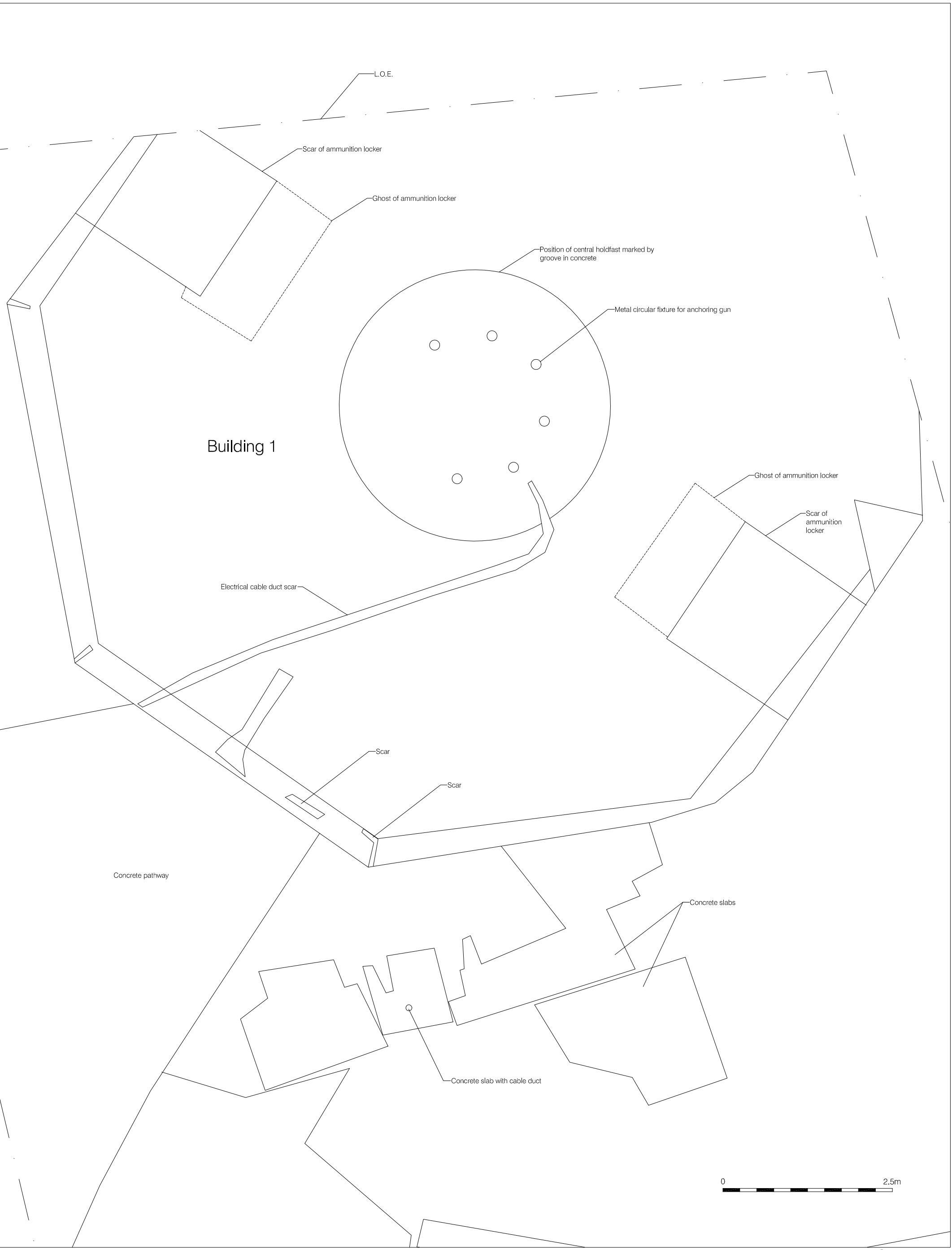
Though not discernible during the measured survey, record photography has revealed a further, hexagonal ghost surrounding the circular babbett scar, with narrow ‘corridors’ extending to the north-east and south-west edges of the platform (Plate 11). It is uncertain what this feature represents.



*Plate 11 Detail of plinth, north gun platform, Building 1: OL-01907, looking north-east*

Extending south–westwards from the south–west edge of the platform is a concrete ramp leading to Buildings 2 and 3, and potentially towards the northern gun emplacement (not excavated). It was not fully exposed during excavation.

When uncovered, the surface of Building 1 was covered with a layer of linoleum over patches of plaster, suggesting a change in use at a later date.



© MoLAS/PCA 2008

Figure 14  
 Building 1, north gun platform, plan  
 1:50 at A3

### 3.2.2.2 Building 2: magazine (Figure 15, Figure 16)

Building 2 is a rectangular structure aligned on a north–south axis, located between Building 1 (to the north) and Building 4 (to the south), and to the east of Building 3 (Figure 2).

In plan Building 2 measures roughly 14.5m from north to south, and 5.25m from east to west. It is constructed of reinforced poured concrete, and consists of a series of concrete bays with a substantial blast wall surrounding the north, east and south sides.

The structure is divided into five rectangular bays, the elevations of which retain imprints of horizontal timber shuttering. The bays were partially demolished during the demolition phase. The tallest part of the upstanding structure is 1.60m from base, and no evidence of roofing remains.

The internal framework of concrete partitioned bays is protected by a 0.50m thick reinforced outer skin wall on the north, east and south sides. There is a 0.80m air gap between the outer wall and the inner wall with a shallow drainage channel at the base, running parallel to the walls (Plate 12).



*Plate 12 View of bays within magazine, Building 2: OL-01907, looking east*

Access into Building 2 was originally via a doorway in the centre of the western wall. This wall was completely removed during the demolition phase, and only remnants to the north and south remain. There is no evidence of fenestration.

The bays, all badly damaged, are formed by a series of east–west walls and are accessed from the west side. All five bays share the same eastern rear wall. The four middle dividing walls are thinner than the main eastern wall, and use thinner iron meshing within their concrete cores (Plate 13).



*Plate 13 View of walkway between magazine and cordite store, Buildings 2 and 3: OL-01907, looking north-east*



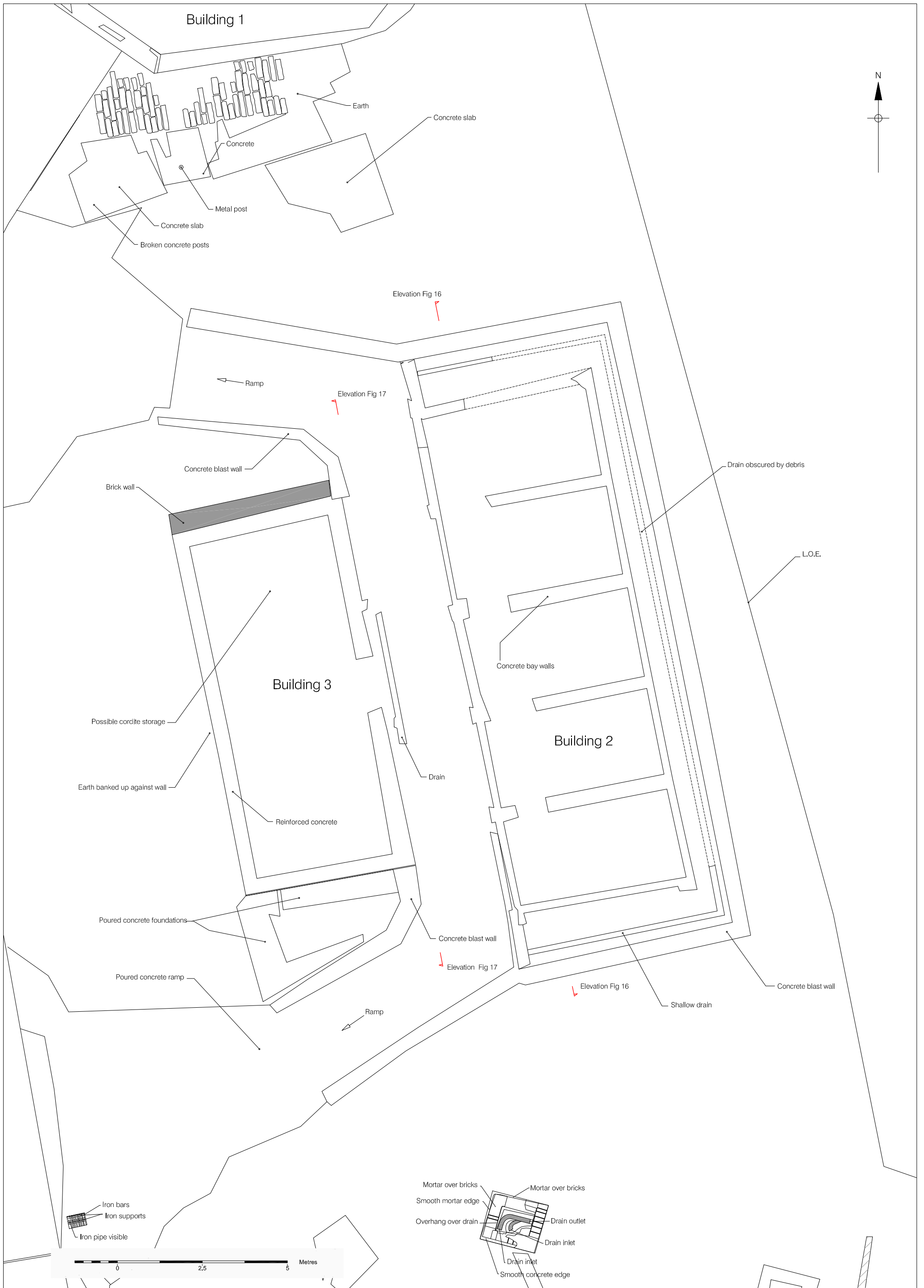
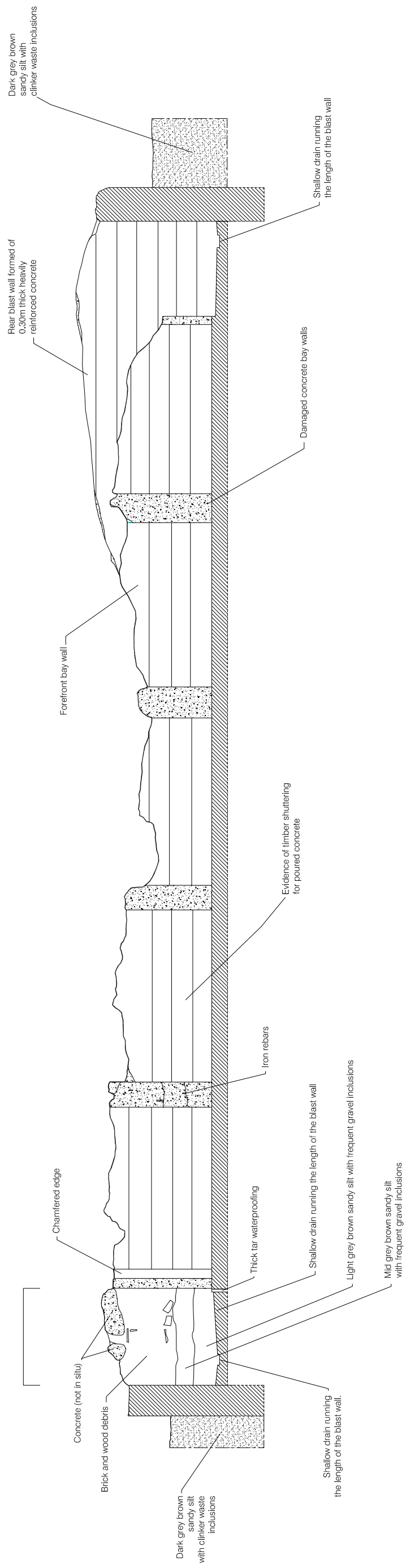


Figure 15  
Buildings 2 & 3, cordite store and magazine, plan  
1:100 at A3

N-W

S-E

Blast wall on north, east and south sides of the structure. Partially excavated, showing layers of demolition build-up



### 3.2.2.3 Walkway between Building 2 and Building 3 (Figure 15)

A concrete walkway runs between Building 2 (the magazine), and Building 3 (the cordite store) (Figure 2, Figure 15). To the north and the south of these buildings, it curves west to form a ramp leading upwards. This walkway was created after the cordite store and magazine, using poured concrete. Its surface contains a series of transverse linear indentations, to improve grip. A drainage channel runs along the walkway in front of the eastern exterior wall of the cordite room (Plate 14).



*Plate 14 View of walkway and cordite store, Building 3: OL-01907, looking west*

The significant rise of the walkway at each end of the central corridor along with the substantial drop in height between the surface of the gun platforms and the floor surface of Buildings 2, 3 and the walkway, suggests that the magazine and cordite store were underground bunkers. This is supported by the lack of windows or access points on elevations not facing onto the central corridor. It is likely that the walkway itself was open-topped.

### 3.2.2.4 Building 3: cordite store (Figure 17)

The cordite store is a rectangular structure aligned on a north–south axis, located between Buildings 1 and 4, and to the west of Building 2 (Figure 2).

In plan, Building 3 measures roughly 14m from north to south and 4m from east to west. The structure comprises a single large rectangular room with 0.5m thick reinforced concrete walls, waterproofed externally with a 0.05m thick layer of tar. The building was severely damaged during the demolition phase, and now consists only of the floor and partially intact walls up to 1.50m in height (Plate 14).



The walls are not keyed in to the floor and have been constructed using a reinforced concrete core surrounded by an outer layer of poured concrete, which retains imprints of horizontal timber shuttering. Demolition of the upper portion of the walls has revealed the iron mesh used to reinforce the concrete core. The lower half of all walls has been painted light red, and above this light grey.

The exterior of the east wall is coated in tar waterproofing along its base. The exterior faces of the north, south and west walls are completely covered by tar waterproofing.

Running through the north wall is a ceramic pipe, part of the original drainage system.

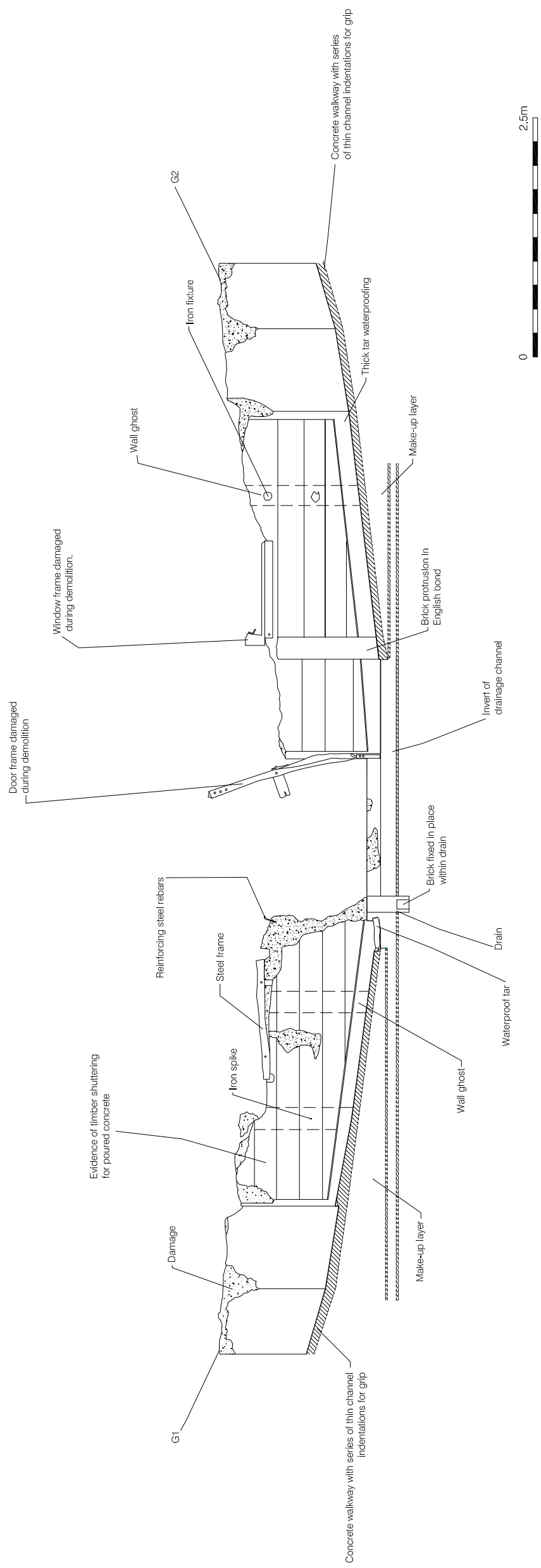
Access is via a central doorway in the eastern wall, which retains a damaged but in-situ three-hinged iron doorframe upright on the north side of the entranceway (Plate 15). Two windows exist, one at the north and one at the south extent of the east wall, both of which have an in-situ iron reinforced L-plate lintel.



*Plate 15 View of metal fixtures on window and door of cordite store, Building 3: OL-01907, looking south-west*

S-E

N-W



### 3.2.2.5 *Building 3, rooms G1 and G2: crescent-shaped blast rooms*

Abutting the exterior faces of the north and south walls of Building 3 are two crescent-shaped structures, G1 and G2 (Figure 15, Figure 17), which appear to be later addition blast wall spaces.

The walls are formed of a reinforced concrete core, surrounded by an outer layer of poured and shuttered concrete. Partial demolition of the structures has revealed construction method, and the iron mesh used to reinforce the concrete core.

The exterior faces of the curved walls have imprints of horizontal timber shuttering, whereas the interior faces have imprints of vertical timber shuttering.

The northern structure (G2) has an inner, brick-built wall, which forms a skin on the north side of the cordite store north wall. This wall is constructed of yellow stock brick in English bond, and has a yellow/pink mortar and outer layer of cement render.

The southern structure (G1) also has an inner wall, which is entirely intact and follows the interior line of both the northern linear wall (the south wall of the cordite store) and southern curved wall.

### 3.2.2.6 *Building 4: south gun platform (Figure 18)*

Building 4 comprises a hexagonal concrete base, located south of Buildings 2 and 3 (Figure 2).

In plan Building 4 measured roughly 12.75m from north to south, and 12.75m from east to west (Fig 18). It is constructed of reinforced poured concrete, with several phases of repair and alteration.

A linear scar runs parallel to the perimeter, evidencing the original wall line (Plate 16). There is one low plinth protruding inwards from northwest edge; it is surrounded by a rectangular ghost, which extends inwards towards the centre of the platform. On the opposing, south-east edge is a rectangular ghost with signs of demolition damage around its edges. On the north, south, east and west edges, there are also very faint rectangular ghosts. These scars are the remnants of rectangular ammunition lockers that were structurally integral with the walls. These lockers were originally open at either end for the removal of ammunition rounds and they were closed by steel doors (Dobinson 2001, 143).



*Plate 16 View of south gun platform, Building 4: OL-01907, looking south-east*

The centre of the platform has a thin circular scar indicating the ‘babbett’, a holdfast anchoring the gun to the concrete base. The scar contains 6 circular metal rings set into the concrete, and four circular scars which probably indicate the position of removal rings. The fittings have been infilled with concrete, but would originally have been sockets through which the gun was fixed to the platform.

There is also a cruciform scar in the middle of the babbett, and a linear cable duct scar running outwards from the cross-shaped scar towards the eastern edge of the platform (Plate 17).

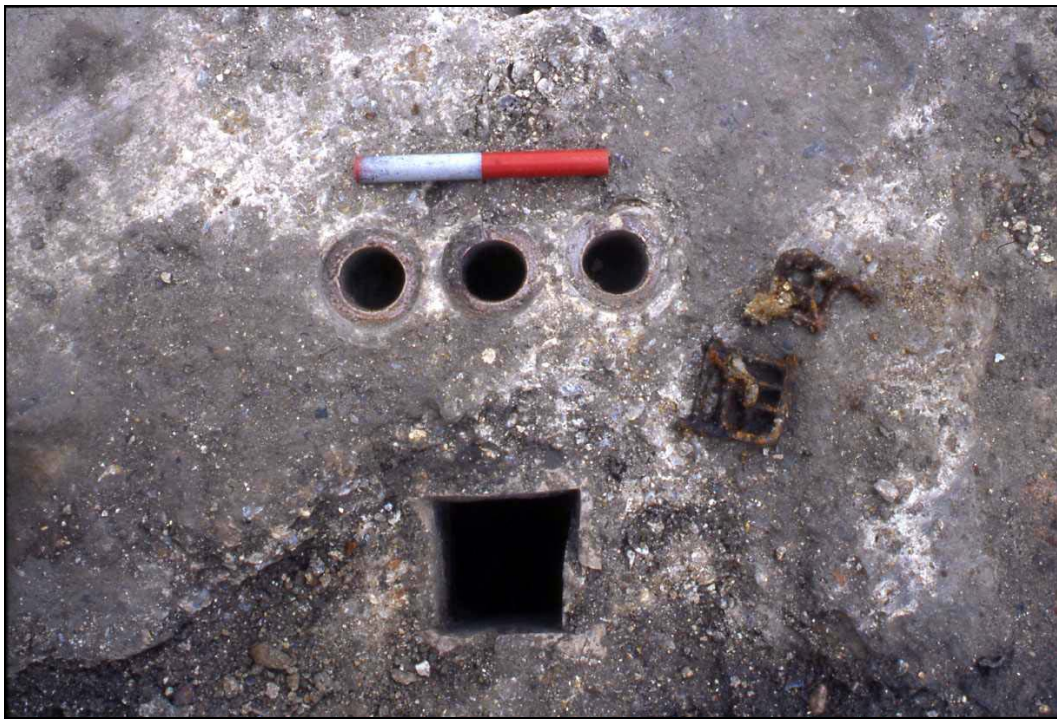


*Plate 17 View of south gun platform, Building 4: OL-01907, looking north*

On the north-west edge of Building 4 is a circular metal drain set into the platform, which is probably part of the original drainage system.

Extending from the east and west edges of the platform are reinforced concrete aprons. Both have an iron track embedded within them running north–south; these were originally the runners for steel doors, which would have formed the original access points. A row of three ceramic drainpipes with a square drain are also located on each of these aprons (Plate 18). Extending from the west apron is a concrete ramp leading to Buildings 2 and 3, and potentially to the command centre (not excavated) to the north-west.





*Plate 18 Detail of drainage system, Building 4: OL-01907, looking north-east*

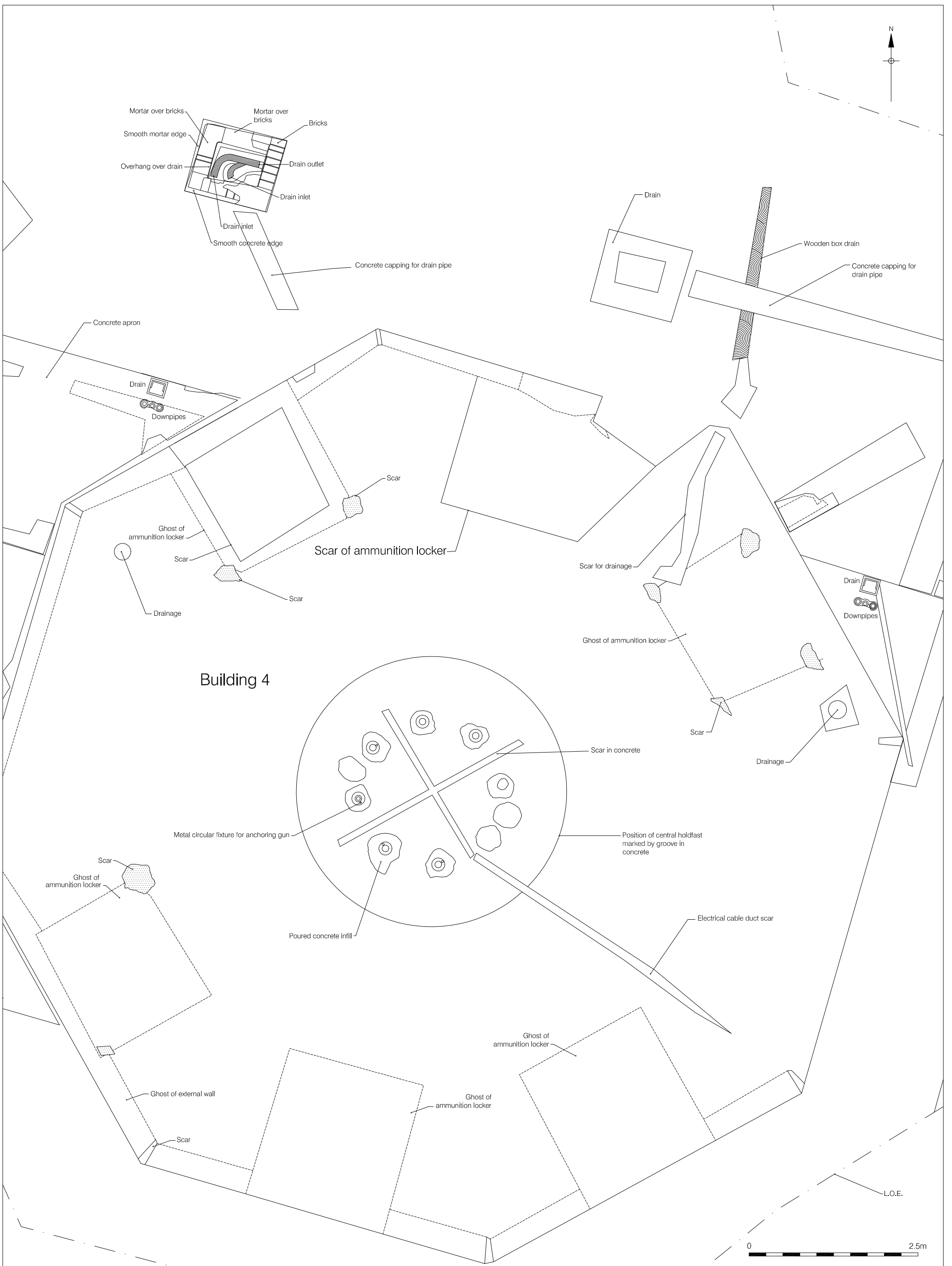


Figure 18  
 Building 4, south gun platform, plan  
 1:50 at A3



### 3.2.2.7 Other related features

The ramp from Building 4 connects to three large reinforced concrete slabs at the west of Buildings 2 and 3 (Figure 13). The slabs are rectangular in shape, and together form a north–south-aligned access road, that links the ramp of Building 4 to the ramp leading to Buildings 2 and 3 (Plate 19). It is most likely that these concrete slabs continue to the north and south and connect up with the further two gun emplacements, one of which was located within trench 2.



*Plate 19 View of magazine, cordite store, concrete ramps and walkway, Building 2 and 3: OL-01907, looking east*

On the east and north sides of the south gun emplacement there are access hatches to the original drainage system.

### 3.2.2.8 Building 5: possible Bofor gun emplacement (Figure 19–Figure 22)

The possible Bofor gun emplacement is a rectangular, sunken structure aligned on a north–west/south–east axis, located to the south of the HAA gun emplacement (Buildings 1–4) on the west bank of the river Lea.

In plan the area covered by the building measured roughly 8.6m from north to south and 5.5m from east to west (Figure 2).

The structure is formed of a rectangular floor surface, sunk a little over 0.5m below current ground level. The sides of this sunken structure are angled concrete to the north-east and south-west, within narrow flanking bays, and vertical brickwork and concrete to the north-west and south-east (Figure 19).

The central floor of the structure is formed of concrete, with remnants of floor tiles and mortar still visible. Access into the sunken floor is via a step at the south-west corner, and another at the south-east corner (Plate 20).



*Plate 20 View of Building 5: OL-01907, looking south-east*

At the north-east and south-west, the floor surface is divided from the flanking bays by a very low brick wall. Beyond this on each side is a bank of sloping poured concrete, approximately 0.03m thick, rising to modern ground level. The concrete rests upon a surface of bricks laid on bed pattern. Shutter marks are visible on its surface.

To the north-west and south-east, the walls of the sunken structure rise vertically to modern ground level, and are formed of brick capped with slab concrete. The concrete slabs extend some distance over the land surface beyond the sides of the structure (Figure 20).

Each slab contains a keyhole-shaped void approximately 0.30m deep, recessing outwards from the sunken structure toward the north-west and south-east. Where each void breaches the edge of the structure, a brick-lined slope connects its base to the central floor surface (Plate 21).





*Plate 21 View of key-hole recess, Building 5: OL-01907, looking north-east*

Within and around the structure, there is no evidence of fixtures or fittings which could be attributed to a particular type of defensive weapon.

To the north-east of the structure is a small, rectangular concrete block with an iron ring attached, but there is no clue as to its function. There is also a metal hatch at the north-west end of the structure, suggesting that it was connected to a water supply (Plate 22).



*Plate 22 View of concrete plinth and iron rings, Building 5: OL-01907, looking south-west*

Numerous truncated L-section stanchions surround the structure and lead off towards the south-west, suggesting a canopy, frame or fence. Four I-section stanchions project from the two concrete slabs which lie to the north-west and south-east of the structure, one at each of the two outermost corners. It is likely that these supported some sort of roof. The uniform truncation of all stanchions suggest a process of demolition to ground level, of the same type seen in Buildings 1–4 (Figure 21, Figure 22).

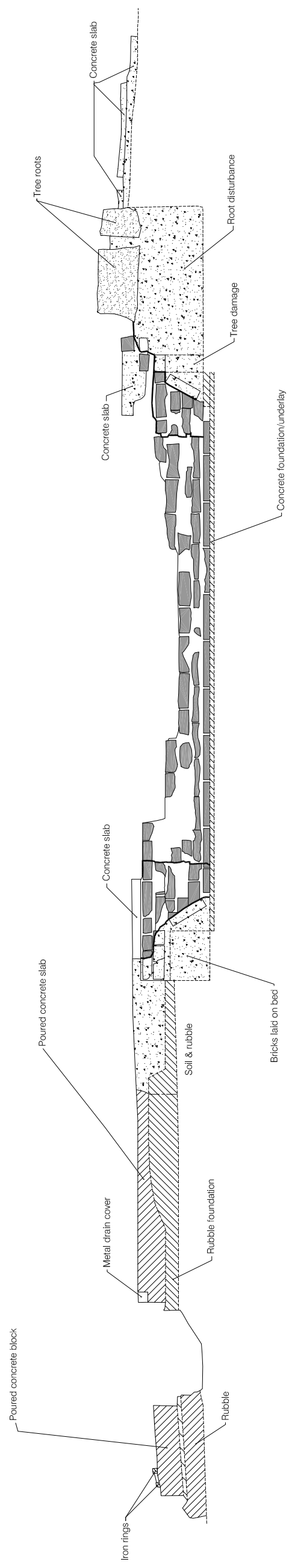
There has been minor damage to the south-eastern concrete slab, caused by tree roots which have broken and lifted some of the concrete.



Figure 19  
Building 5  
Plan  
1:50 at A3

N-W

S-E

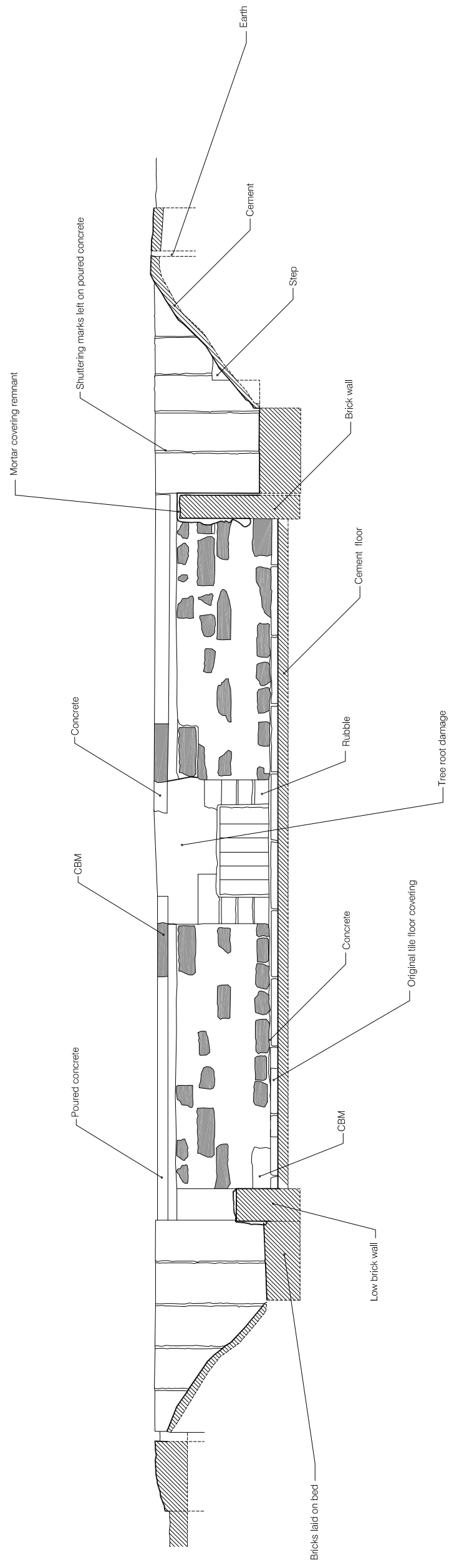


© MOLA/PCA 2008

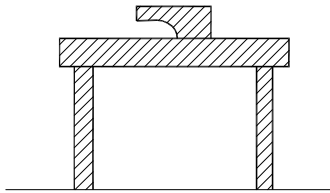
Figure 20  
Building 5, north-east facing section  
1:30 at A3

N-E

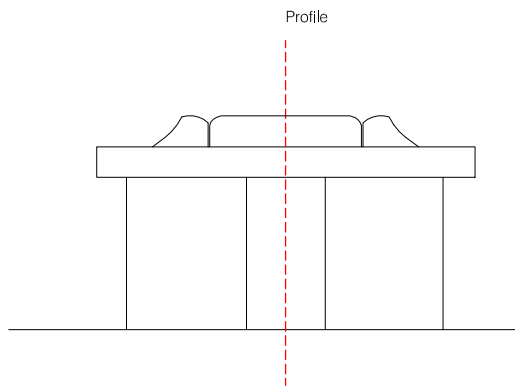
S-W



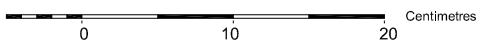




Section of metal cover



West facing elevation of metal cover



### 3.2.3 Radar station complex (OL-01907: buildings 6–10)

#### 3.2.3.1 Building 6: pillbox (Figure 23–Figure 25)

The pillbox is an irregularly-shaped, low, single-storey brick building aligned on a north-south axis, located on the west bank of the Channelsea at the northern end of the Manor Garden Allotments. It is thought to be a Type 24 variant.

In plan the area covered by the building measured roughly 5m from north to south and 2.7m from east to west (Figure 2). The building is built of yellow stock brick in English Garden Wall pattern, bonded with grey/yellow mortar, and contains a single internal space. The walls are 0.35m thick and contain embrasures; two in the east wall, two in the south, two in the west and one in the north. It is likely that they were intended for light machine gun or rifle shooting. There are a series of voids along the roof, some of which still hold remnants of timber. It is likely that these timbers were used to change the shape of the pillbox as seen from the air, camouflaging it (Plate 23).



*Plate 23 View of pillbox, Building 6: OL-01907, looking east*

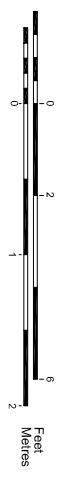
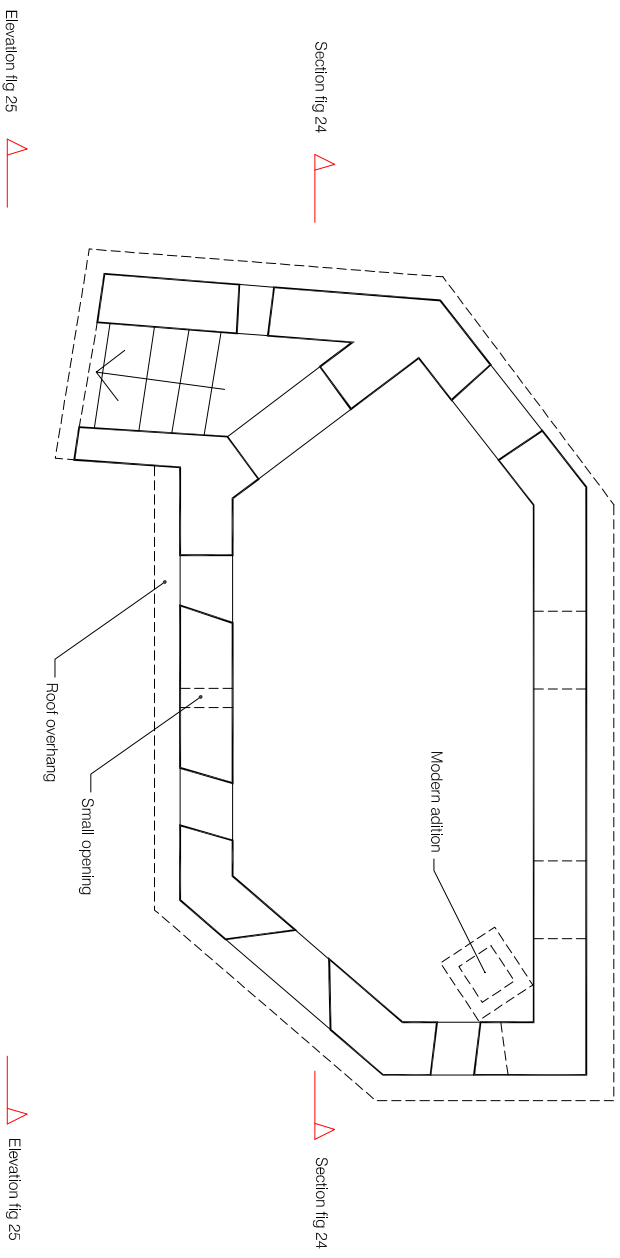
The exterior of building has been painted white, the interior is not decorated. It has only one main access point, on the west side (Plate 24). The flat roof is constructed of poured shuttered concrete, which bears imprints of wood shuttering set longitudinally across the building. The floor of the structure is made of poured concrete. A series of apertures around the building were used as firing embrasures. In a later phase, these have been glazed. In the south east corner of building, a modern toilet has been added. The pillbox has been used as a potting shed from the time of its decommission until its last occupation in September 2007 (Plate 25).



*Plate 24 View of doorway from within pillbox, Building 6: OL-01907, looking north-west*



*Plate 25 View of interior of pillbox, Building 6: OL-01907, looking north-west*



©MOLAS/PCA 2008

Figure 23  
Building 6, pillbox, plan  
1:50 at A4

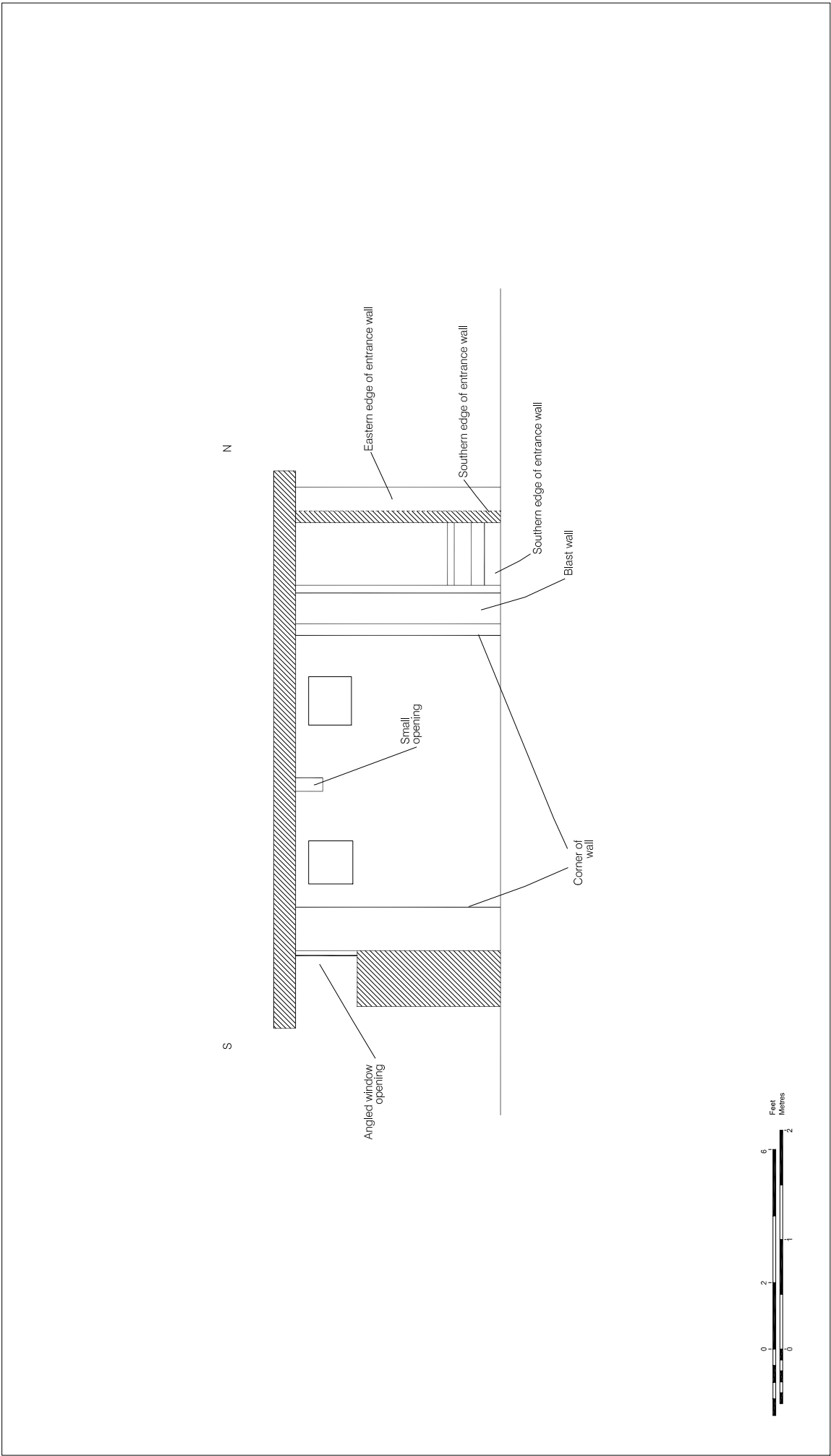
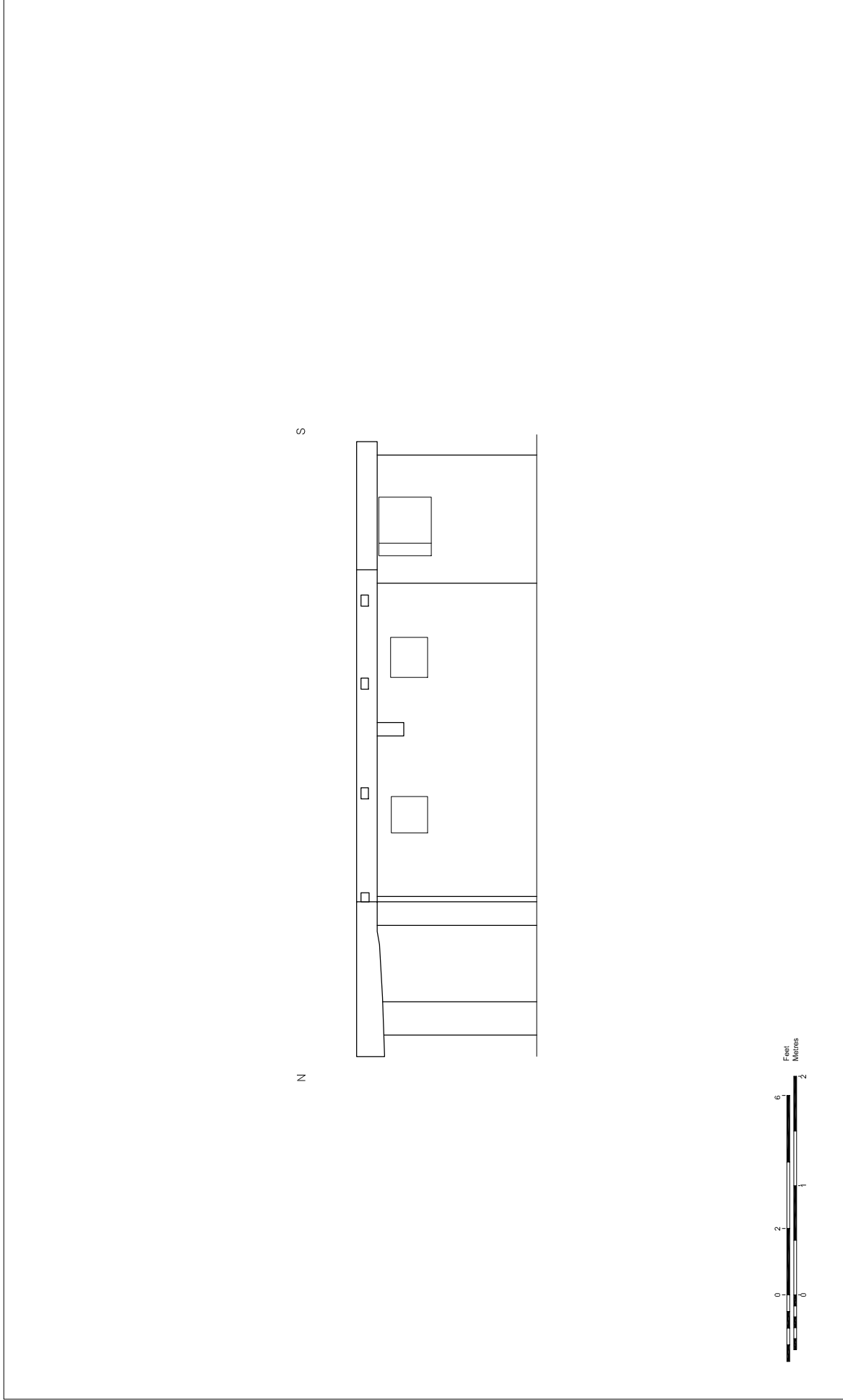


Figure 24  
 Building 6, pillbox, west facing section  
 1:50 at A4



© McLAS/FCA 2008

Figure 25  
Building 6, pillbox, east elevation  
1:50 at A4



### 3.2.3.2 Building 7: pillbox (Figure 26–Figure 28)

The pillbox is an irregularly-shaped, low, single-storey brick building aligned on a north-south axis, located on the west bank of the Channelsea at the centre of Manor Garden Allotments. It is thought to be a Type 24 variant.

In plan the area covered by the building measures roughly 5m from north to south, and 2.50m from east to west (Fig 2). The building is constructed of red and yellow stock brick in English bond, bonded with grey mortar, and houses a single internal space.

The walls are 0.36m thick, and contain embrasures; two in the east wall, two in the south, one in the west and two in the north. It is likely that they were intended for light machine gun or rifle shooting (Plate 26).



*Plate 26 View of interior of pillbox, Building 7: OL-01907, looking south*

The flat roof is made of poured shuttered concrete, the underside of which retains imprints of the timber shuttering. On its top side it carries patches of tar or bitumen, indicating waterproofing. Externally, the roof is pierced around its perimeter by a series of small,

square sockets. These may have held wooden uprights to form a small external shelter or store (Plate 27).



*Plate 27 View of pillbox, Building 7: OL-01907, looking east*

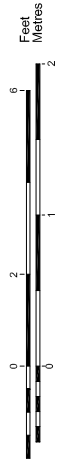
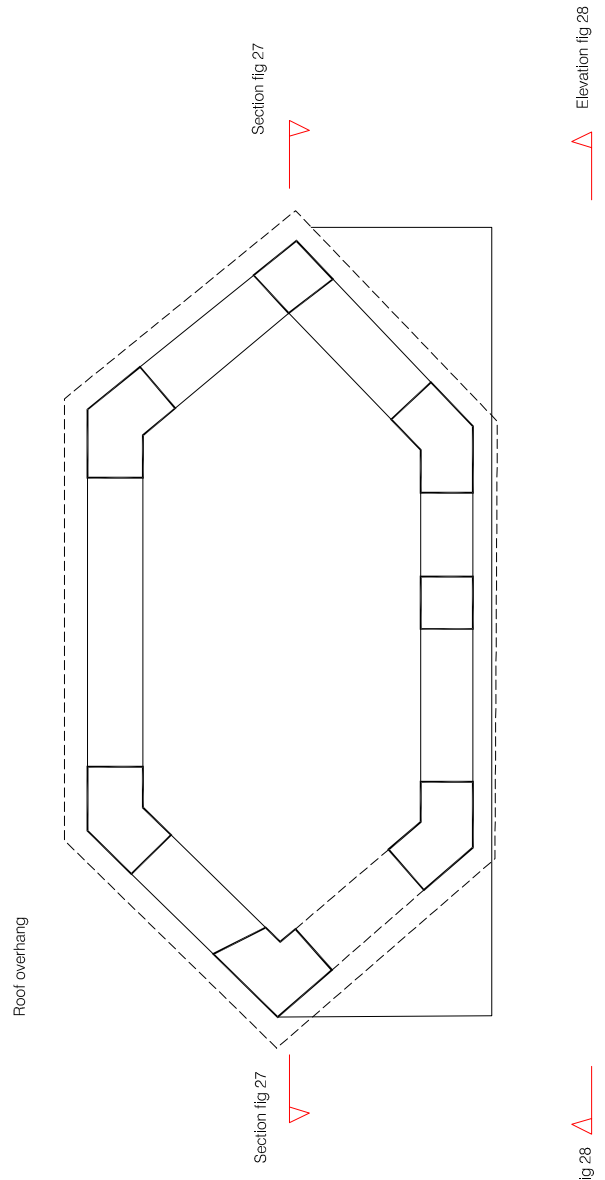
The floor of the structure is constructed of poured concrete. There are a series of apertures high up in the wall which are likely to have originally functioned as look-out positions and/or firing embrasures. These have been altered at some date after the initial phase of construction, as the original openings were larger, and have been reduced in size on all sides by brick infill.

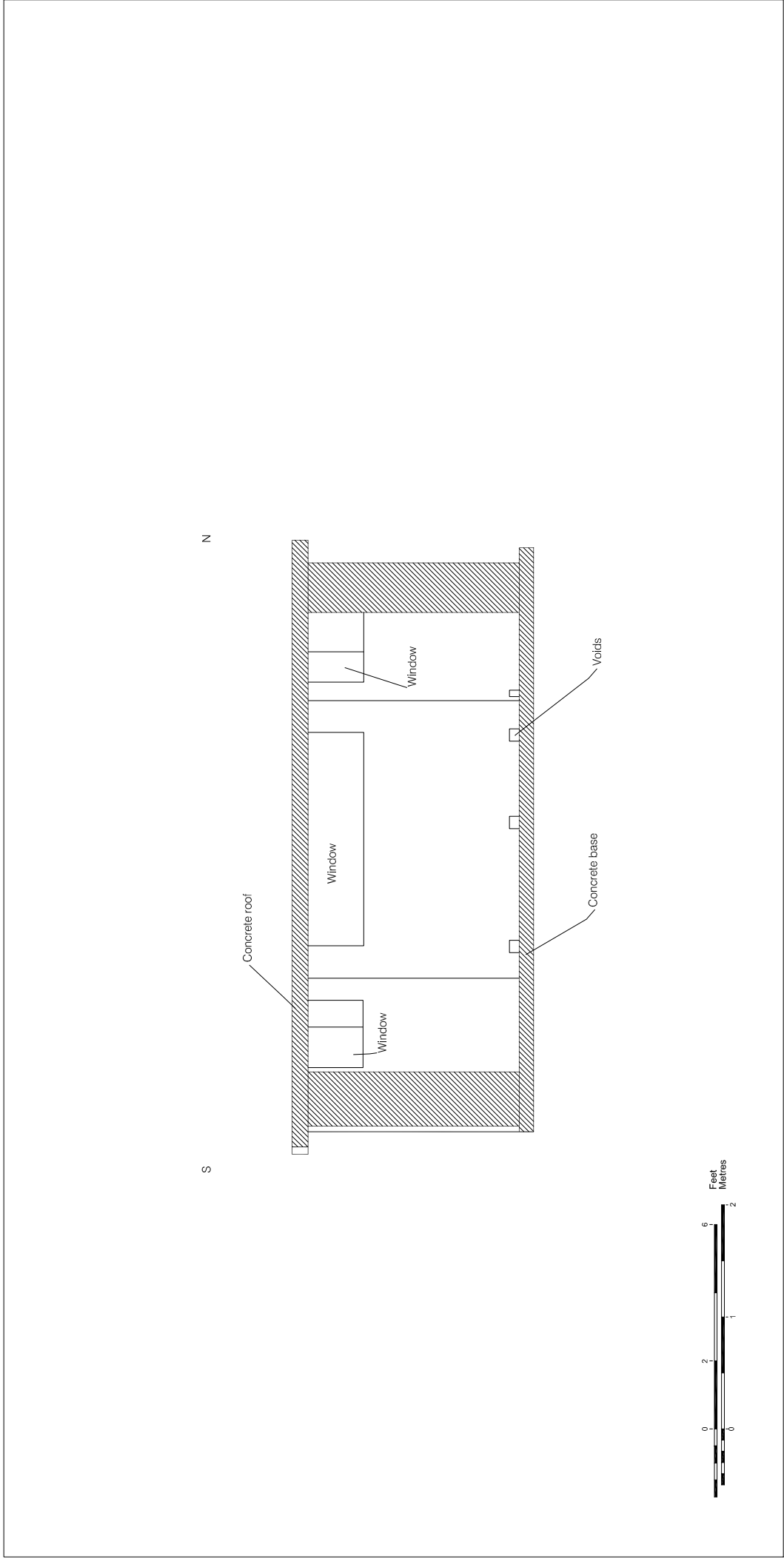
The internal wall bears signs that a heater was once installed in the building, in the form of soot marks and part of a metal flue set into the wall.

The structure was used as a potting shed after its decommission until the end of the current occupation in September 2007 (Plate 28).



*Plate 28 View of pillbox, Building 7: Ol-01907, looking south-east*



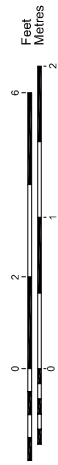
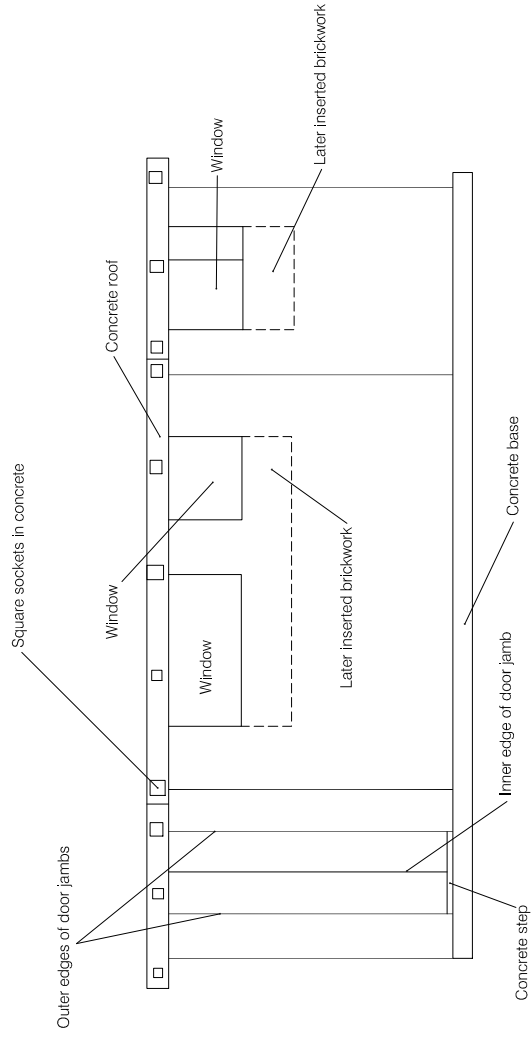


© MoLAS/PCA 2008

Figure 27  
 Building 7, pillbox, west facing section  
 1:50 at A4

S

N



© MoLAS/PCA 2008

Figure 28  
Building 7, pillbox, west elevation  
1:50 at A4



### 3.2.3.3 Building 8: pillbox (Figure 29)

The pillbox is an irregularly-shaped, low, single-storey brick building aligned on a north-south axis, located on the west bank of the Channelsea at the southern end of Manor Garden Allotments. It is thought to be a Type 24 variant.

In plan the area covered by the building measures roughly 5m from north to south and 2.50m from east to west (Fig 2). The building stands on the very edge of west bank of the Channelsea, and soil erosion over the years has caused it to gradually slide down the slope. It was deemed unsafe to enter, for which reason there are no plans or sections of this structure, only one elevation. Building 8 is very similar in design to Building 7 (Figure 26–Figure 28) (Plate 29).



*Plate 29 View of pillbox, Building 8: OL-01907, looking north*

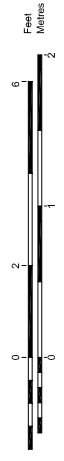
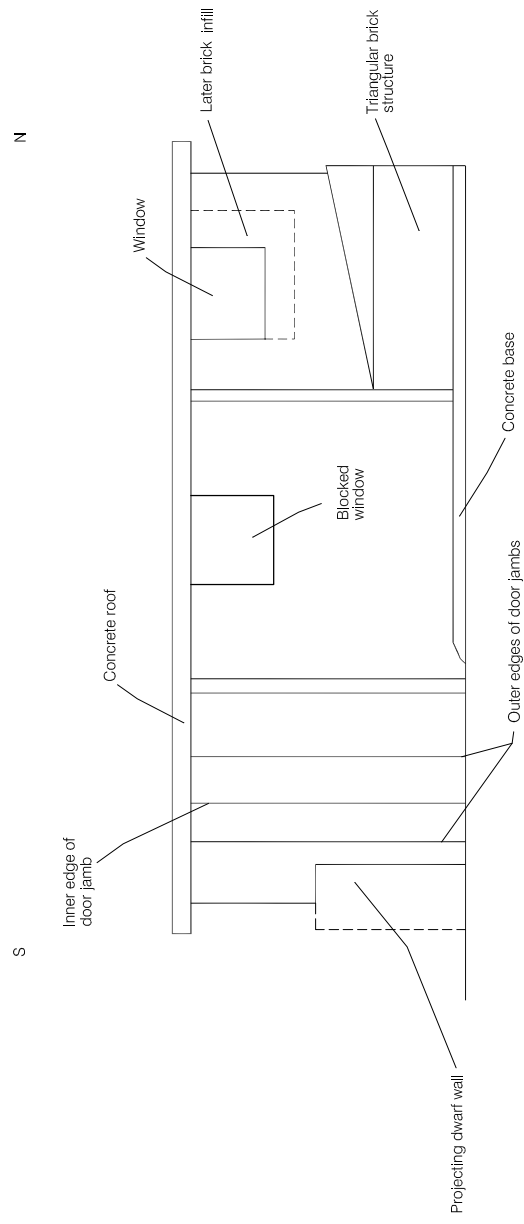
The walls are 0.36m thick and contain embrasures; one in the east wall and one in the north wall. The south and west walls were obscured by vegetation. It is likely that the embrasures were intended for light machine gun or rifle shooting.

It is constructed of red stock brick in English Garden Wall bond, bonded with light red mortar. The roof is of reinforced concrete, which bears imprints of timber shuttering on its underside. There are small square sockets around the perimeter of the external roof edge, similarly to Building 7.

The floor is made of poured concrete, and like Building 7, this base extends beyond the exterior faces of the north-east and south-east walls. Access is via a doorway in the north-west wall. Fenestration consists on a series of wide apertures along each wall, some of which have been subject to minor alterations in later years. Building 8 was used as a potting shed from the time of its decommissioning until the end of the current occupation in September 2007 (Plate 30).



*Plate 30 View of pillbox, Building 8: OL-01907, looking south-east*



© MoLAS/PCA 2008

Figure 29  
 Building 8, pillbox, west elevation  
 1:50 at A4

3.2.3.4 *Building 9: possible remnant of storage compound (Figure 30, Figure 31)*

Building 9, which may have originally functioned as part of a storage compound, is aligned on a north–west/south–east axis, in the centre of the Manor Garden Allotments.

In plan the area covered by the building measures roughly 31m from north-west to south-east and 2.7m from east to west (Figure 2). The building consists of a series of 9 protruding bays to the south-west. The north-east side had been banked with earth, possibly as blast protection.

No original roofing is present and only some of the rooms have extant concrete bases. The wall was concealed by the construction of a number of later potting sheds against it.

The walls are built of cement air bricks bonded with grey/yellow mortar. The bottom two courses of brickwork in the second bay are painted black, and possibly kitchen linoleum on the north-east and south wall, with the north wall only partially painted.

At north end of wall were two more walls: one heading west and the other in an easterly direction. The head of the west wall contains five circular sockets, two of which retain metal uprights. The sockets are 0.05m in diameter, and the metal poles 0.005m. Where walls remain undamaged, a capping of concrete can be seen (Plate 31).



*Plate 31 View of possible remnant of storage compound, Building 9: OL-01907, looking south-west*

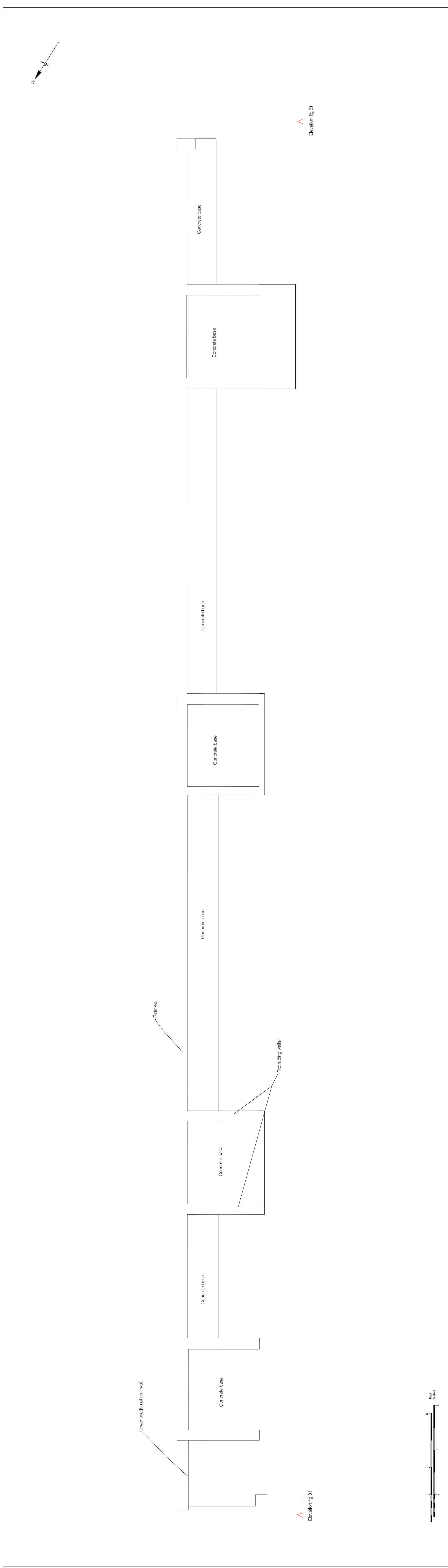
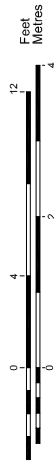
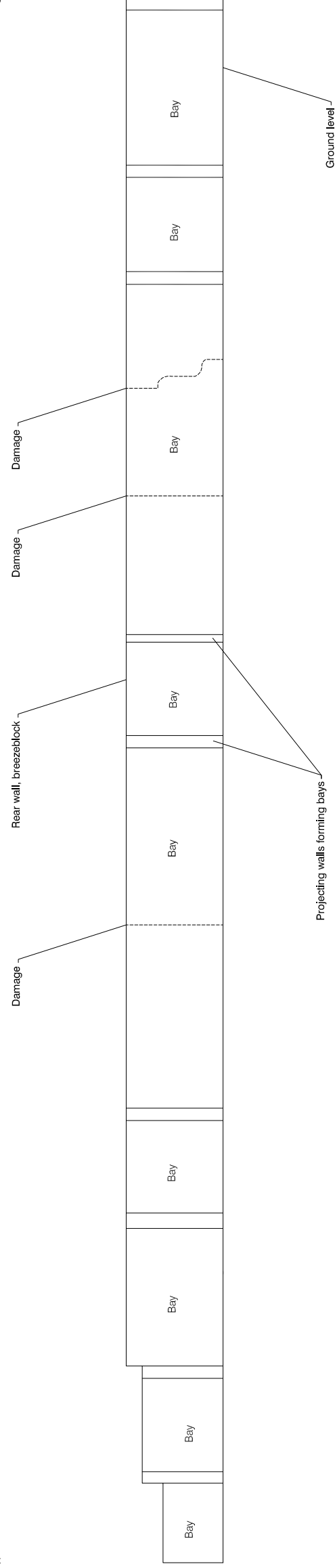


Figure 30  
 Building 9, possible remnant of storage compound, plan  
 1:50 at A1



N-W

S-E



### 3.2.3.5 Wind-driven pump (Figure 32)

This structure is located at the centre of the east side of Manor Garden Allotments (Figure 2).

In plan the area covered by this structure measures roughly 3.51m square. The structure consists of a poured concrete base, which carries no signs of removed walls, stanchions or other structures. At the centre is a rectangular trough formed by cement-rendered brickwork, within which is an original metal pump mechanism. A pipe leads down from the mechanism through the base of the trough. It is likely that this structure was used to raise water (Plate 32).



*Plate 32 View of wind driven pump: OL-01907, looking west*

### 3.2.3.6 Concrete base (Figure 33)

This structure is located at the centre of the east side of Manor Garden Allotments (Fig 2).

In plan the area covered by this structure measures roughly 3.6m from north to south and 2.9m from east to west. The structure consists of a rectangular concrete base with seven areas of raised and imprinted mortar, indicating areas of removed brickwork. One area of mortar on the south edge of the platform extends into surrounding ground, in the form of a rectangular brick outline (Plate 33).



*Plate 33 View of concrete base with brick footings: OL-01907, looking east*

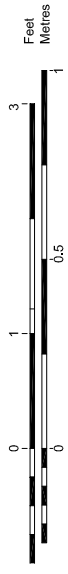
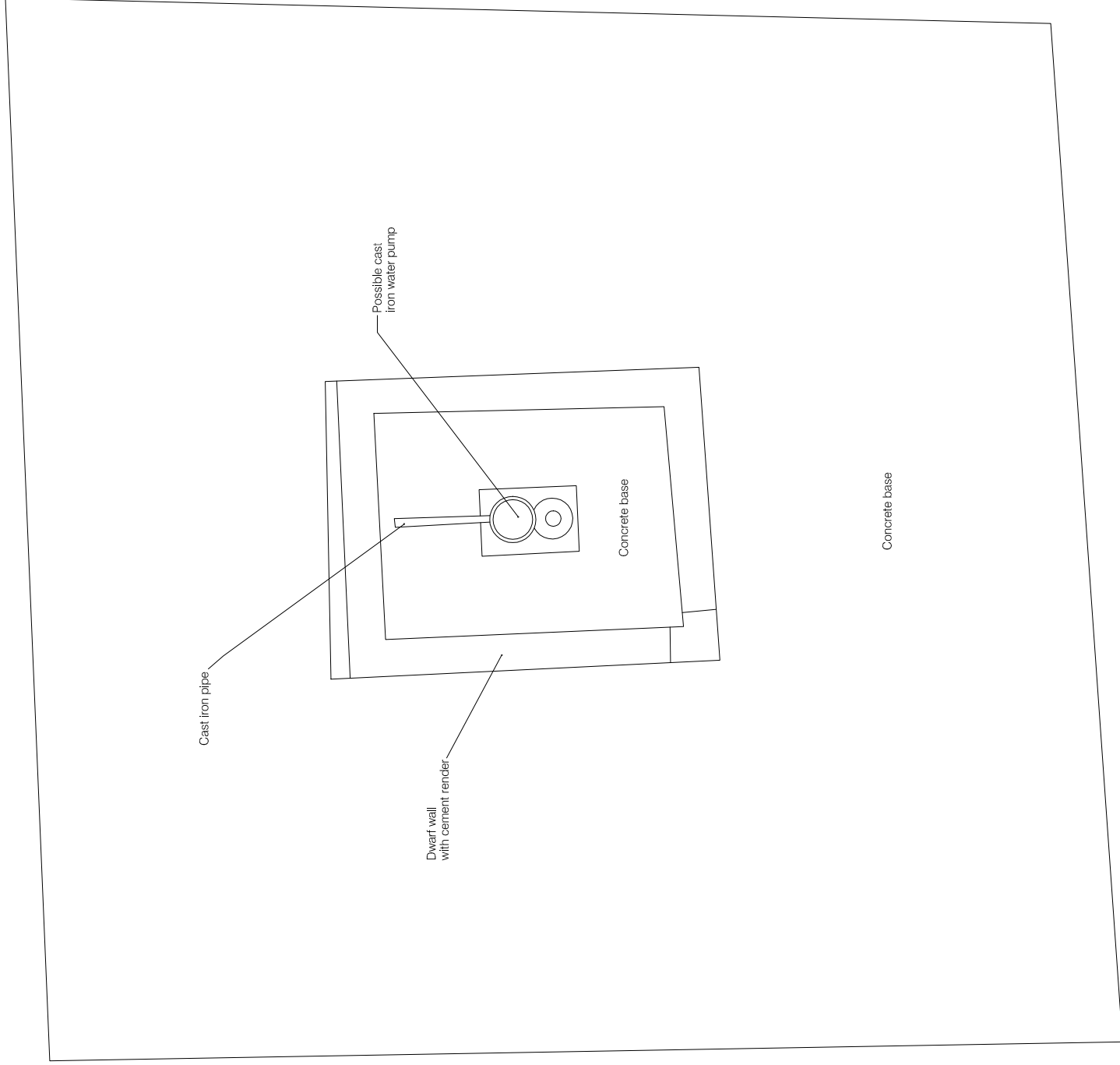


Figure 32  
Wind driven pump, plan  
1:20 at A3

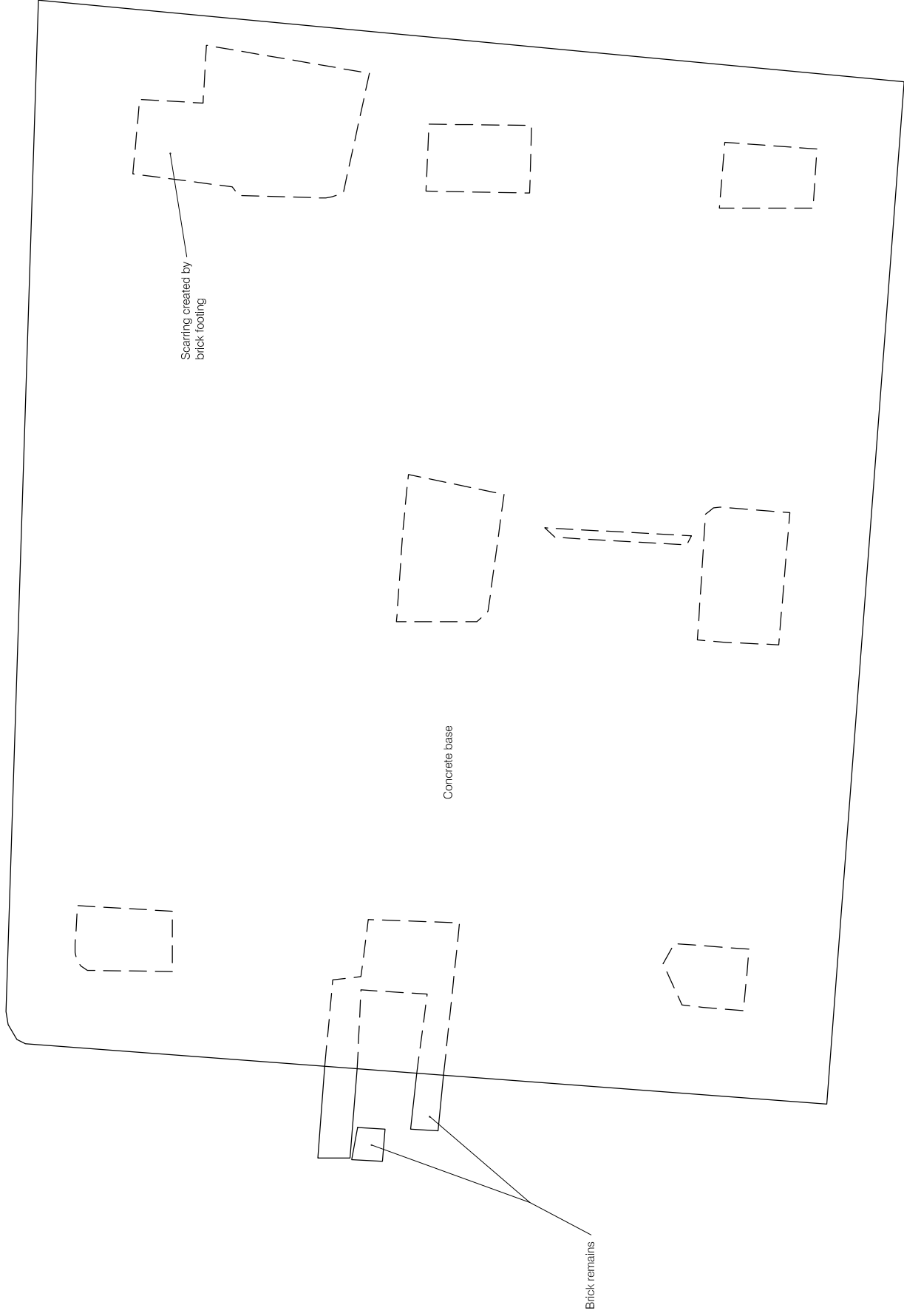


Figure 33  
Concrete base with brick footings, plan  
1:20 at A3



### 3.2.3.7 Building 10: radar station (Figure 34–Figure 37)

The radar station is aligned on a east–west axis, in the northern half of the Manor Garden Allotments.

In plan the area covered by the building measures roughly 5.5m from north to south and 25.5m from east to west (Figure 2). The building is a small, rectangular flat-roofed building, which probably originally functioned as a secret station for mobile radar equipment. It is built of red stock brick set in English bond pattern, and bonded with mid grey/yellow mortar (Plate 34).



*Plate 34 View of rear of radar station, Building 10, with pillbox, Building 6 in the background: OL-01907, looking north-east*

Two very long parallel ramps extend eastwards from the east elevation of the building, running from ground level up to the building's roof. These are formed of concrete-capped brickwork, and appear to have been constructed in order to mount wheeled radar equipment on top of the station itself. On the west elevation are two large buttresses, presumably designed to brace the wall against outwards pressure from weight on the roof.

To the north-west of the structure is a small concrete base with a rectangular void. This is likely to have been the base for the generator required for the function of the radar's transmitter and receiver. The void is likely to mark the former position of the generator (Plate 35).



*Plate 35 View of concrete base for generator, radar station, Building 10: OL-01907, looking north-west*

The floor and roof are formed of poured concrete, and the roof retains imprints of longitudinal timber shuttering on its underside. The roof concrete was presumably reinforced in order to take the weight of the equipment and operators. Externally, the roof bears a large, shallow, irregularly-shaped ‘socket’ or indent, which the base and legs of the mobile radar equipment would have fitted into (Plate 36).



*Plate 36 View of socket and ramps on radar station roof, Building 10: OL-01907, looking east*



The radar station was in relatively good condition, dry and structurally sound, most recently used as a potting shed. Along the external walls were a number of temporary lean-to sheds used as storage on the allotments.

The building contains two internal spaces: G1 and G2. Along the underside of the roof in both rooms are set rows of rectangular wooden brackets, running both longitudinally and transversely. Ghosts show the position of further brackets, now removed. These fittings formerly supported electric cables for the radar equipment (Plate 37).



*Plate 37 Internal view of G1, radar station, Building 10: OL-01907, looking north-east*

The north wall of the radar station contains a single doorway which is the main entrance to the building. This doorway leads directly into room G1. To the west of the doorway, on the north wall, is an original range with a small brick-built storage box to each side, probably for holding fuel. At the east end of the room, against the north and south walls, are supports for a bench or table, now removed, which once ran across the full width of the room. There are no other fixtures or fittings, apart from the brackets on the ceiling (see 2.2.3.7). The lower half of each wall has small patches of original green paintwork, while the upper has patches of whitewash.

In the centre of the south wall is a single, timber-framed doorway with original door still intact. To the east of this is a wall-mounted wooden bracket, which may be original. Its purpose is obscure.

The northern end of the west wall contains a small window opening, with no evidence of a frame.

Through the doorway in the south wall is room G2. The walls of this room have been rendered and painted white, and the ghost of skirting-board is visible.

The only feature on the north wall is the communicating doorway with G1.

In the east wall is a T-shaped opening which has been partially blocked with a single skin of brickwork, flush with the exterior face of the wall. It is unclear what the function of this opening was (Plate 38).



*Plate 38 View of blocking detail in G2, radar station, Building 10: OL-01907, looking south-east*

The south wall has no visible features of interest.

The west wall contains a small rectangular opening at its southern end, which does not contain any evidence of a frame.

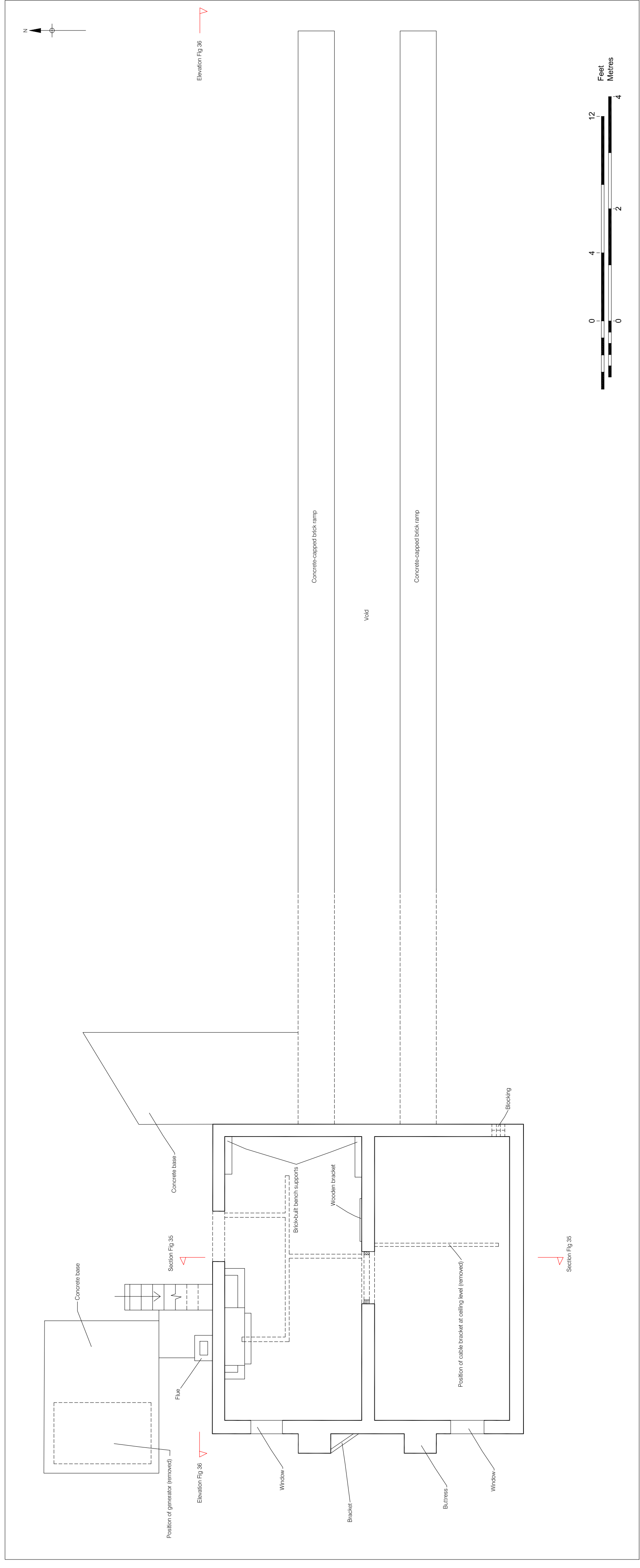
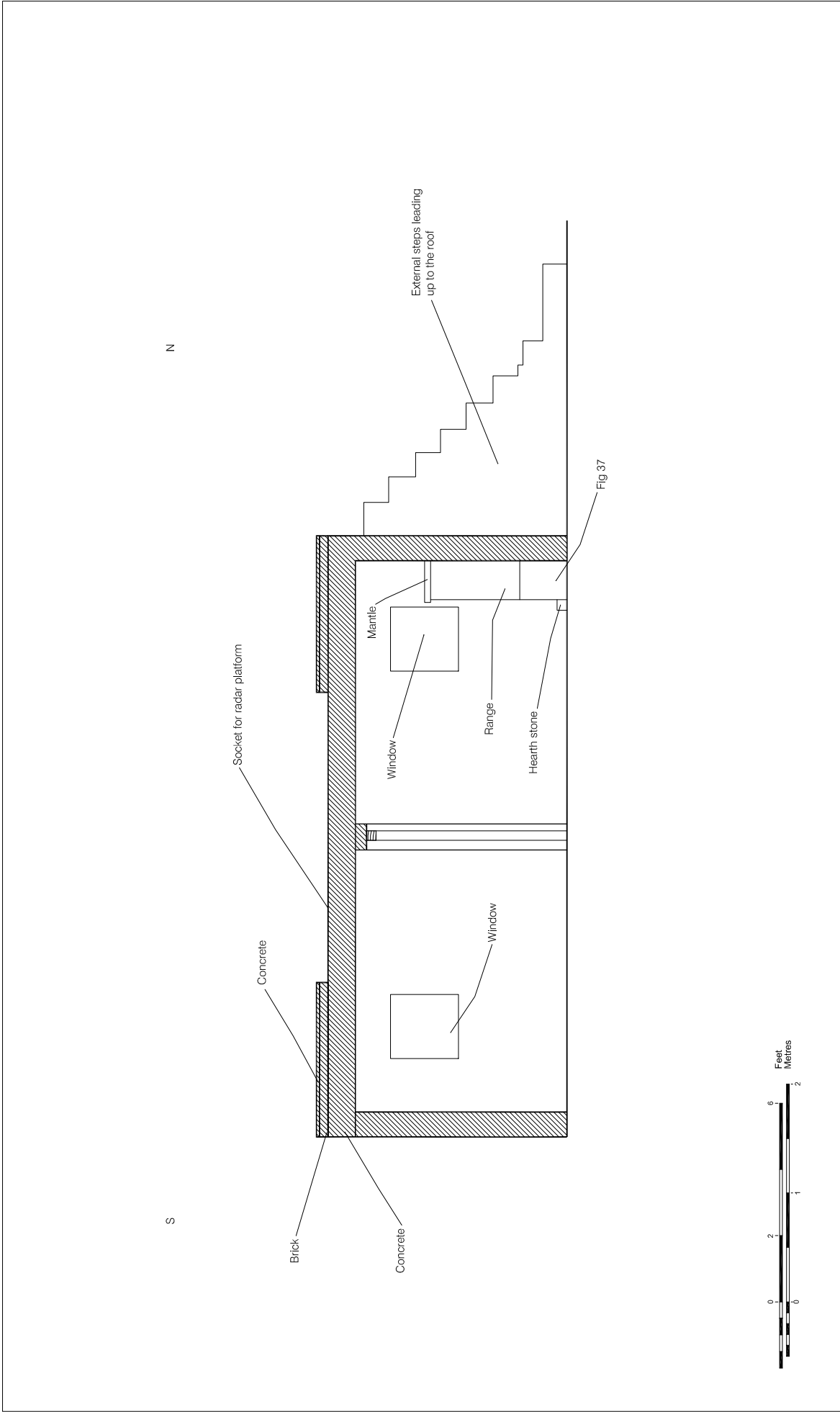


Fig 34  
Building 10, radar station, plan  
1:50 at A2





© MoLAS/FCA 2008

Figure 35  
 Building 10, radar station, west facing section  
 1:50 at A4

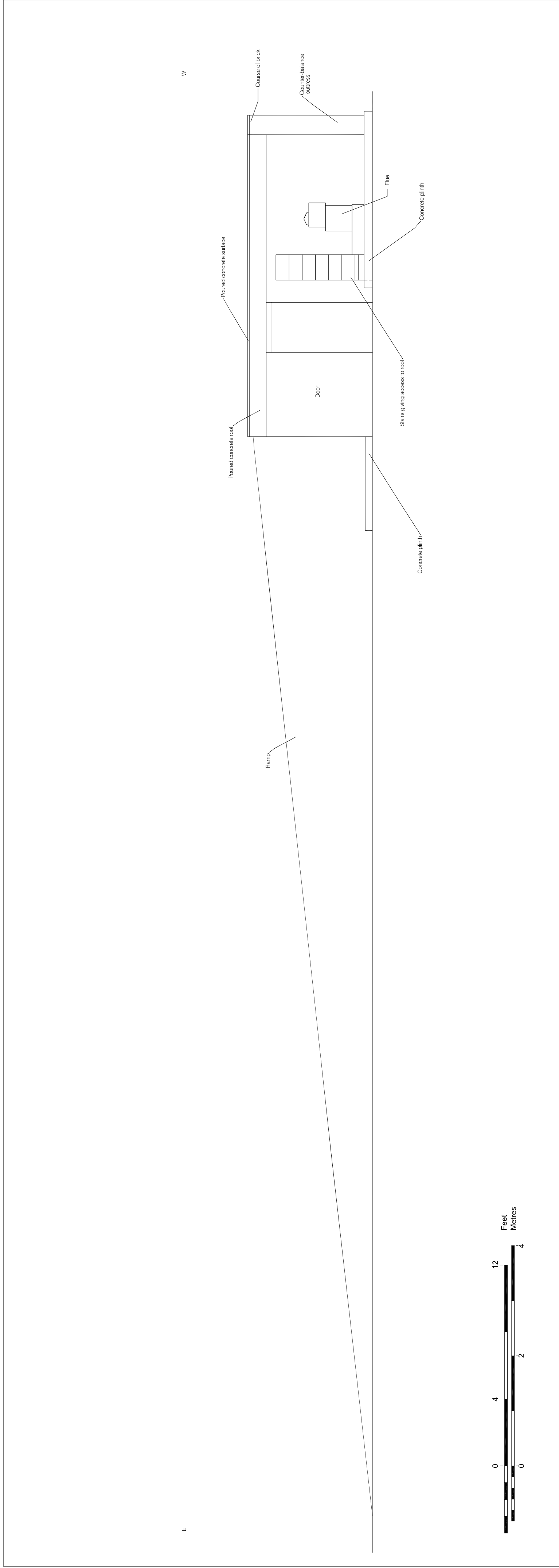
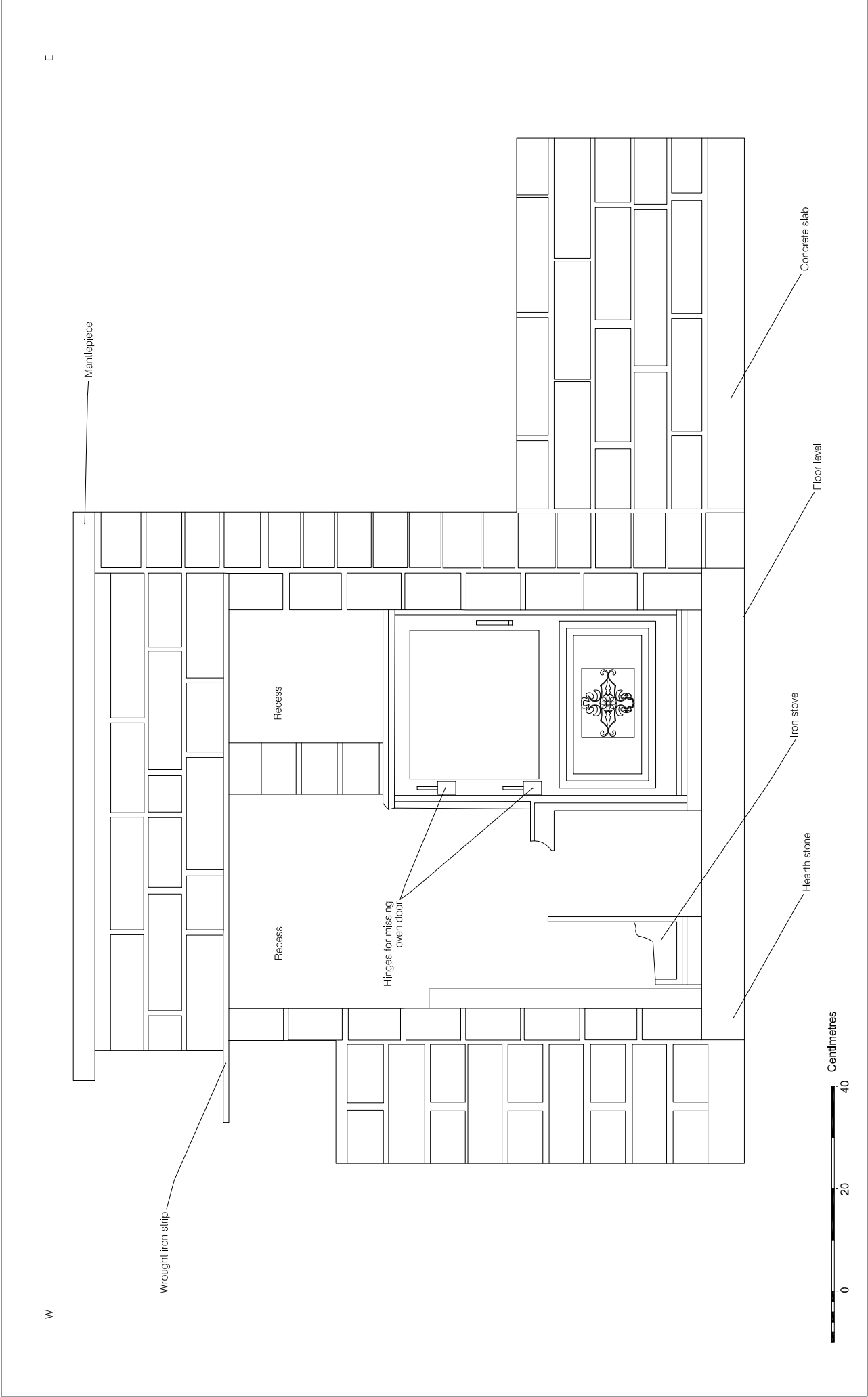


Figure 36  
 Building 10, radar station, south elevation  
 1:50 at A2



© MoLAS/FCA 2008

Figure 37  
 Building 10, radar station, G1, detail drawing of stove against north wall  
 1:10 at A4

### 3.2.4 Greenway pillbox and tank traps (OL-08007: Buildings 11 and 12)

#### 3.2.4.1 Building 11: Pillbox (Figure 38– Figure 40)

The pillbox is an irregularly-shaped, low, single-storey brick building aligned on an east–west axis, on the north-west corner of the Greenway bridge over the River Lea, overlooking the Old Ford Locks to the north. It is a Type 22 pillbox.

In plan the area covered by the building measures roughly 4.4m from north to south and 3.8m from east to west (Figure 3). The building is hexagonal, formed of poured reinforced concrete.

The walls are 0.40m thick. A single embrasure is located in each wall. The embrasures on the north and north-west walls are angled downwards, covering the River Lea. It is likely that they were intended for light machine gun or rifle shooting (Plate 39).



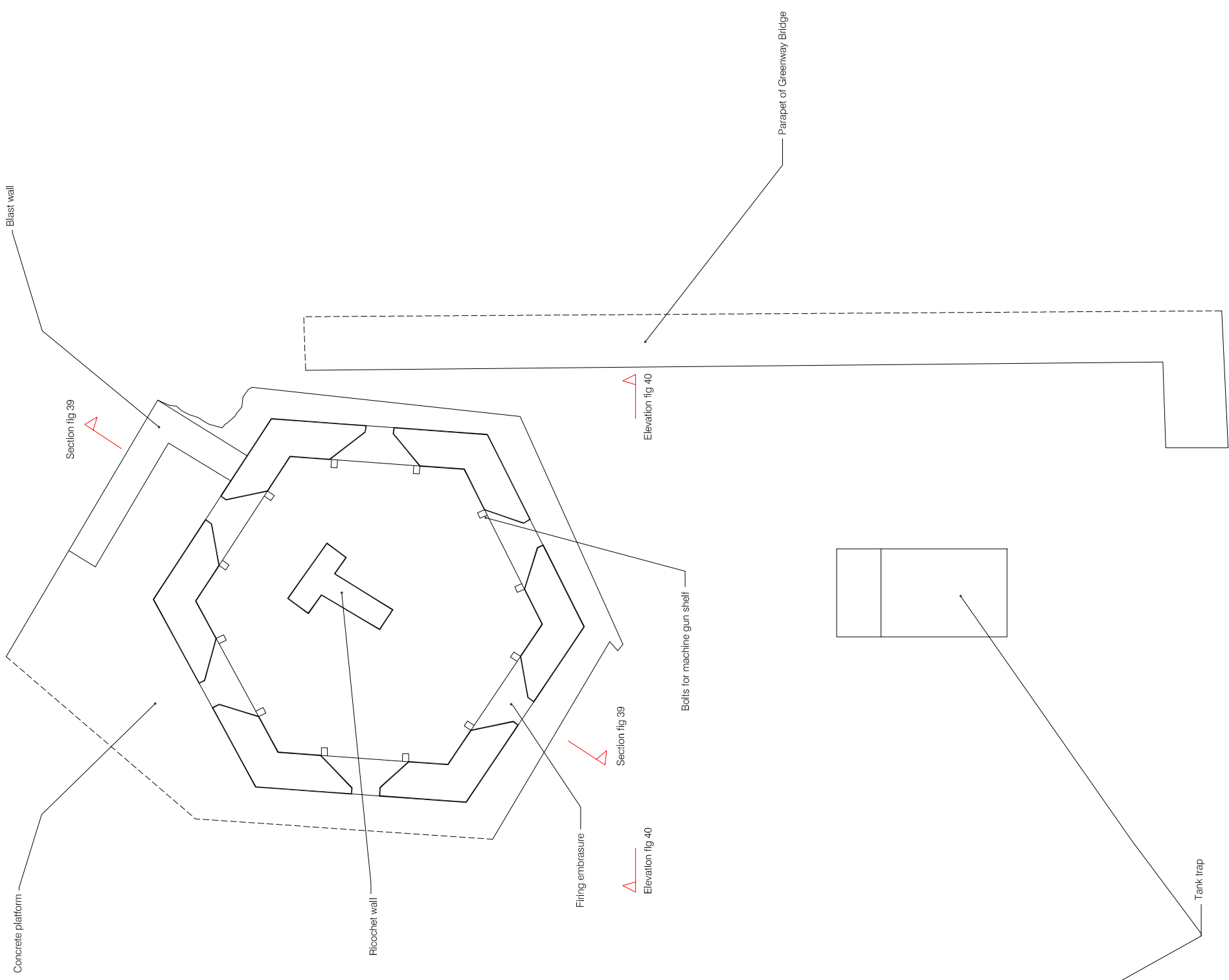
*Plate 39 View of pillbox, Building 11, with Old Ford Lock in background: OL-08007, looking north*

Access is achieved via a low entranceway in the north-west wall, protected by a low L-shaped blast wall abutting the wall of the pillbox. The walls of the structure are keyed into a concrete base (Plate 39). There are splayed embrasures in the centre of each wall, measuring 0.31m high by 0.27m wide. This type of pillbox with its associated tank traps is a rare urban survivor, particularly in London (Plate 40).

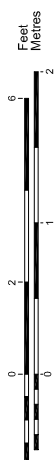
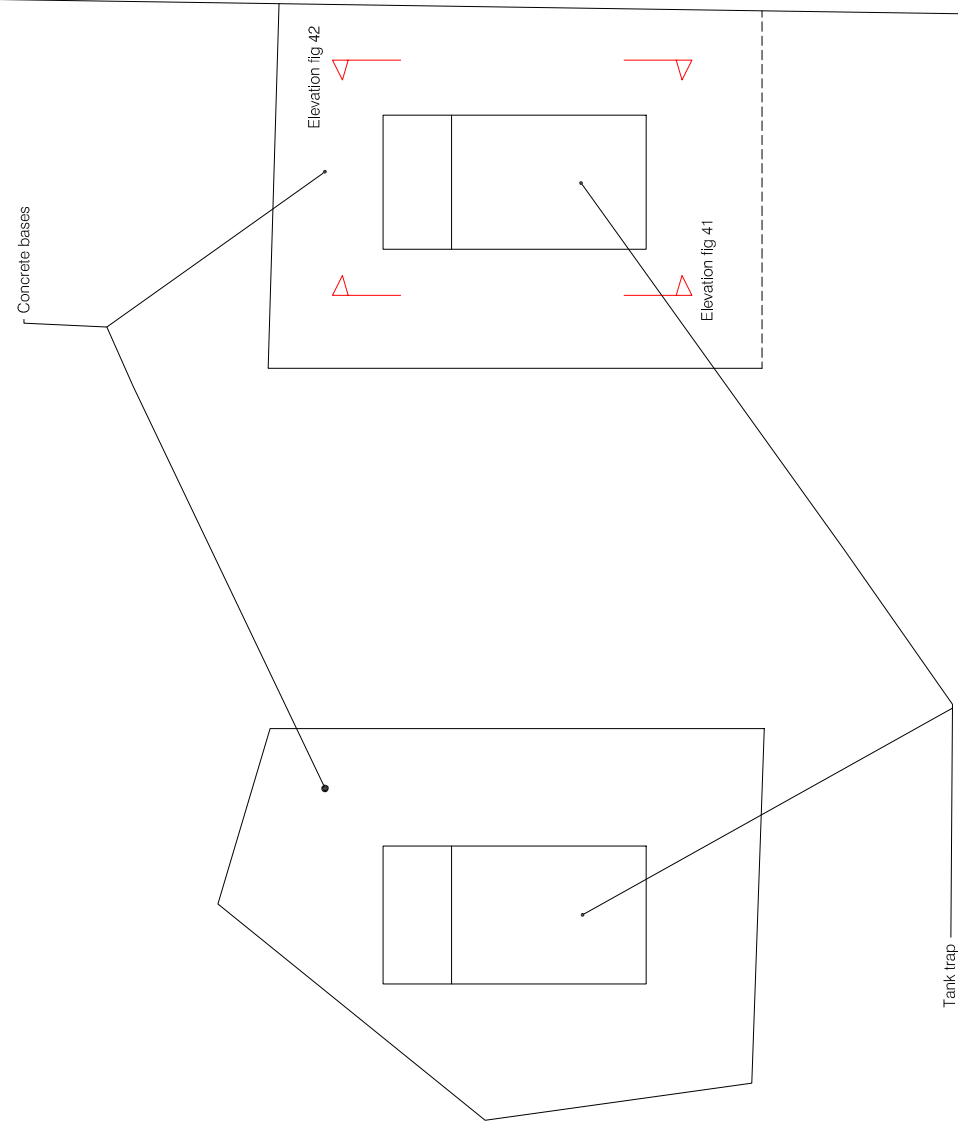


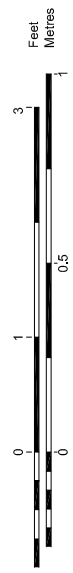
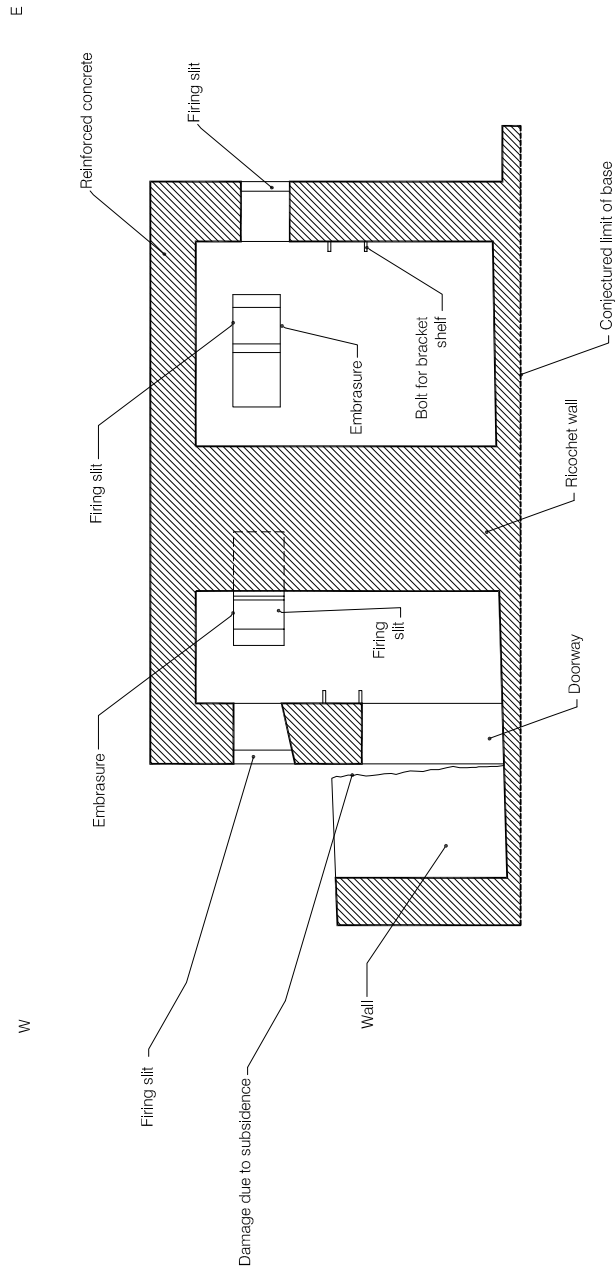
*Plate 40 Internal view of pillbox, Building 11, showing ricochet wall and embrasures: OL-08007, looking west*





Greenway path





S

N

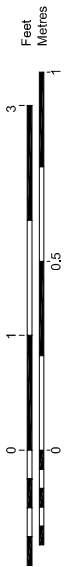
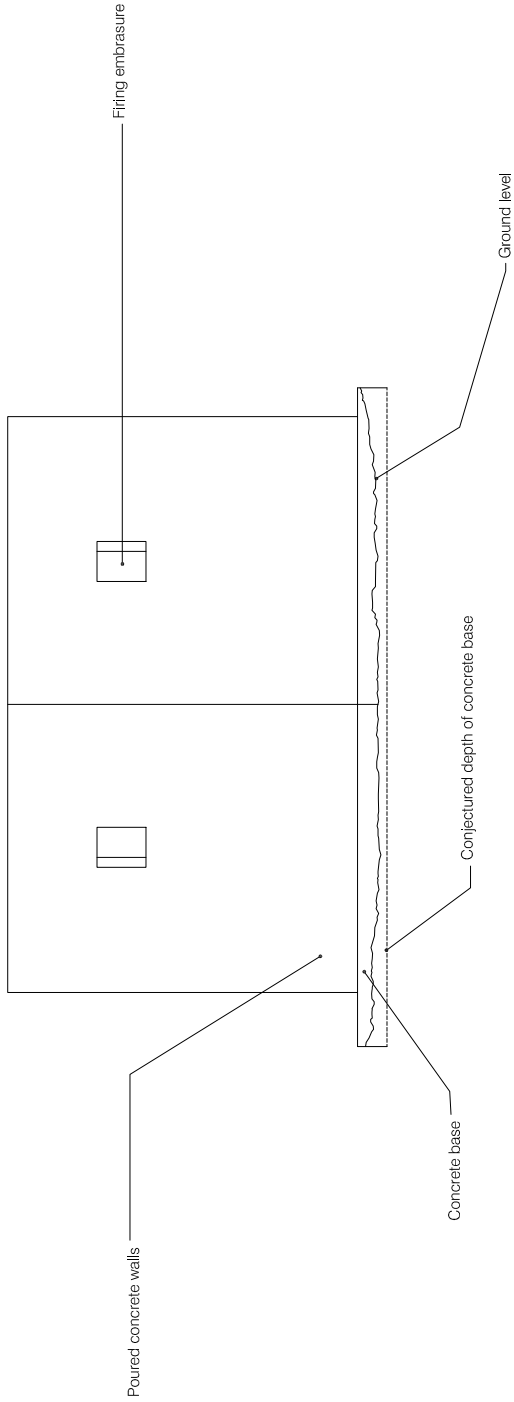


Figure 40  
 Building 11, pillbox, west elevation  
 1:50 at A4

### 3.2.4.2 Building 12: tank traps (Figure 38, Figure 41, Figure 42)

The tank traps comprise four large rectangular concrete blocks arranged in a north-south line across the Greenway, to the west of the bridge over the River Lea. They lie to the east of Building 11 (Plate 41).



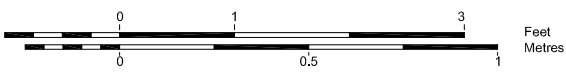
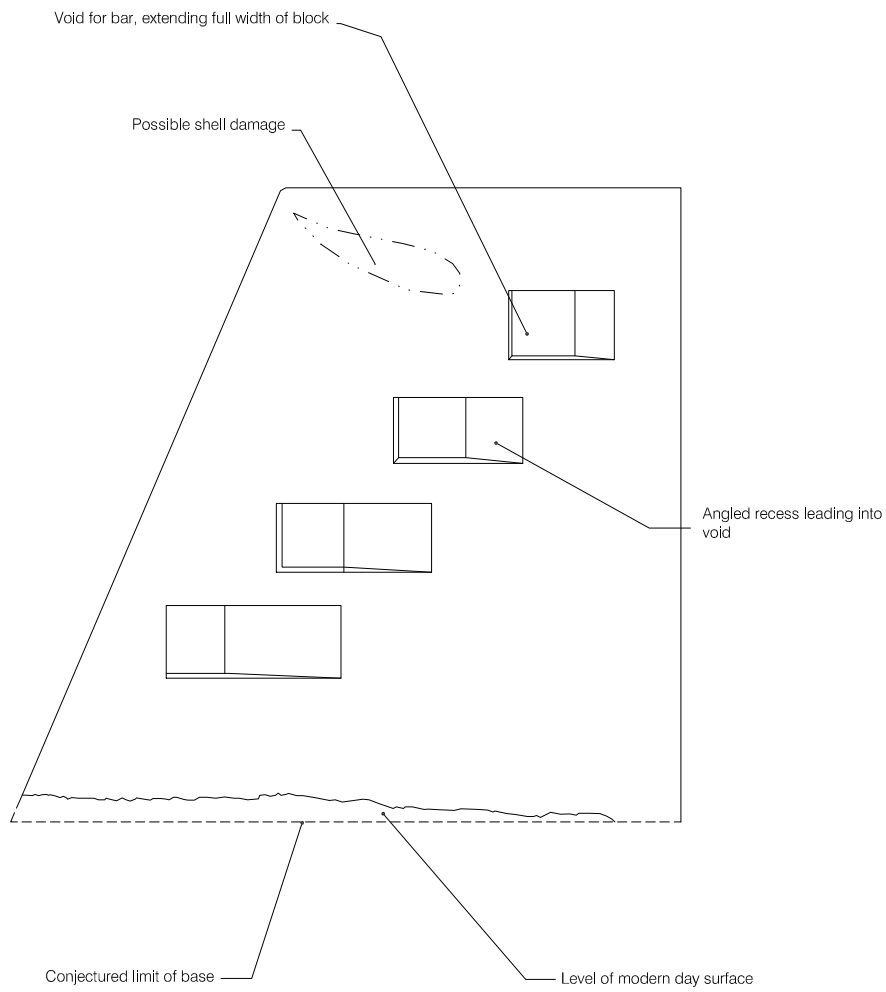
*Plate 41 View of pillbox and tank traps, Buildings 11 and 12, showing location: OL-08007, looking east*

In plan the area covered by these structures measures roughly 16.5m from north to south, and 3.6m from east to west (Figure 3). The structures consist of four reinforced concrete tank traps which form a barrier spanning the Greenway (Figure 38). Each measures 0.40m north to south, and 1.75m east to west, and stands 1.67m tall. Each of the blocks has four slots or sockets (of varying sizes) on its north and south sides, which were intended to hold metal bars to form a road block across the Greenway. The western side of each is sloped. One block is scarred, which may be evidence of damage from shelling (Plate 42).



*Plate 42 View of tank traps, Building 12: OL-08007, looking north-west*





© MoLAS/PCA 2008

Figure 41  
 Building 12, tank traps, north elevation of typical block  
 1:20 at A4

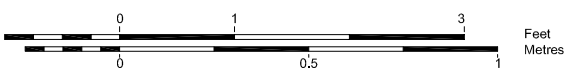
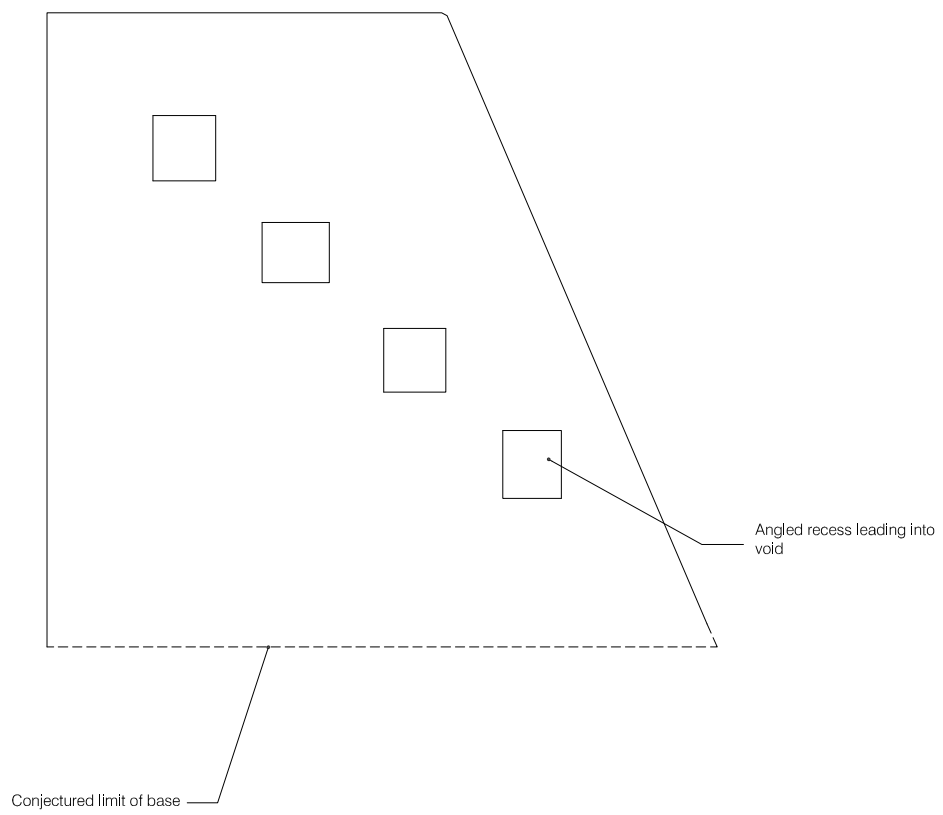


Figure 42  
Building 12, tank traps, south elevation of typical block  
1:20 at A4

### 3.3 Development of structures

#### 3.3.1 Overview

The anti-aircraft defences that had been built up in the four years of World War I were decommissioned in 1918. Britain was once more effectively defenceless against aerial attack.

The 1923 Steel-Bartholomew Report laid out a strategy for anti-aircraft defence which was to form the basis of its role and organisation in the 1930s and 1940s (Dobinson 2001, 69).

Based on the scope of aircraft technology at the time, the report calculated that Britain would require 264 guns, with 192 divided between the Inner and Outer Artillery Zones of London (IAZ and OAZ). Defending ports were allocated 72 guns and it was estimated that 672 searchlights would be required for adequate defence (Dobinson 2001, 69). Originally, the mobility of the guns was key, and it was intended that they be reassigned locations when necessary. However, the practical difficulties of this process made it unfeasible. The guns were heavy and difficult to move, especially the larger 5.25 inch ones, and there were concerns about lack of accommodation for the crews.

During the 1930s aviation technology advanced to such a degree that it caused serious concern to the British Government. However, it was a widely-held belief that pre-emptive strikes by British bombers would cripple the Luftwaffe and consequently prevent them from being a significant threat.

German foreign policy grew increasingly aggressive in the late 1930s, and by 1937 the concern had grown so great that a specialised command was set up to reassess and control the situation in the skies. The Anti-Aircraft Command was initially briefed to provide full weapon coverage for the sky over London, as it was expected that at the start of the war, the Luftwaffe would instigate a strategy of heavy blanket bombing across the capital.

The process of locating sites for air defence began in the autumn of 1937. The landscape was very important when examining the possible location of defensive structures and AA gun emplacements, as the locations needed to be easily defensible against any ground attacks in the event of an invasion.

The siting officers had very little instruction on where to position the defences, merely given:

*“...a pair of templates- one for a four-gun site, the other for a two-gun- and a list of four-figure grid references defining the kilometre squares in which each position, ideally, should lie (Dobinson 2001, 125–126)”*

In 1938 the Directorate of Fortifications and Works designed a blueprint for a typical Anti-Aircraft gun platform. It consisted of an octagonal, concrete-walled structure that was usually banked externally with earth. Two sides were formed of massive steel gates to allow access for the guns (Dobinson 2001, 223). The Royal Engineers were commissioned to construct the gun emplacements, with the auxiliary buildings contracted out to civilian companies.

War commenced in 1939, and after the landings in Norway by the Germans in June 1940 highlighted Britain’s vulnerability, the first re-evaluation of “Britain’s ability to defend her own shores” took place (Foot 2006, 6).

In preparation, the Royal Engineers were deployed to hastily construct defences around the country. The majority of the work was contracted out to civilian firms who created anti-tank obstacles, dug ditches and erected the concrete pillboxes under the supervision of Royal Engineers ([www.remuseum.org.uk](http://www.remuseum.org.uk) [accessed 15 December 2007]).

In 1940 the Directorate of Fortifications and Works released designs for pillboxes; these were general, flexible specifications which tended to be altered to fit the pillbox to its surroundings and location. Each design was issued with a type number ([www.english-heritage.org.uk/upload/pdf/12 Yorkshire Coastal Defence.pdf](http://www.english-heritage.org.uk/upload/pdf/12_Yorkshire_Coastal_Defence.pdf) [accessed 15th December 2007]).

During the war, Britain was separated into a series of districts and zones in an attempt to organise and control the defence systems in each area. London formed a separate independent District, which fell directly under GHQ Home Forces (Foot 2006, 12).

Beneath the GHQ Home Forces was the AA Command, which was arranged into Gun Defended Areas (GDAs). These had individual operations centres, which worked in the same way as a sector station would operate for RAF Fighter Command. The GDAs were located around areas of strategic importance; munitions factories, for example, and major cities.

London was separated into two zones: the Outer Artillery Zone (OAZ) and the Inner Artillery Zone (IAZ). The HAA gun emplacement (OL-01907) was located within the IAZ and given a site number: ZE 21, Hackney Marshes (AIR 2/4768).

The first recorded mention of the ZE21 Hackney emplacement is on the first day of the Blitz, 7 September 1940. The guns were ready, at a basic level, to see action against the enemy.

*“At six minutes to five batteries across the capital received the word of ‘many hostiles in SE coming in’. Minutes later they appeared. Shortly after the hour the gunners of 26 AA Brigade in the eastern IAZ began to report heavy formations approaching along the Thames and swinging north up the Lea Valley. Lowest were the bombers, which approached in small ‘vics’ of three aircraft each, these in turn combining into arrowhead formations of ten to fifty machines. High above was their escort - Bf 110s, and 109s with vivid yellow-painted noses - giving standard cover and periodically orbiting the slower Heinkels, Dorniers and Junker 88s below. Rising upward from 16,000 feet, the whole stream stood more than a mile high.*

*At these altitudes the raiders were at least within range of the 3.7in and 4.5in weapons which equipped most of the occupied gunsites in the IAZ. The first London AA battery to claim a victim during the inaugural raid of the Blitz was ZE21 on Hackney Marches, which engaged for three minutes between 17.01 and 17.04, chalking up an early victory which may have been shared with a fighter. A few minutes later a Ju 88 was winged by the 4.5s of ZE1 at Chadwell Heath. On this fine and reasonably clear day batteries all over London soon brought their weapons to bear. One by one they opened up, and in the next hour eighteen sites engaged- two thirds of those equipped with guns- including all of those flanking the Thames down-river from docklands, which soon emerged as the target of the attack (Dobinson, 2001, 231).”*

Soon afterwards, on the 7<sup>th</sup> November 1940, there is a record of the gun site (OL-01907) being hit by a High Explosive bomb (Golden 1995, 131).

During the summer of 1941 the Luftwaffe attacks decreased in intensity within London, but sporadic attacks on the docklands and areas of heavy industry still took place.

The arrival of V1 bombs (alternatively known as the doodlebug, flying bomb, buzz bomb or robot bomb) in 1944 led to a serious reorganisation and repositioning of the gun sites. ZE21 itself was struck twice by V1 bombs during 1944; once on the 31 July, and once on the 15 August (Golden 1995, 137).

Originally, the role of the Anti-Aircraft guns was to destroy the enemy aircraft that strayed into their area, or to make the sky too dangerous for enemy aircraft to approach. However, the speed and ferocity of the flying bomb meant that it was no longer practical for the AA guns to attempt to shoot them down over built-up and industrialised areas. In an attempt to prevent damage caused by the bomb, AA command had to reassess their strategy and the location of their defences.

The majority of AA guns were relocated to the coast, in an attempt to intercept the missiles before they reached their target. The AA emplacements within the centre of towns were scaled down and those that were kept appear to have gone through a stage of modernisation, with the guns scaled up to 5.25-inch in attempt to keep up with the technological advances of the aeroplanes. This new gun emplacement required a below-ground generator attached to each position, and a reinforced command post was required to resist the powerful gun vibrations and protect the fragile rangefinder predictor (Ward 2007, pers comm).

The war in Europe ended in 1945, but Britain was still fighting in other parts of the world. In 1946 the Hackney Marshes gun emplacement became the site of a supply depot for the Ministry of Supply, which had been created on the 1 of August 1939.

In 1954, the site of OL-01907 became a Civil Defence training ground, and it ran as such until its closure in 1968. The Civil Defence was set up to assist in an emergencies relating to future wars, specifically nuclear attack. The site was used for practical training and exercises in connection with rescue, field cable, first aid, ambulance service and N.H. Service Reserve, emergency feeding, Industrial Civil Defence Service units and control and communications (London Boroughs Association General Purpose Committee HO 322/546).

On the 8 of May 1967, the General Purpose Committee held a meeting about the closure of the training grounds. The Regional Director suggested keeping one of the three major training grounds: either Hillingdon, Hackney or Croydon. The boroughs had been questioned, and of the 28 replies that were received, 22 of them preferred the closure of all three sites if the London boroughs would have to pay to maintain and operate them. Six of the replies suggested that one ground should be retained, with three specifying that Hackney should be the one kept on. However, it was considered that the site was not in a convenient location to suit all boroughs. Consequently, it was decided that all three training grounds should close as soon as practically possible. This information was received by the Home Office on the 31<sup>st</sup> May 1967 (London Boroughs Association General Purpose Committee HO 322/546).

In March 1968, the committee recorded:

*“...as the Hackney Civil Defence Corps has ceased to operate, the committee may feel it expedient to regard their remit as having been completed and pass a reference to the General Purpose Committee suggesting that the administrative and other steps to be taken following the disbandment of the Corps might conveniently be undertaken by that committee (London Boroughs Association Civil Defence LBH/J).”*

All local training would cease by 31 March 1968.



### 3.3.2 The design and fabric of the World War II defences

The design of the gun emplacements originated with criteria decided at the beginning of the 1930s. While aircraft design improved threefold during the space of a few years, the designs for the emplacements remained static (Figure 43, Figure 44).

*“The pre-war template for a permanent HAA position was framed around the standard emplacement-or ‘gun pit’- for the 4.5in or 3.7in (static) gun issued by DFW in March 1938 . . . This was an octagonal, concrete walled structure, usually banked externally with earth, with two sides formed from massive steel gates to admit the gun for mounting and when necessary for exchange. The weapon was anchored to the concrete floor of the emplacement by a deeply bedded central holdfast . . . designed to take the base plate common to the 4.5in and static 3.7in. The remaining six sides of the emplacement were occupied by ammunition lockers- structurally integral with the walls- open at either end to permit inspection and withdrawal of the rounds and closed by steel doors. Unlike later gunpit designs, this early example had no integral shelter for the crew, nor any covered space reserved for first-hand maintenance. In time one of the ammunition recesses came to be adapted for this latter role, while shelters adjacent to the emplacements were widely improvised once the sites came to be permanently occupied (Dobinson 2001, 143).”*

A lot of the problems in the later years of the war were of a direct result of technology proceeding faster than the designs for the production of gun emplacements.

Construction of Anti-Aircraft gun sites, complete with the ammunition stores, billets and cookhouses started 18 months before the outbreak of the war. A programme of construction was undertaken throughout the country by the Royal Engineer Works staff.

The Directorate of Fortifications and Works contracted out the construction of auxiliary units to the lowest bidder; unfortunately, this system seemed to cause problems. A senior officer from Hampshire reported in November of 1940 that:

*“The lowest bidders in two districts I know were men whom I would not dream of employing on private or council work. They have not got the brains, staff, material or, for that matter, honesty (Dobinson 2001, 304).”*

This resulted in materials being left idle on site to rot and weather, while men suffered in damp, unsanitary conditions. There were great discrepancies between the facilities of individual units; one might have full brick structures whilst in another, staff had to sleep in Bell tents, washing and eating in primitive conditions.

Whist most of the problems originated with private contractors, the D.I.Y. spirit among batteries also brought comparable difficulties. Units attempted to build huts on uneven ground, which led to flooding and buckled roofs. Most units did not have the expertise to attempt sanitation, and ablution blocks became a contentious issue.

The materials were intended to be hardwearing and low cost. Concrete with pre-fabricated elements was used to construct the buildings and gun emplacements. The pillboxes were constructed of poured reinforced concrete to a set design with flat roofs. It was usual for the gun emplacements and pillboxes to be of a set design, so that costing and equipment requirements would be known and uniform throughout the country.

The Russians were the first to use concrete pillboxes, during the Russo-Japanese war. The Germans used the design in the trenches during World War I (utilising British Blue Circle cement) and the British picked up the concept by 1940.

More than 18,000 pillboxes were built during 1940. They were situated throughout Britain, covering the factories, radar stations, coastal batteries and airfields. Most of them, however, were based around beach defences, stop-lines and nodal points (Lowry 1996, 79–82).

The Directorate of Fortifications and Works distributed the type blueprints in 1940, after the possibility of invasion after Dunkirk had been highlighted. They were generally standardised and separated into a series of Type designs. These were considered more as guidelines and could be adapted for tactical purposes and to suit localised terrain and conditions. There could be two of the same type which looked quite distinctly different.

The height of each pillbox was dependant on its surroundings; some were dug in for camouflage, whilst others were raised to gain a better defensive position. Extra blast walls could be added, and access points rearranged to create the best location.

Whilst the pillboxes were intended to be constructed of reinforced concrete, the materials which were actually used often varied according to what was locally available. It is possible to see pillboxes formed of pre-cast reinforced concrete slabs connected together in situ by poured concrete, pillboxes with a brick skin and concrete roof reinforced with scrap metal (in one case, a bed frame) and structures which use locally scavenged coastal material.

The poured concrete structures were built with the use of timber shuttering, usually planking but occasionally plywood and/or corrugated iron. The concrete would be poured in and reinforced with the use of thin steel rebars or scrap metal. The floor, roof and walls were all mutually bonded.

Local commanders modified original designs and introduced their own to best fit the location and conditions. Commercial ventures also created some pillbox types but they, like the Norcon Pillbox, tended to have much thinner defensive walls and could be potentially quite hazardous were they to come under direct enemy fire.

Lowry points out that the majority of the pillboxes were designed to be defended by rifles or light machine guns. The outer loop was designed to be the smallest; Lowry gives the measurements as 150–305mm. He believes that it is possible to reconstruct the firepower and tactical role of pillboxes by examining the size and position of the loopholes (Lowry 1996, 79–82).

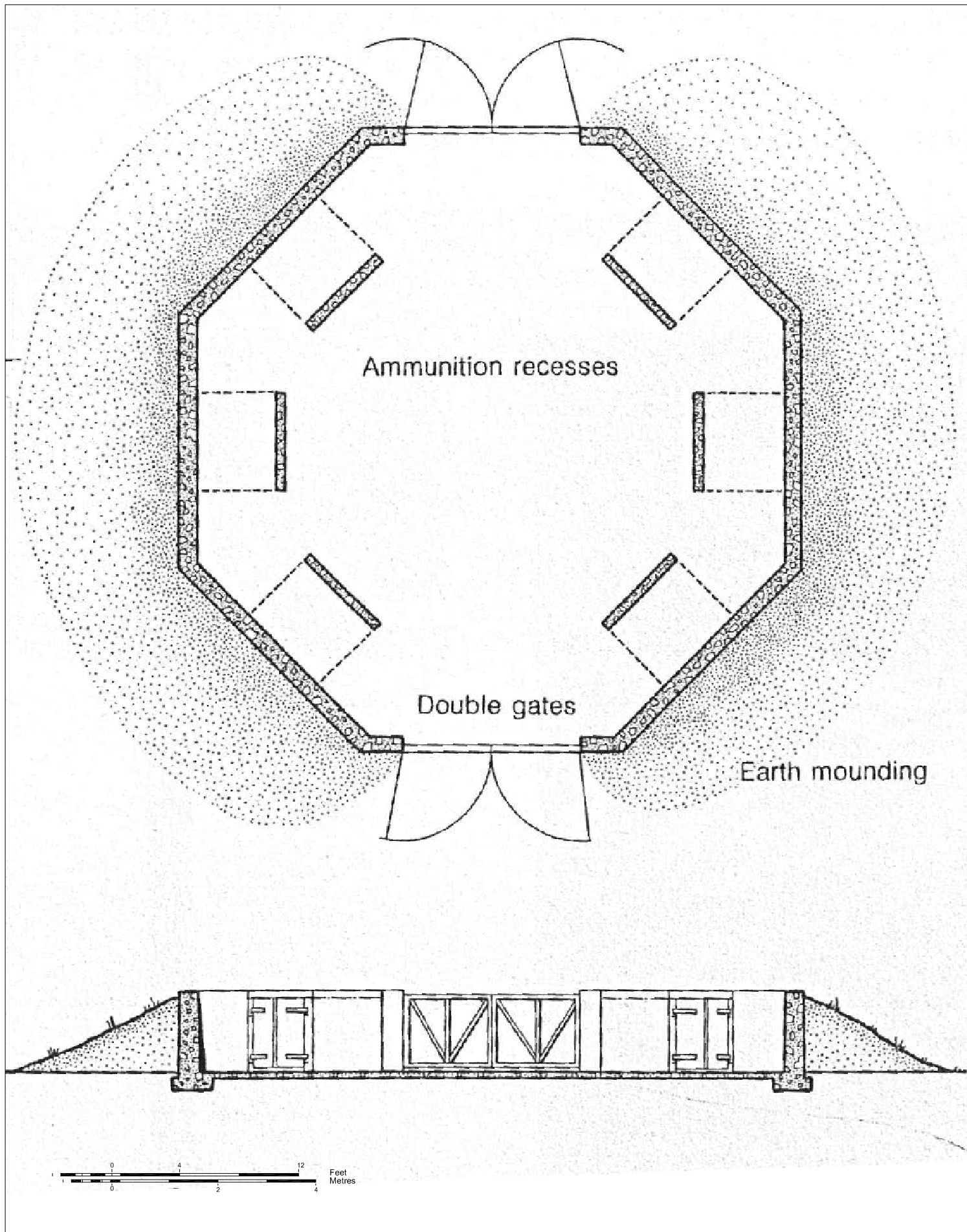
The most common type of pillbox was the Type 22 or FW3/22. This is the design of the pillbox located on the Greenway bridge (Plate 43). The design was for a hexagonal structure with walls that were generally measured 1.8m in length, with bulletproof thickness of 0.30m. There were structures that were built with a tank-proof wall thickness of 1.00m. Embrasures were created within each wall except for the entrance area, which was sited furthest from the expected direction of attack. Some, like the Greenway pillbox, had a lowered doorway with an extra embrasure over it (Lowry 1996, 82).



*Plate 43 View of pillbox, Building 11: OL-08007, looking north-west*

The pillbox type found on the Manor allotment area is thought to be that of Type number 24.

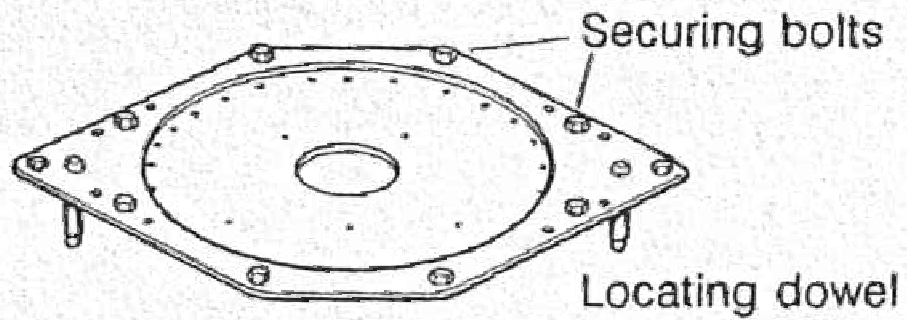
*“Type 24 is the most misunderstood designation. Sometimes referred to as a Type 360 or Type 22 Modified, the Type 24 has an irregular hexagonal plan with rear wall longer than the others containing the entrance with (usually) an embrasure to each side of it. The rear wall is approximately 12ft (3.65m) long, the other walls being 6ft to 8ft (1.8m to 2.4m) in length. Walls are often about 1ft (0.3m) thick, although many pillboxes of this type have walls up 3ft (0.9m) in thickness (Lowry 1996, 82).”*



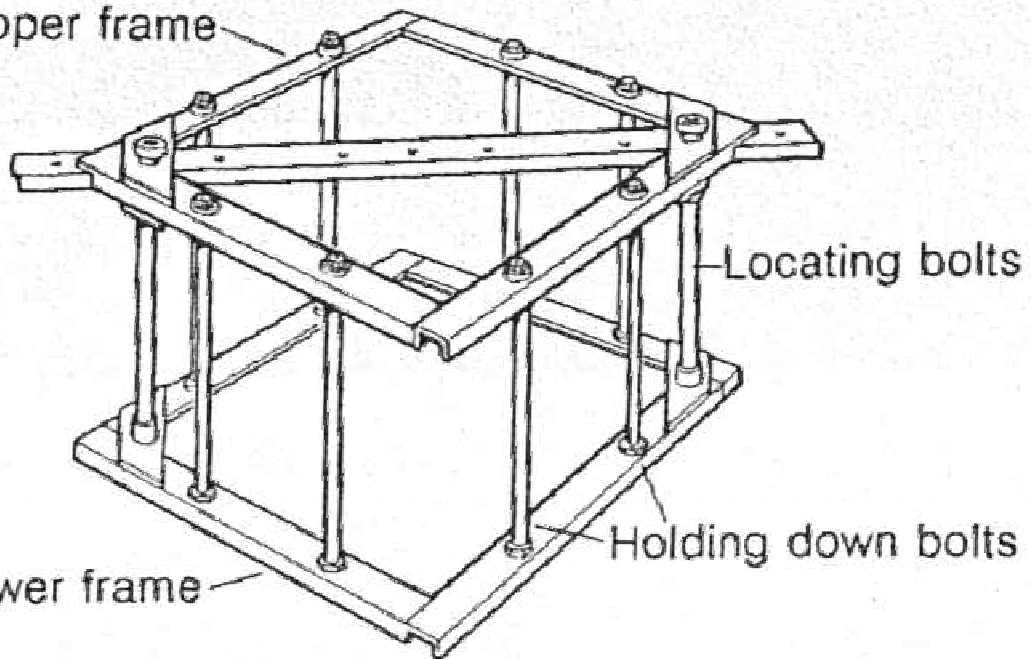
©MoLAS/PCA 2008

Figure 43  
 HAA gun emplacement design (March 1938 pattern), plan and section, reproduced from Dobinson 2001: 145  
 1:100 at A4

Foundation plate



Upper frame



Lower frame

Holdfast

### 3.4 Function of the structures

#### 3.4.1 HAA gun emplacement

The main types of gun utilised by the AA Command were the 3.7 inch, which was developed and improved throughout the war; the 4.5 and 5.25 inch guns, originally for naval use; the Lewis gun, a relic from WW1; and the Bofor gun, Swedish-designed and highly effective.

The 3.7 inch gun QF AA (quick firing anti-aircraft) was the main stalwart of the HAA, mobile and static, and it was used throughout the war. Its efficiency improved with the addition of radar and rangefinding predictors (telescopes used to focus on enemy aircraft and assess the necessary angle and height of fire) to gauge the flight path of enemy bombers and place shells in their path.

This type of gun was designed in 1937 and went into production almost immediately. The majority of gun emplacements, including ZE21 Hackney, were designed with this gun in mind. The gun had a crew of 7, and depending on their effectiveness, they could fire between 10 and 25 rounds per minute (RPM). During the war, the gun was constantly being modified and updated to come into line with advancements being made in enemy aircraft (Chamberlain and Gander 1975, 50–3).

The 5.25-inch gun was also used, in an attempt to shoot down the V1 and V2 rockets that caused so much damage to London. These mighty guns could fire 10 rounds a minute and launch a shell weighing 75 kilograms (84 pounds) up to 8 miles into the air (Chamberlain and Gander 1975, 50–3).

Yet even with the constant improvements to guns and equipment, there were still shortfalls in their abilities. The guns had limited manoeuvrability, and this thwarted the plan to have the whole sky over London covered by anti-aircraft artillery.

By 1940 the Luftwaffe strategy was focused on London, and tactics were quickly revised within the AA Command. Heavy artillery guns and equipment were recalled to London, specifically from the south-east of England, in an attempt to provide full coverage of the sky. Within the first few days of the attacks, anti-aircraft gun totals in the capital increased from 92 to 203. The operatives manning these sites were relocated from other areas of England and had to perform with minimal sleep during 24-hour shifts on duty (Chamberlain and Gander 1975, 50–3).

The night fighting became fearsome and deadly. The public became quickly disabused of the idea that London was safe and that they were well protected by the AA artillery. The A.A. Command was aware of this sudden morale lapse, and Commander Pile, head of AA Command, responded by informing all his staff of a change of strategy. Pile noticed that people were concerned that the gun sites did not seem to be firing often, and he informed his staff that tactics should be altered: there should be no more attempts at aiming at the enemy, there was only to be indiscriminate firing in barrages. There would also be no searchlights, as he believed these drew attention to targets which might have gone unnoticed by a disorientated bomber (Pile 1949, 115).

The gun emplacement operatives would therefore be given a general height for the enemy aircraft, and were ordered to open fire for as long as the raids lasted. This strategy appears to have achieved its aim; mainly that the gun were seen and heard to be following an aggressive policy. Many Londoners described the noise of the shell bursts as ‘music’ and there was a feeling of retribution on behalf of the public. Pile’s tactic also had the additional



benefit of causing consternation within the ranks of the enemy bombers, forcing many to gain height, therefore losing their accuracy of aim, and some to turn back before reaching their pre-arranged target as the barrage was too dense to fly through. An unfortunate corollary was that many planes jettisoned their load over the south of the city before returning to base.

The actual number of planes removed from the sky by AA missiles appears to be minimal, amounting to approximately 3 or 4 in a night. However, the main aim of the barrage approach was achieved, and after its first application, heavy bombing did not continue until at least two days after the initial raid.

Guns were mounted on holdfasts at the centre of the concrete gun platforms. Ammunition was stored in concrete lockers around the perimeter of the platform, where it could be easily accessed for loading by the crew. Shells were stored and put through the final stages of assembly within the cordite store and magazine. At the centre of the emplacement lay the command post and rangefinding equipment, used to gather information on the height, speed and trajectory of enemy aircraft. This information was relayed out to the guns, verbally at first but electronically towards the end of the war.

### 3.4.2 Radar complex

At the start of the war, Anti-Aircraft Command had to rely on rangefinding predictors and sound locators based on the ground “at various locations to determine the direction and position of oncoming enemy aircraft ([www.battle-of-britain.com/BoB2/local\\_defences?AAA/aaa.htm](http://www.battle-of-britain.com/BoB2/local_defences?AAA/aaa.htm) [accessed 15 December 2007]).

Unfortunately, this became highly unreliable during bad weather or at night. The rangefinding predictors also had problems calculating targets above 25,000 feet for shell bursts aimed at fast-moving targets.

To overcome these difficulties, GCI radar was introduced and used to guide night fighters onto Luftwaffe bombers. According to Lowry, there were three stages in development of the radar: Mobile, Intermediate Transportable and Final. Mobile radar stations were contained within transportable caravans with auxiliary temporary wooden hutting (Lowry 1996, 45). Stations that were Intermediate Transportable were equipped with a metal gantry with aerial arrays mounted above and below and their operations carried from the wooden huts.

The Final stations were brick built and had Operations Blocks known as ‘hippodromes’. The equipment was housed in a well underneath the station, above which was a single rotating aerial array.

ZE21 Hackney Marshes used a GL Mk II radar apparatus which, as considered highly secret, would be wheeled into position at the time of requirement (Figure 45) (AIR 2/4768). “*Stabilised with screw jacks and wired up to the generator and to one another, the GL Mk II’s two cabins could both be rotated towards the target, the transmitter sending out its beam and the receiver, in the centre of its GL mat, sensing the returned mat and aligning to get the best response* (Dobinson, 2001, 280).”

The radar station at ZE21 may either be a variant on the Intermediate Transportable system, or a Final station. The ramps suggest that the array was wheeled onto and off the roof of the block, as in the Intermediate Transportable stage, but the operations accommodation in this case was a permanent brick structure rather than the wooden huts associated with the Intermediate type. It is likely that the radar receiver was located on top of the block, where it fitted into the shallow socket which remains today. It was powered by a generator located to the north of the block (Plate 35), and operated by a person or persons on the roof.

Information was then probably relayed by means of cables into the brick-built operations room below, the course of which may be indicated by the ghosts and brackets on the ceiling of G1 and G2. Once processed, the information could be passed to the HAA gun emplacement.

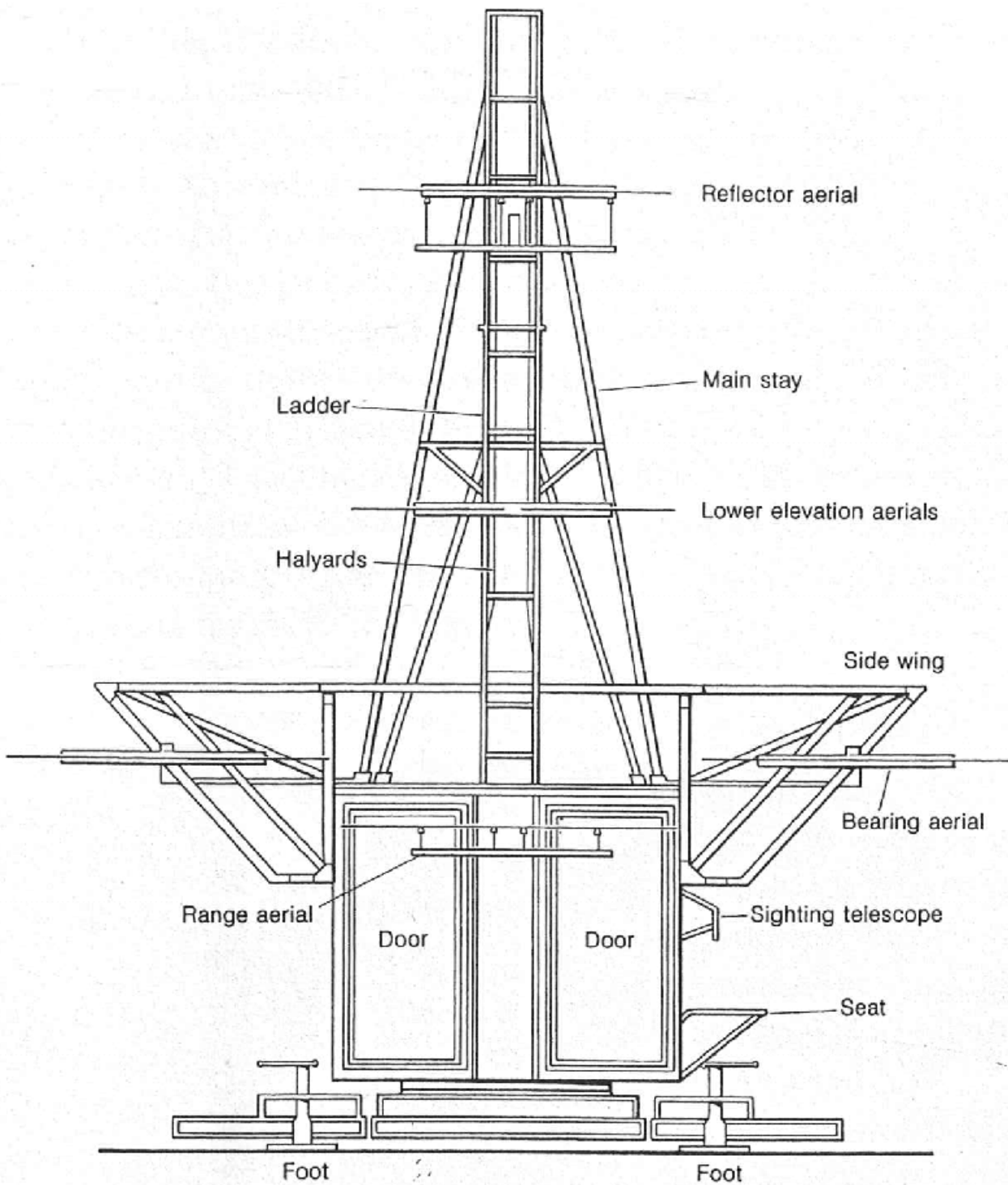
The purpose of radar was firstly as an early warning system, seeking out enemy aircraft. Secondly, it was used to great effectiveness as a tracker of aeroplanes. This meant it would give a clear directional signal 'holding' the aircraft, then transmit its location to the command post and predictor to be passed on to the guns.

*“One of the features of the Mk II was its dual transmitter aerials, one to send out a search beam for early warning and the other a more sharply directional sign to ‘hold’ the target for fire control; and other was the three aerials mounted on the receiver cabin, which produced readings respective of range, azimuth and elevation, displaying these inside the cabin on separate cathode ray screens. As delivered at the command post and predictor the output of the GL Mk II was ‘continuous’ within the equipment’s limits of accuracy, with range measurements between 2000 and 14, 000 yards given in 50-yard steps and those beyond in intervals of 250 yards. So in every respect the new equipment was a step up. Though not fully supplied to gunsites until the Blitz had come to an end, it became the standard model in use during 1942–43, before the centrimetric GL Mk III ushered in a revolution in gunsite radar in the later years of the war (Dobinson, 2001, 280).”*

During the war, the application of radar technology was extensively analysed by a team of government experts who discovered that the training for the operatives was woeful, that each machine had to be calibrated constantly, and that the topography of the site significantly affected the accuracy and necessary calibrations of the machinery.

For the combined effort of radar, searchlights and guns to be successful at all during those years of uncertainty, it required dedication, a lot of training and efficient teamwork on behalf of all the crews manning their respective posts or machinery.

The pillboxes associated with the radar complex are likely to have been used for defence (Building 6) and reconnaissance (Buildings 7 and 8). Their location along the eastern boundary of the site is likely to represent the first line of defence for the radar station against land invasion, and the best position for spotting incoming enemy aircraft.



©MoLAS/PCA 2008

Figure 45  
 The GL Mk II radar receiver, elevation (reproduced from Dobinson 2001: 281)  
 Not to scale, A4

### 3.4.3 Pillbox and tank traps on the Greenway

In 1940, an anti-tank line was thrown around London, of which the pillbox and tank traps on the Greenway (OL-08007) were an important component.

The anti-invasion defence system between 1940 and 1941 concentrated on a number of key features. They were constructed in a bid to prevent enemy landing troops from spreading throughout the country by roads and other communication routes (Foot 2006, 7). A list of Vulnerable Points was created, which consisted of:

*“...key communication points, such as bridges and viaducts or key services, such as gasworks, electricity, generators, sewage works, and reservoirs, but could also be factories producing war materials, or key defence sites, such as radar stations. These were all categorised and referenced for defence, usually by the Home Guard (Foot 2006, 10).”*

By these criteria, and especially after the first day of the Blitz, when the bombers used the River Lea to navigate into the city, there were concerns that the Northern Outfall Sewer could provide a direct line into the heart of London. The construction of the pillbox and tank traps was an attempt to defend this weak point.

The concrete blocks of the tank trap structure contained sockets in their north and south elevations, into which metal bars could be inserted to form a linear obstacle. These bars were not continually in situ, but were intended to be slotted into place when the alarm was raised. The ground around the tank trap would also have been mined, and the barrier covered by defensive fire from the pillbox (Plate 44).



*Plate 44 View from within pillbox, Building 11, looking south-east along the Greenway: OL-08007*

After 1941, the emphasis moved from static stoplines towards focusing defence around the coastal regions and strengthening a mobile defensive army (Foot 2006, 7).

### 3.5 The occupants of the structures

The HAA gun emplacement ZE21 was occupied by a mixed battery of 128<sup>th</sup> (101 City of London Home Guard). In 1940 the Commanding Officer was Captain E.T. Adams, Royal Artillery (Invasion Defence Scheme H/CC/5/2). It is recorded in the Invasion Defence Scheme of 1940 that:

*“Under normal conditions, the Gun Battery is manned by 135 regulars from 7.30am to 7.30pm daily. Shifts of 174 Home Guards (on 8 reliefs) undertake the night duties with 56 male R.A. and 61 A.T.S.; 522 Home Guards would be stationed permanently on the site in the event of invasion. (Invasion Defence Scheme H/CC/5/2).”*

The AA Command had relied on the Territorial Army for the majority of its manpower before 1939, after which the numbers were made up with conscripted men. The head of AA Command, Commander Pile, was extremely disgruntled that the home defence were given those conscripted soldiers who were considered to be ‘unfit’ for any other branch of the service.

*“Out of twenty-five who arrived at a fairly representative battery, one had a withered arm, one was mentally deficient, one had no thumbs, one had a glass-eye which fell out whenever he doubled to the guns, and two were in the advanced and most obvious stages of venereal disease. This percentage was a fairly constant one (Pile 1949, 115).”*

The introduction of mixed batteries in 1941 had a huge effect on the AA Command. After initial hesitation on the side of the commanders in allowing women to be on the front line, the development was an unmitigated success. Winston Churchill volunteered his own daughter to be a member of ATS involved in the mixed battery AA Command.

The batteries were moved around the country and several have been mentioned as being located within Hackney after 1941. On the 25<sup>th</sup> September 1942, 175 HAA Battery were replaced by the 386 Battery in Hackney (WO 166/7542). The latter left by 17<sup>th</sup> November 1942, and were replaced by 439 HAA battery (independent) (WO 166/7571).

During the excavation of made ground above the emplacement, a number of helmets were recovered (Plate 45). Although redeposited, these add detail to the picture of the day-to-day use of the structures by the men and women who served there.





*Plate 45 View of items recovered from re-deposited material: OL-01907*

Due to the nature of record-keeping in war-time and the problems with lost or destroyed documents, no further information about the batteries could be found. However, this should be a topic for further research. The possibility of contacting surviving members of the batteries serving in Hackney should be seriously considered.



## **4 Conclusion**

### **4.1 Buildings 1–4 (OL-01907)**

The remaining physical evidence suggests that Buildings 1–4 (OL-01907) are largely single phase, although scarring on the gun platforms (Buildings 1 and 4) suggests a series of repairs and alterations. This may be due to update of technology throughout the war, meaning that the guns were changed from partially electrically controlled to fully electronically controlled. Alterations also appear to have taken place during the 1960s when the site was used as a Civil Defence training ground, as can be seen on an aerial photograph taken in May 1971 (Plate 5).

The HAA gun emplacement provides a particularly interesting example of part of the defences for the Inner Artillery Zone (I.A.Z) around London, little of which survives. The site possesses a number of structural and design features that were standard on the majority of gun emplacements commissioned at the time.

Most of the fixtures and fittings had been removed by the time of excavation. The layout of some of the gun platforms may have been altered over their lifetime, but unfortunately it is not clear when or how this took place, due the destruction of most of the upstanding structures after decommission in the early 1970s. However, most of the fabric that is in existence today is original to the buildings' construction.

### **4.2 Buildings 6–10 (OL-01907)**

The physical evidence suggests that Buildings 6–10 (OL-01907) were single phase and performed their original functions between 1939 and 1945. It is likely that they were used occasionally for civil defence training exercises, but no alterations took place and it is probable that after this time they were handed over to the Manor Garden Allotment association to be used as sheds.

### **4.3 Buildings 11 and 12 (OL-08007)**

Buildings 11 and 12 (OL-08007) appear to be single-phase and largely, if not completely, in their original form. Documentary evidence suggests that they were constructed between 1940 and 1941, and manned until decommission in 1945.

### **4.4 Collective discussion**

The River Lea was of crucial importance during the war, as it was a clear navigable sign for the Germans to use on their bombing raids (as seen on the 7<sup>th</sup> of September 1939). One of the roles of AA Command, and specifically emplacement ZE21, was to protect the industries and citizens of London from aerial attack. Yet it was also vital that public morale in the capital was maintained, and the importance of anti-aircraft fire in this effort was demonstrated by the AA Command's decision to abandon aiming specifically at aircraft and create a barrage across the city, giving the impression of power, resistance and strength.

*“...the London guns were always the front line, not simply to destroy enemy aircraft, but also to loosen formations, to deter attacking crews and, crucially, to brace the civil population by showing that their city was actively fighting back (Dobinson 2001, 236–7).”*

The sound of the guns of ZE21 would have filled the air over Hackney throughout the nights of 1940–5, providing not only the first line of defence against enemy aircraft, but also comfort to the beleaguered population of the capital.

The radar station was a modern and complex conception of its time. Under the pressure of conflict, radar technology was released for use too early, and was hugely complicated in its first incarnation. The lack of training, the requirement for absolute secrecy (which prohibited the manuals for the radar equipment being kept on site where they were needed most), and the failure to understand the basic principles of the technology all assisted in inhibiting radar’s usefulness. It was only in the later years of the war that it was sufficiently developed and understood to come into its own and be efficient.

Pillboxes of the type seen round the radar station and on the Greenway were used as defences up and down the country, in areas which were felt to be particularly important or vulnerable. The pillboxes recorded in this report are all of a standard issue type, with some minor alterations adjusting each to its position with the landscape. Those on the Greenway were part of a static stop line thrown around London in 1940–41, and evidence the vulnerability of the area and the Northern Outfall Sewer during the conflict.

## **5 Potential of the Archaeology**

### **5.1 Original research aims**

The archaeological investigation has fulfilled the original research aims through the creation of a photographic, drawn and written record of the World War II Defences: HAA gun emplacement and radar station complex (OL-01907) and pillbox and tank traps on the Northern Outfall Sewer (OL-08007).

It has proven possible to reconstruct in outline, at least, the history of the buildings on the present sites, both from archaeological investigation of their fabric and from documentary sources.

### **5.2 New research aims**

Further research should involve detailed analysis of the sequence of change in the gun emplacement and further study of the complex as a whole.

Due to the secret nature of the site and the vast amount of information lost or destroyed during the war, the report has been limited in scope.

Further extensive research will bring more details of this period to light, and an attempt to contact any surviving servicemen or women who served in Hackney should be seriously considered.

The structures recorded and discussed were part of the World War II landscape of this area, and subsequent work should further ascertain their context in relation to that landscape.

### **5.3 Significance of the data**

The archaeological remains are of regional significance as a record of the role in the war played by Hackney, London, the AA Command, the Home Guard, and radar and gun technology. However, the HAA gun emplacement is of a standard type and other examples are known around the country.

Their survival is significant as such features do not normally survive in an urban context. Indeed, the reason for survival is due to their situation in a relatively unmanaged townscape. It is therefore paramount that now these features have been recorded and analysed, where not threatened by the proposed development they are integrated cohesively into the fabric of the area during regeneration.

The academic requirement to publish the results of the investigation will therefore be met by reporting the results in an appropriate professional journal, and in the annual excavation round-up in the *London Archaeologist*.

### **5.4 Salvaged fixtures, fittings and materials**

There was no archaeological requirement to salvage any of the materials or fittings.

## **6 Publication and archiving**

The site archive containing original records will be stored in accordance with the terms of the *Written Scheme of Investigation* (MoLAS-PCA, 2007c).

Information on the results of the survey will be made publicly available by means of a database in digital form, to permit inclusion of the site data in any future academic researches into the development of London.

It is also recommended that the results of this evaluation and of the proposed environmental mitigation are assimilated into a site-wide assessment of all archaeological interventions to assign contextual significance and further refine the importance of the archaeological survival, and thereafter assimilated into any publication discussing/disseminating the results.

## **7 Acknowledgements**

The archaeological survey and this report were commissioned by the Olympic Delivery Authority, whom the project manager and author wish to thank. They are grateful especially to the staff of Morrison and Nuttall for facilitating access to the buildings, and to colleagues at Capita Symonds, both in and out of the field. The author would also like to thank the staff of the National Archives at Kew, the British Library and Newham Archives who supplied documentary evidence, and Keith Ward of Subterranea Britannica for additional information.

Archaeological analysis, recording and pencil drawings were by Helen Robertson, Kari Bower, Clare Henshaw, Tom O’Gorman and Jim Heathcote. The author would also like to thank Nathalie Barrett, Jem Rogers and Phil Frickers for the surveying work; Guy Thomson for help with the historical background; and Edwin Baker, Maggie Cox and Strephon Duckering for photography. For the production of the CAD drawings the author wishes to thank Hayley Baxter, Dave Harris, Angelo Indelicato and Ruben Lopez. The project was managed by Alex Rose-Deacon.

## 8 Bibliography and references

AIR 2/4768 Courtesy of the National Archives, Kew

Aerial Photographs:

RAF\_241\_AC4\_V83.TIF: 17<sup>th</sup> June 1941. English Heritage (NMR) RAF Photography

RAF\_106G\_LA\_29\_RP3253.TIF: 7<sup>th</sup> August 1944. English Heritage (NMR) RAF Photography

RAF\_3G\_TUD\_UK\_112\_YP2\_5191.TIF: 2<sup>nd</sup> April 1946. English Heritage (NMR) RAF Photography

RAF\_CPE\_UK\_2168\_V5082.TIF: 24<sup>th</sup> June 1947. English Heritage (NMR) RAF Photography

MAL\_71066\_V56.TIF: 20<sup>th</sup> May 1971. Association of London Borough Planning Officers

Chamberlain, P and Gander T. 1975. *Anti-Aircraft Guns*. London: Macdonald and Co. (Publishers) Ltd.

Department of the Environment (DoE), 1990. *Planning Policy Guidance 16: archaeology and planning (PPG16)*

Department of the Environment (DoE), 1994. *Planning Policy Guidance 15: planning and the historic environment*

Dobinson, C. 2001. *AA Command: Britain's Anti-aircraft Defences of the Second World War (Monuments of War)* London: Methuen

English Heritage, 1991. *Management of Archaeological Projects* (2nd edition)

English Heritage (Greater London Archaeological Advisory Service), 1998. *Archaeological guidance papers*

English Heritage, 2006. *Understanding Historic Buildings: A guide to good recording practice*

Foot, W. 2006. *The Battlefields That Nearly Were: Defend England 1940*. Gloucestershire: Tempus Publishing Ltd.

Golden, J. 1995. *Hackney at War* Stroud: Alan Sutton Publishing Limited.

Gilbert, M. and Gott, R. 2000. *The Appeasers, The Age of Dictators 1920–1945*. Phoenix Press

<http://ads.ahds.ac.uk> record ID- NMR\_NATINV-1241314, record ID- GLSMR-300019, record ID- CMA\_DOBNAI-1915 [accessed 22<sup>nd</sup> March 2007]

<http://www.britarch.ac.uk/projects/dob/> [accessed 22<sup>nd</sup> March 2007]

[http://www.english-heritage.org.uk/upload/pdf/12\\_Yorkshire\\_Coastal\\_Defence.pdf](http://www.english-heritage.org.uk/upload/pdf/12_Yorkshire_Coastal_Defence.pdf) [accessed 15<sup>th</sup> December 2007]

<http://www.remuseum.org.uk> [accessed 15<sup>th</sup> December 2007]

[http://www.battle-of-britain.com/BoB2/local\\_defences?AAA/aaa.htm](http://www.battle-of-britain.com/BoB2/local_defences?AAA/aaa.htm) [accessed 15<sup>th</sup> December 2007]



- Institute of Field Archaeologists (IFA), 2001. *Standard and guidance for archaeological investigation of standing buildings or structures*
- Invasion Defence Scheme H/CC/5/2. Courtesy of Hackney Archives
- Local Authority Administration: Future of London Training Grounds. HO 322/546 1967  
Courtesy of National Archives, Kew
- London Boroughs Association General Purpose Committee HO 322/546. Courtesy of Hackney Archives
- London Boroughs Association Civil Defence Committee LBH/J. Courtesy of Hackney Archives
- London Boroughs Association LBH/J B. Courtesy of Hackney Archives
- Lowry, B (ed.) 1996. *20<sup>th</sup> Century Defences in Britain*. York: Council for British Archaeology
- Lowry, B. 2003. *British Home Defences 1940–45*. Oxford: Osprey Publishing
- MoI, 1943. *Roof over Britain. The Official Story of the AA Defences, 1939–1942*. London: HMSO. Courtesy of National Archives, Kew
- MoLAS-PCA. 2007a. *Lower Lea Valley Regeneration and Olympics Archaeological and Built Heritage Impact Assessment (Detailed Desk-based Assessment [DDBA]) Planning Delivery Zone Four* MoLAS-PCA Unpublished Report
- MoLAS-PCA. 2007b. *Lower Lea Valley Regeneration and Olympics Archaeological and Built Heritage Impact Assessment (Detailed Desk-based Assessment [DDBA]) Planning Delivery Zone Four* MoLAS-PCA Unpublished Report
- MoLAS-PCA, 2007c. *Written Scheme Of Investigation For Historic Building Recording Of World War Two Defences* (Planning Delivery Zone 6)
- Museum of London, 1994. *Archaeological site manual* (3rd edition)
- Museum of London, 2002. *A research framework for London archaeology 2002*
- Museum of London Archaeology Service, 2006. *Health and safety policy*
- Osborne, M. 2004. *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Gloucestershire: Tempus Publishing Ltd
- Pile, F. 1949. *Ack-Ack, Britain's defence against air attack during the Second World War*. London: George G. Harrap and Co. Ltd
- Royal Commission on Historical Monuments, England, 1996. *Recording historic buildings: a descriptive specification*
- Ward, K. 2007. [Discussion on location and use of WWII AA Sites in Hackney] (Personal communication, 15 July 2007)
- WO 166/7542. War Office Document. Courtesy of National Archives, Kew
- WO 166/7571. War Office Document. Courtesy of National Archives, Kew
- OS Map 1867 edition (scale 1:1,250). Courtesy of Hackney Archives
- OS Map 1869 edition (scale 1:1,000). Courtesy of Hackney Archives
- OS Map 1893 edition (scale 1:1,250). Courtesy of Hackney Archives
- OS Map 1914 edition (scale 1:1,250). Courtesy of Hackney Archives
- OS Map 1916 edition (scale 1:1,000). Courtesy of Hackney Archives

London County Council Map 1935–38 revised from the 1893 OS Map (scale 1:1,250).  
Courtesy of Hackney Archives

OS Map 1949 edition (scale 1:1,000). Courtesy of Hackney Archives

OS Map 1963 edition (scale 1:1,250). Courtesy of Hackney Archives

OS Map 1982 edition (scale 1:1,000). Courtesy of Hackney Archives

## 9 Appendix 1: NMR OASIS archaeological report form

OASIS ID: preconst1-40847

### Project details

Project name World War II Defences: items on and around Manor Allotments (OL-01907) and items on the Greenway (OL-08007)

Short description of the project The Museum of London Archaeology Service and Pre-Construct Archaeology (MoLAS-PCA) were commissioned by the Olympic Delivery Authority to analyse and record the built structures relating to two World War II defence sites; one immediately to the south of Quartermile Lane, within and to the north of Manor Garden Allotments (OL-01907), and one on the Greenway bridge over the River Lea, by Old Ford Locks (OL-08007). All of the structures were to be demolished or altered in order to redevelop the site, and the archaeological investigation and a subsequent report were required as a condition of planning consent for the redevelopment. The investigation was undertaken in three phases and took place periodically from March - September 2007. The buildings around Manor Allotments comprise two gun platforms, a possible cordite room, a magazine (all with associated poured concrete paving), a possible Bofor gunsite, three pillboxes, a radar station and a possible Incendiary Bomb and Pyrotechnic Store. The items on the Greenway comprise a further pillbox with associated tank-traps. The oldest structural remains date to 1938, when the gun emplacement was constructed. The pillboxes and other structures were all constructed between 1941 and 1943.

Project dates Start: 01-03-2007 End: 30-09-2007

Previous/future work No / No

Any associated project reference codes OL-01907 - Sitecode

Any associated project reference codes OL-08007 - Sitecode

Type of project Building Recording

Current Land use Other 14 - Recreational usage

Current Land use Other 1 - Allotment

Current Land use Other 13 - Waste ground

|                    |   |   |                       |
|--------------------|---|---|-----------------------|
| Current Land use   | Other 11 - Thoroughfare                         |   |                       |
| Monument type      | HEAVY ANTI-AIRCRAFT BATTERY Modern              |   |                       |
| Monument type      | PILLBOX (TYPE FW3/24) Modern                    |   |                       |
| Monument type      | RADAR STATION Modern                            |   |                       |
| Monument type      | ANTI-TANK OBSTACLE Modern                       |   |                       |
| Monument type      | COMMAND POST Modern                             |   |                       |
| Monument type      | TANK TRAP Modern                                |   |                       |
| Monument type      | MACHINE-GUN POST Modern                         |   |                       |
| Monument type      | PILLBOX (TYPE FW3/22) Modern                    |   |                       |
| Monument type      | PILLBOX (VARIANT) Modern                        |   |                       |
| Monument type      | MAGAZINE Modern                                 |   |                       |
| Monument type      | CIVIL DEFENCE SITE Modern                       |   |                       |
| Monument type      | BOMB STORE Modern                               |   |                       |
| Methods techniques | &   | 'Annotated Sketch','Measured Survey','Survey/Recording Of Fabric/Structure' | Survey','Photographic |
| Prompt             | Direction from Local Planning Authority - PPG15 |   |                       |

**Project location**

|                  |   |
|------------------|---|
| Country          | England   |
| Site location    | GREATER LONDON NEWHAM NEWHAM World War II Defences on and around Manor Allotments (OL-01907) and on the Greenway (OL-08007) |
| Postcode         | E15   |
| Study area       | 3.30 Hectares   |
| Site coordinates | TQ 37546 85335 51.5496212459 -0.015996551722 51 32 58 N 000 00 57   |

W Point

Site coordinates TQ 37321 83845 51.5362854802 -0.01982144497320 51 32 10 N 000 01  
11 W Point

Height OD Min: 5.00m Max: 16.00m

---

**Project creators**

Name of MoLAS/PCA Ltd  
Organisation

Project brief ODA  
originator

Project design MoLAS/PCA Ltd  
originator

Project Alex Rose-Deacon  
director/manager

Project supervisor Helen Robertson

Type of Landowner  
sponsor/funding  
body

Name of ODA  
sponsor/funding  
body

---

**Project archives**

Physical Archive No  
Exists?

Digital Archive LAARC  
recipient

Digital Archive ID OL-01907, OL-08007

Digital Contents 'other'

Digital Media 'Images raster / digital photography','Survey'  
available

Digital notes Archive Two site codes apply to related structures, reported on in a single report: defences on and around Manor Allotments (OL-01907) and defences on the Greenway (OL-08007). Therefore this single OASIS form was compiled for that single report.

Paper recipient Archive LAARC

Paper Archive ID OL-01907, OL-08007

Paper Contents 'other'

Paper available Media 'Aerial Photograph','Drawing','Map','Photograph','Plan','Report','Section','Survey','Unpublished Text'

Paper notes Archive Two site codes apply to related structures, reported on in a single report: defences on and around Manor Allotments (OL-01907) and defences on the Greenway (OL-08007). Therefore this single OASIS form was compiled for that single report.

**Project bibliography 1**

Publication type Grey literature (unpublished document/manuscript)  
 Title World War II Defences - a standing building survey report  
 Author(s)/Editor(s) Robertson, H  
 Date 2008  
 Issuer or publisher MoLAS-PCA Ltd  
 Place of issue or publication London  
 Description Spiral-bound A4 soft-cover report

Entered by Alex Rose-Deacon (arose-deacon@pre-construct.com)  
 Entered on 17 April 2008



## 10 Appendix 2: list of archaeological photographs

Photo register 1: OL-01907, HAA gun emplacement

| ID | SITE CODE | SITE NAME                         | FILM TYPE           | DATE      | DIRECTION | IDENTIFIER | PLATE | COMMENTS   |
|----|-----------|-----------------------------------|---------------------|-----------|-----------|------------|-------|--|
| 1  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | W         | Building 5 |       | Detailed shot of truncated RSJ                   |
| 2  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | E         | Building 5 |       | Shot of line of truncated fence posts and RSJs   |
| 3  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | N         | Building 5 |       | Shot of Building 5, general                      |
| 4  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/E       | Building 5 |       | Shot of Building 5, general                      |
| 5  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/W       | Building 5 |       | Shot of Building 5, general                      |
| 6  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S         | Building 5 | 22    | Shot of concrete plinth and iron rings on N side |
| 7  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/E       | Building 5 |       | Shot of metal drain cover with hinged lid        |
| 8  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | N         | Building 5 | 20    | Shot of chamfered bay on N side                  |
| 9  | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/W       | Building 5 | 21    | Shot of key-hole truncation on N side            |
| 10 | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S         | Building 5 |       | Shot of damaged chamfered bay on S side          |
| 11 | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/E       | Building 5 |       | Shot of concrete step arrangement S/E corner     |
| 12 | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/E       | Building 5 |       | Working shot of W bay                            |
| 13 | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | N         | Building 5 |       | Working shot of W bay                            |
| 14 | OL-01907  | WWII Defences:HAA gun emplacement | Digital Canon 400 D | 09-May-07 | S/E       | Building 5 |       | Working shot of W bay                            |

Photo register 2: OL-01907, HAA gun emplacement

| ID | SITE CODE | SITE NAME               | FILM TYPE           | DATE      | DIRECTION | IDENTIFIER | PLATE | COMMENTS                         |
|----|-----------|-------------------------|---------------------|-----------|-----------|------------|-------|----------------------------------|
| 1  | OL-01907  | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | /         | /          |       | Record shot                      |
| 2  | OL-01907  | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | S         | Trench 1   |       | Overhead shot of Trench 3        |
| 3  | OL-01907  | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | N         | Trench 1   |       | Central part of N facing section |

|    |          |                         |                     |           |     |          |  |
|----|----------|-------------------------|---------------------|-----------|-----|----------|--|
| 4  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | E   | Trench 1 | Working shot showing whole of Trench 3                   |
| 5  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | E   | Trench 1 | View of concrete, close-up                               |
| 6  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | E   | Trench 1 | Detail of circular feature in concrete at base of trench |
| 7  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | N   | Trench 1 | Overhead working shot                                    |
| 8  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | N   | Trench 1 | Close-up view of cement at base of Trench 1              |
| 9  | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | E   | Trench 1 | Shot of W-facing section                                 |
| 10 | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | E   | Trench 1 | Close-up of W-facing section                             |
| 11 | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | N/W | Trench 2 | Shot of E-facing section                                 |
| 12 | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | N/W | Trench 2 | Detail of void in base of trench under concrete          |
| 13 | OL-01907 | WWII Defences: Trenches | Digital Canon 400 D | 21-May-07 | S   | Trench 2 | General working shot                                     |

Photo register 3: OL-01907, HAA gun emplacement

| ID | SITE CODE | SITE NAME                          | FILM TYPE + NO | FRAME NO | DATE      | DIR. | IDENTIFIER     | PLATE | COMMENTS                                       |
|----|-----------|------------------------------------|----------------|----------|-----------|------|----------------|-------|--|
| 1  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 1        | 07-Jun-07 | N    | Building 1,2&3 |       | General context shot across site               |
| 2  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 1        | 07-Jun-07 | N    | Building 1,2&3 |       | General context shot across site               |
| 3  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 2        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 4  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 2        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 5  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 3        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 6  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 3        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 7  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 4        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 8  | OL-01907  | WWII Defences: HAA gun emplacement | Colour 225     | 4        | 07-Jun-07 | S    | Building 1     |       | Shot of Building 1 in foreground, context shot |
| 9  | OL-01907  | WWII Defences: HAA gun             | Colour 225     | 5        | 07-Jun-07 | S    | Building 1-4   |       | General shot of site                           |

|    |          |                                    |            |    |           |        |              |   |  |
|----|----------|------------------------------------|------------|----|-----------|--------|--------------|---|--|
|    |          | emplacement                        |            |    |           |        |              |   |  |
| 10 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 6  | 07-Jun-07 | S      | Building 2&3 |   | Close-up of Building 2&4 with Building 3 in background     |
| 11 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 7  | 07-Jun-07 | S/W    | Building /   |   | Close-up shot of cobbled paving, S of Building 1           |
| 12 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 8  | 07-Jun-07 | N/W    | Building 1   |   | Working shot of Building 1                                 |
| 13 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 9  | 07-Jun-07 | S/W    | Building 2   |   | Working shot of blast wall around Building 2               |
| 14 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 10 | 07-Jun-07 | Aerial | Building 1-4 | 6 | Aerial shot of HAA gun emplacement                         |
| 15 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 10 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement                         |
| 16 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 11 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement                         |
| 17 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 11 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement                         |
| 18 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 12 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement                         |
| 19 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 12 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement                         |
| 20 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 13 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement, in context of E area   |
| 21 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 13 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement, in context of E area   |
| 22 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 14 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement, in context of E area   |
| 23 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 14 | 07-Jun-07 | Aerial | Building 1-4 |   | Aerial shot of HAA gun emplacement, in context of E area   |
| 24 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 15 | 07-Jun-07 | Aerial | Building 1-5 |   | Aerial shot of HAA gun emplacement, in context of E&S area |
| 25 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 16 | 07-Jun-07 | Aerial | Building 2-4 |   | Aerial shot of Building 3 in context with Building 2&4     |
| 26 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 17 | 07-Jun-07 | Aerial | Building 2-4 |   | Aerial shot of Building 2 & 4 in context with Building 3   |

|    |          |                                    |            |    |           |            |                 |   |   |
|----|----------|------------------------------------|------------|----|-----------|------------|-----------------|---|---|
| 27 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 18 | 07-Jun-07 | Aerial     | Buildings 2 & 4 |   | Aerial shot, close-up of Buildings 2 & 4                          |
| 28 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 19 | 07-Jun-07 | Aerial     | Buildings 2 & 4 |   | Aerial shot of Buildings 2 & 4 with concrete ramps and pathways   |
| 29 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 20 | 07-Jun-07 | Aerial     | Building 3      |   | Aerial shot of Building 3   |
| 30 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 21 | 07-Jun-07 | Aerial-S/E | Building 5      | 7 | Aerial shot of Building 5 in context                              |
| 31 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 22 | 07-Jun-07 | Aerial-S   | Buildings 6-10  | 8 | Aerial shot of Manor Garden Allotments before clearance           |
| 32 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 22 | 07-Jun-07 | Aerial S   | Buildings 6-10  |   | Aerial shot of Manor Garden Allotments before clearance           |
| 33 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 23 | 07-Jun-07 | Aerial S   | Buildings 6-10  |   | Aerial shot of Manor Garden Allotments before clearance           |
| 34 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 23 | 07-Jun-07 | Aerial S   | Buildings 6-10  |   | Aerial shot of Manor Garden Allotments before clearance           |
| 35 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 24 | 07-Jun-07 | Aerial S/E | /               |   | Aerial shot of River Lea corner of Manor Garden Allotments        |
| 36 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 25 | 07-Jun-07 | Aerial S   | Buildings 5-10  |   | Aerial shot of Building 5 in context with Manor Garden Allotments |
| 37 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 26 | 07-Jun-07 | Aerial N/W | /               |   | Aerial shot showing River Lea and the Eastway                     |
| 38 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 26 | 07-Jun-07 | Aerial N/W | /               |   | Aerial shot showing River Lea and the Eastway                     |
| 39 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 26 | 07-Jun-07 | Aerial N/W | /               |   | Aerial shot showing River Lea and the Eastway                     |
| 40 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 27 | 07-Jun-07 | Aerial N/E | /               |   | Aerial shot showing N/E corner of site                            |
| 41 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 27 | 07-Jun-07 | /          | /               |   | Detailed shot of Drain 2  |
| 42 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 27 | 07-Jun-07 | /          | /               |   | Detailed shot of Drain 2  |
| 43 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 28 | 07-Jun-07 | S/W        | Building 4      |   | Detail of scarring and drain on Building 4                        |

|    |          |                                    |            |    |           |     |                 |    |  |
|----|----------|------------------------------------|------------|----|-----------|-----|-----------------|----|--|
| 44 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 28 | 07-Jun-07 | S/W | Building 4      | 11 | Detail of scarring and drain on Building 4                       |
| 45 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 29 | 07-Jun-07 | N/W | Building 4      |    | Detail of Drain 3 on Building 4                                  |
| 46 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 30 | 07-Jun-07 | N   | Building 4      |    | Detail of Drain 4 on Building 4                                  |
| 47 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 31 | 07-Jun-07 | W   | /               |    | Detail of Drain 1  |
| 48 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 31 | 07-Jun-07 | W   | /               |    | Detail of Drain 1  |
| 49 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 32 | 07-Jun-07 | S   | Building 3      |    | Internal shot of cordite store                                   |
| 50 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 33 | 07-Jun-07 | E   | Building 2      | 12 | Internal shot of bays and blast wall of magazine                 |
| 51 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 34 | 07-Jun-07 | N/E | Building 2      | 13 | Shot of length of bays in magazine with Building 3 in foreground |
| 52 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 35 | 07-Jun-07 | S/W | Building 2      |    | Internal shot showing blast wall and drainage channel            |
| 53 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 35 | 07-Jun-07 | S/W | Building 2      |    | Internal shot showing blast wall and drainage channel            |
| 54 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 36 | 07-Jun-07 | W   | Building 3      | 14 | Elevation of cordite store                                       |
| 55 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 36 | 07-Jun-07 | W   | Building 3      |    | Elevation of cordite store                                       |
| 56 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 37 | 07-Jun-07 | N/W | Building 3      |    | Shot of drainage channel outside Building 3                      |
| 57 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 38 | 07-Jun-07 | N   | Building 4      |    | Detail of Drain 3 on Building 4                                  |
| 58 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 39 | 07-Jun-07 | N/W | Building 4      |    | Working shot of metal door rail and concrete pathway             |
| 59 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 40 | 07-Jun-07 | W   | /               |    | Detail of damage to concrete pathing showing cabling ducts       |
| 60 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 40 | 07-Jun-07 | W   | /               | 15 | Detail of damage to concrete pathing showing cabling ducts       |
| 61 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 41 | 07-Jun-07 | S   | Buildings 2 - 3 |    | Shot of Buildings 2 -3 from Building 1                           |

|    |          |                                    |            |    |           |     |                 |    |   |
|----|----------|------------------------------------|------------|----|-----------|-----|-----------------|----|---|
| 62 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 41 | 07-Jun-07 | S   | Buildings 2 - 3 |    | Shot of Buildings 2 -3 from Building 1                              |
| 63 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 42 | 07-Jun-07 | N/W | /               |    | Detail of concrete plinth with metal cabling duct                   |
| 64 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 43 | 07-Jun-07 | S/W | /               |    | Shot of concrete capping over drainpipe and wooden drainage channel |
| 65 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 43 | 07-Jun-07 | S/W | /               |    | Shot of concrete capping over drainpipe and wooden drainage channel |
| 66 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 44 | 07-Jun-07 | E   | /               | 18 | Detail shot of Drain 5  |
| 67 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 44 | 07-Jun-07 | E   | /               |    | Detail shot of Drain 5  |
| 68 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 44 | 07-Jun-07 | E   | Buildings 2 & 3 |    | Shot looking across Buildings 2 & 3                                 |
| 69 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 44 | 07-Jun-07 | E   | Buildings 2 & 3 | 19 | Shot looking across Buildings 2 & 3                                 |
| 70 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 45 | 07-Jun-07 | N/E | Building 3      |    | Working shot looking into Building 3                                |
| 71 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 45 | 07-Jun-07 | N/E | Building 3      |    | Working shot looking into Building 3                                |
| 72 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 46 | 07-Jun-07 | S/W | Building 3      |    | Detail of damaged metal door frame on Building 3                    |
| 73 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 46 | 07-Jun-07 | S/W | Building 3      |    | Detail of damaged metal door frame on Building 3                    |
| 74 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 47 | 07-Jun-07 | S/W | Building 3      |    | Detail of damaged metal window frame on Building 3                  |
| 75 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 47 | 07-Jun-07 | S/W | Building 3      |    | Detail of damaged metal window frame on Building 3                  |
| 76 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 48 | 07-Jun-07 | E   | Building 2      |    | Detail of bay in Building 2   |
| 77 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 49 | 07-Jun-07 | N   | Building 2 & 4  |    | Detail showing concrete ramps between Building 2 & 4                |
| 78 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 49 | 07-Jun-07 | N   | Building 2 & 4  |    | Detail showing concrete ramps between Building 2 & 4                |
| 79 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 50 | 07-Jun-07 | N   | Building 2      |    | Detail of N end blast wall of Building 2                            |



|    |          |                                    |            |    |           |     |            |  |   |
|----|----------|------------------------------------|------------|----|-----------|-----|------------|--|---|
| 80 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 50 | 07-Jun-07 | N   | Building 2 |  | Detail of N end blast wall of Building 2    |
| 81 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 51 | 07-Jun-07 | E   | /          |  | Detail of cobble stone path                 |
| 82 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 52 | 07-Jun-07 | N/E | Building 1 |  | Working shot of Building 1                  |
| 83 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 52 | 07-Jun-07 | N/E | Building 1 |  | Working shot of Building 1                  |
| 84 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 53 | 07-Jun-07 | S/E | Building 1 |  | Detail of ghost and scarring on Building 1  |
| 85 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 54 | 07-Jun-07 | N/E | Building 1 |  | Working shot of Building 1, central babbett |
| 86 | OL-01907 | WWII Defences: HAA gun emplacement | Colour 225 | 54 | 07-Jun-07 | N/E | Building 1 |  | Working shot of Building 1, central babbett |

Photo register 4: OL-01907, radar station complex

| ID | SITE CODE | SITE NAME                            | FILM TYPE           | FILM NO. | DATE      | DIR.  | IDENTIFIER | PLATE | COMMENTS                            |
|----|-----------|--------------------------------------|---------------------|----------|-----------|-------|------------|-------|-------------------------------------|
| 1  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | N-N/W | Gates      |       | Gates at southern end of allotments |
| 2  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | N/W   | Iron       |       | Corrugated iron outer edge of gate  |
| 3  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | S/E   | Concrete   |       | Concrete path at Allotment 16       |
| 4  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | E     | Concrete   |       | Concrete path at Allotment 16       |
| 5  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | E     | Steps      |       | Concrete steps at Allotment 16      |
| 6  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | S-S/E | Shed       |       | Anderson shelter in Allotment 15    |
| 7  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | S-S/E | General    |       | General shot looking out the S gate |
| 8  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | N     | General    |       | General shot looking N by S gate    |
| 9  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | S/E   | General    |       | General shot of Allotment 15        |
| 10 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | E     | General    |       | General shot of Allotment 14        |
| 11 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | S/E   | General    |       | General shot of Allotment 11        |
| 12 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D100     | 18-Sep-07 | N     | General    |       | General shot of Allotment 18B       |

|    |          |                                      |                     |      |           |       |               |  |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|--|
| 13 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | General       | Shot of 18A Palm tree and 18B holly              |
| 14 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N     | General       | Shed at allotment 18B with vine                  |
| 15 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N     | General       | Shed at allotment 18B with vine                  |
| 16 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E   | General       | General shot of Allotment 10                     |
| 17 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | General       | General shot of Allotment 9                      |
| 18 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | General       | General shot of Allotment 9 shed                 |
| 19 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | General       | General shot of Allotment 9 shed-close-up        |
| 20 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E   | General       | General shot of concrete path Allotment 20       |
| 21 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | /     | Rose          | Close-up of rose in Allotment 8                  |
| 22 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | /     | Rose          | Close-up of rose in Allotment 8                  |
| 23 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E-S/E | Concrete base | Concrete base in Allotment 8                     |
| 24 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Concrete base | Detail of concrete base in Allotment 8           |
| 25 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Concrete base | Detail of concrete base in Allotment 8           |
| 26 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N     | Concrete base | Detail of scarring on base                       |
| 27 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E-N/E | Concrete base | Detail of scarring on base                       |
| 28 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/W   | Concrete base | Wind-driven pump and surroundings                |
| 29 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | Concrete base | Wind-driven pump and surroundings                |
| 30 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | Concrete base | Wind-driven pump and surroundings                |
| 31 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Notice board  | Shot of Manor Gardens Allotments notice board    |
| 32 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Notice board  | Close-up of Manor Garden Allotments notice board |
| 33 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/W   | Green shed    | Shot of Anderson shelter, Allotment 40           |
| 34 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/E   | Brick wall    | Boundary wall, possible base for Nissen hut      |

|    |          |                                      |                     |      |           |     |                     |  |
|----|----------|--------------------------------------|---------------------|------|-----------|-----|---------------------|--|
| 35 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W   | Allotment 53        | General shot of Allotment 53                                     |
| 36 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S   | Allotment 4         | General shot of road and allotments                              |
| 37 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E | Allotment 1         | Shot of brick wall possible Nissen hut                           |
| 38 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E   | Allotment 1         | Slab with GPO imprinted  |
| 39 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E   | Pillbox             | Context shot of GPO slab and Building 6, pillbox                 |
| 40 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E | Pillbox             | Building 6, pillbox before clearance                             |
| 41 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E   | Pillbox             | Detail of Building 6, pillbox before clearance                   |
| 42 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/W | Pillbox             | General from roof Building 6, pillbox before clearance           |
| 43 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/W | Pillbox             | Placement shot from roof Building 6, pillbox before clearance    |
| 44 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/W | Pillbox             | Building 6, pillbox before clearance detail of chamfered windows |
| 45 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E | Brickwork           | Brickwork shape under foliage                                    |
| 46 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | /   | Allotment 70        | Cobble wall along Allotment 70                                   |
| 47 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S   | Allotment 81 and 82 | Cobble wall along Allotment 81 and 82                            |
| 48 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/E | Allotment 81 and 82 | Cobble wall along Allotment 81 and 82, other side                |
| 49 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E | Allotment 81 and 82 | Cobble wall along Allotment 81 and 82, other side                |
| 50 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S   | Cobblewall          | Detail of cobble wall  |
| 51 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S   | Pillbox             | Internal detail of Building 6, pillbox                           |
| 52 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S   | Pillbox             | Internal detail of Building 6, pillbox                           |
| 53 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N   | Pillbox             | Internal detail of Building 6, pillbox                           |
| 54 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/E | Radar station       | Shot of Building 10, radar station                               |
| 55 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S/W | Radar station       | Entrance and steps up to roof, Building 10, radar station        |

|    |          |                                      |                     |      |           |       |               |  |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|--|
| 56 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N-N/W | Radar station | Shot of range in Building 10 G1, radar station       |
| 57 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S     | Radar station | Shot of Building 10 G1, radar station                |
| 58 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W-N/W | Radar station | Shot of Building 10 G2, radar station                |
| 59 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S     | Radar station | General shot from roof of Building 10, radar station |
| 60 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | Radar station | Shot of roof indent, Building 10, radar station      |
| 61 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Radar station | Shot of rear end of Building 10, radar station       |
| 62 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Radar station | Greenhouse beside Building 10, radar station         |
| 63 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Radar station | Greenhouse beside Building 10, radar station         |
| 64 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W-N/W | Radar station | Rear of Building 10, radar station                   |
| 65 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/E   | Radar station | Rear of Building 10, radar station, side with ramps  |
| 66 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N     | Allotment 68  | General shot of allotment shed                       |
| 67 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | E     | Shed          | Shot of shed in Allotment 50                         |
| 68 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N-N/E | Stove         | Wood burning stove in Allotment 50                   |
| 69 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/E   | Pillbox       | Brick Pillbox Building 7                             |
| 70 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/E   | Pillbox       | Brick Pillbox Building 7                             |
| 71 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S-S/E | Pillbox       | Detail of door of Pillbox, Building 7                |
| 72 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | Palm tree     | Shot of palm tree in Allotment 33                    |
| 73 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | S-S/E | Grapes        | Detail of grape vine with grapes Allotment 32        |
| 74 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N-N/W | Palm tree     | Detail of palm tree and hut, Allotment 33            |
| 75 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W     | Pavement      | Detail of paving with metal rings in it              |
| 76 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | N/W   | Timber hut    | General shot of community centre                     |
| 77 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D100 | 18-Sep-07 | W-S/W | Gate          | Shot of iron gate                                    |

Photo register 5: OL-01907, radar station complex

| ID | SITE CODE | SITE NAME                            | FILM TYPE           | FILM NO. | DATE      | DIRECTION | ID | PLATE | COMMENTS                                    |
|----|-----------|--------------------------------------|---------------------|----------|-----------|-----------|----|-------|---|
| 1  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | E-N/E     |    |       | Bridge entrance                             |
| 2  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | E-N/E     |    |       | Bridge entrance                             |
| 3  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | S         |    |       | Detail of concrete and timber to end of S.1 |
| 4  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | W-S/W     |    |       | Detail of concrete and timber to end of N.1 |
| 5  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | W-S/W     |    |       | From halfway across bridge                  |
| 6  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | E-N/E     |    |       | From halfway across bridge                  |
| 7  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | W-S/W     |    |       | Bridge entrance                             |
| 8  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | N         |    |       | Concrete at end with OS mark                |
| 9  | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | N         |    |       | Concrete at end with OS mark                |
| 10 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | S/W       |    |       | Bridge from bank                            |
| 11 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | S/W       |    |       | Bridge from bank                            |
| 12 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | E-S/E     |    |       | Bridge stanchion                            |
| 13 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | E-N/E     |    |       | Shot from beneath bridge                    |
| 14 | OL-01907  | WWII Defences: Radar station complex | Digital Canon 400 D | D101     | 26-Sep-07 | S-S/E     |    |       | Shot through door of Building 7, pillbox    |

|    |          |                                      |                     |      |           |       |               |    |  |       |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|----|--|-------|
| 15 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N-N/W | Pillbox       |    | Interior Building pillbox  | of 7, |
| 16 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S-S/E | Pillbox       | 26 | Interior Building pillbox  | of 7, |
| 17 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/E   | Pillbox       |    | Detail of 'outlets' in E wall, Building pillbox                  | 7,    |
| 18 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Pillbox       |    | Exterior Building pillbox  | of 7, |
| 19 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | w     | Pillbox       | 28 | Exterior Building pillbox  | of 7, |
| 20 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/E   | Pillbox       | 27 | Exterior Building pillbox  | of 7, |
| 21 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/E   | Pillbox       |    | Exterior Building pillbox  | of 7, |
| 22 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E-N/E | Pillbox       |    | Detail of brick set into concrete at SW corner, Building pillbox | 7,    |
| 23 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W-S/W | Pillbox       |    | Rear of Blg 7, pillbox   |       |
| 24 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N     | Pillbox       |    | Concrete block path north of Building pillbox                    | 7,    |
| 25 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N     | Pillbox       |    | Concrete block path north of Building pillbox                    | 7,    |
| 26 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Pillbox       |    | Placement shot from roof of Building pillbox                     | 7,    |
| 27 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W-S/W | Radar station |    | Building radar station ramp                                      | 10    |
| 28 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W-S/W | Radar station |    | Building radar station ramp                                      | 10    |
| 29 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W-S/W | Radar station |    | Building radar station ramp                                      | 10    |



|    |          |                                      |                     |      |           |       |               |    |   |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|----|---|
| 30 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W-S/W | Radar station |    | Building 10 radar station ramp                                      |
| 31 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Radar station |    | Detail of flue and steps, Building 10, radar station                |
| 32 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Radar station |    | Detail of flue, Building 10, radar station                          |
| 33 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/E   | Radar station |    | Detail of ramp and concrete apron, Building 10, radar station       |
| 34 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Radar station |    | Building 10 radar station and ramp                                  |
| 35 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W     | Radar station | 37 | Internal view of range in Building 10 G1, radar station             |
| 36 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/W   | Radar station |    | Internal view of range in Building 10 G1, radar station             |
| 37 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/E   | Radar station |    | Internal shot of Building 10 G1, radar station                      |
| 38 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/W   | Radar station |    | Internal shot of Building 10 G1, radar station                      |
| 39 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N     | Radar station |    | Detail of range on N wall, Building 10 G1, radar station            |
| 40 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/W   | Radar station |    | Detail of range on N wall, Building 10 G1, radar station            |
| 41 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Radar station |    | Detail of E wall showing ghosts, Building 10 G1, radar station      |
| 42 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Radar station |    | Shot of ceiling showing cable routes, Building 10 G1, radar station |
| 43 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W     | Radar station |    | Shot of shelf bracket, Building 10 G2, radar station                |
| 44 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W     | Radar station |    | Shot of shelf bracket, Building 10 G2, radar station                |

|    |          |                                      |                     |      |           |     |               |    |   |
|----|----------|--------------------------------------|---------------------|------|-----------|-----|---------------|----|---|
| 45 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S   | Radar station |    | Shot of bracket placements, Building 10 G1, radar station                             |
| 46 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S   | Radar station |    | Original door, Building 10 G1, radar station  |
| 47 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/W | Radar station |    | External doorframe fitting, Building 10, radar station                                |
| 48 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/W | Radar station |    | Interior of G2, Building 10, radar station  |
| 49 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/W | Radar station |    | Interior of G2, Building 10, radar station  |
| 50 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/E | Radar station |    | Interior of G2, Building 10, radar station  |
| 51 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S/E | Radar station |    | Interior of G2, Building 10, radar station  |
| 52 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N   | Radar station |    | Ghost of ceiling cable route, Building 10 G2, radar station                           |
| 53 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E   | Radar station |    | Shot of hole in wall (S/E corner) flue outlet, Building 10, radar station             |
| 54 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E   | Radar station | 38 | Hole in wall (S/E corner) flue outlet, Building 10, radar station                     |
| 55 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N   | Radar station |    | Concrete near steps from roof, Building 10, radar station                             |
| 56 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | W   | Radar station | 35 | Form in roof, Building 10, radar station  |
| 57 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E   | Radar station |    | Form in roof, Building 10, radar station  |
| 58 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E   | Radar station | 36 | Form in roof, Building 10, radar station  |
| 59 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N   | Radar station |    | Shot from roof looking at concrete below in front of ramp, Building 10, radar station |

|    |          |                                      |                     |      |           |       |               |    |   |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|----|---|
| 60 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N     | Radar station |    | Shot from roof looking at concrete W of steps, Building 10, radar station |
| 61 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Radar station |    | W facing elevation Building 10, radar station                             |
| 62 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/E   | Radar station |    | S facing elevation, Building 10, radar station                            |
| 63 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N/E   | Radar station | 34 | Shot showing ramp, Building 10, radar station                             |
| 64 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | N     | Garden Wall   |    | Garden wall, plot 83  |
| 65 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S-S/E | Garden Wall   |    | Garden wall, plot 82  |
| 66 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Pillbox       |    | Along path to Building 6, pillbox   |
| 67 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Pillbox       |    | Concrete slab N of Building 6, pillbox                                    |
| 68 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | E     | Pillbox       |    | Building 6, pillbox   |
| 69 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 26-Sep-07 | S     | Pillbox       |    | Building 6, pillbox   |
| 70 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/E   | Pillbox       | 23 | Building 6, pillbox   |
| 71 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | Building 6, pillbox   |
| 72 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | Shot of path to door of Building 6, pillbox                               |
| 73 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | GPO slab out the front of Building 6, pillbox                             |
| 74 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | GPO slab out the front of Building 6, pillbox                             |

|    |          |                                      |                     |      |           |       |               |    |                                     |       |
|----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|----|-------------------------------------|-------|
| 75 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | Interior Building pillbox           | of 6, |
| 76 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | Interior Building pillbox           | of 6, |
| 77 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Pillbox       |    | Interior Building pillbox           | of 6, |
| 78 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/W   | Pillbox       |    | Entrance steps, Building pillbox    | 6,    |
| 79 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/W | Pillbox       |    | Rear of Blg 6, pillbox              |       |
| 80 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Concrete slab |    | Concrete slab, plot 53              |       |
| 81 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Concrete slab | 24 | Concrete slab, plot 53              |       |
| 82 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/E   | Pillbox       | 25 | Building pillbox                    | 8,    |
| 83 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Pillbox       |    | Building pillbox                    | 8,    |
| 84 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E-S/E | Pillbox       |    | Building pillbox                    | 8,    |
| 85 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Pillbox       |    | Interior shot of Building pillbox   | 8,    |
| 86 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/E   | Pillbox       | 30 | View through door, Building pillbox | 8,    |
| 87 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Concrete slab | 29 | Shot of concrete slab               |       |
| 88 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Concrete slab |    | Shot of concrete slab               |       |
| 89 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete slab |    | Shot of concrete slab               |       |

|     |          |                                      |                     |      |           |       |               |    |                                     |
|-----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|----|-------------------------------------|
| 90  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete slab |    | Shot of concrete slab               |
| 91  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Concrete slab | 33 | Concrete slab under shed, plot 21   |
| 92  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete slab | 32 | Concrete slab under shed, plot 21   |
| 93  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete slab |    | Concrete slab under shed, plot 21   |
| 94  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete path |    | Concrete path                       |
| 95  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Concrete path |    | Concrete path                       |
| 96  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Concrete path |    | Concrete path                       |
| 97  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Concrete path |    | Concrete path                       |
| 98  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/W   | Radar station |    | Radar station and ramp, Building 10 |
| 99  | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/W   | Site entrance |    | Entrance to site to N/E             |
| 100 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/E   | Wall          |    | Perimeter wall                      |
| 101 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/W | Wall          |    | Perimeter wall                      |
| 102 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Wall          |    | Perimeter wall                      |
| 103 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N-N/E | Wall          |    | Perimeter wall                      |
| 104 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/E | Wall          |    | Line of wall                        |

|     |          |                                      |                     |      |           |       |               |  |
|-----|----------|--------------------------------------|---------------------|------|-----------|-------|---------------|--|
| 105 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/E | Tank and wall | Tank and line of wall                        |
| 106 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Wall          | Line of wall                                 |
| 107 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/E | Wall          | Line of wall                                 |
| 108 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S-S/E | Wall          | Line of wall                                 |
| 109 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Wall          | Line of wall                                 |
| 110 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/E   | Wall          | Line of wall                                 |
| 111 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/E   | Foundations   | Possible Nissen hut foundations              |
| 112 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Foundations   | Possible Nissen hut foundations              |
| 113 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Foundations   | Possible Nissen hut foundations              |
| 114 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Foundations   | Possible Nissen hut foundations              |
| 115 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Foundations   | Possible Nissen hut foundations with tank    |
| 116 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Pathway       | Pathway E of possible Nissen hut foundations |
| 117 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Foundations   | Possible Nissen hut foundations              |
| 118 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Foundations   | Possible Nissen hut foundations              |
| 119 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Foundations   | Concrete base                                |



|     |          |                                      |                     |      |           |       |                 |    |  |
|-----|----------|--------------------------------------|---------------------|------|-----------|-------|-----------------|----|--|
| 120 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Foundations     |    | Concrete base slab   |
| 121 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Foundations     |    | Concrete base slab   |
| 122 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S     | Foundations     |    | Concrete base slab   |
| 123 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Pathway         |    | Concrete pathway   |
| 124 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N     | Bayed structure |    | Building 9, possible incendiary bomb and pyrotechnic store |
| 125 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/E   | Bayed structure |    | Building 9, possible incendiary bomb and pyrotechnic store |
| 126 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S/W   | Bayed structure |    | Building 9, possible incendiary bomb and pyrotechnic store |
| 127 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | N/W   | Bayed structure |    | Building 9, possible incendiary bomb and pyrotechnic store |
| 128 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E-N/E | Bayed structure | 31 | Building 9, possible incendiary bomb and pyrotechnic store |
| 129 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E     | Path            |    | Path to S/W of Building 9                                  |
| 130 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W     | Path            |    | Path to S/W of Building 9                                  |
| 131 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | E-S/E | Wall            |    | Low V-shaped wall to N of Building 9                       |
| 132 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W-S/W | Wall            |    | Low V-shaped wall to N of Building 9                       |
| 133 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | W-S/W | Wall            |    | Along line of W wing showing iron poles                    |

|     |          |                                      |                     |      |           |   |         |                           |
|-----|----------|--------------------------------------|---------------------|------|-----------|---|---------|---------------------------|
| 134 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S | Helmets | WWII helmets with hogweed |
| 135 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S | Helmets | WWII helmets with hogweed |
| 136 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S | Helmets | WWII helmets with hogweed |
| 137 | OL-01907 | WWII Defences: Radar station complex | Digital Canon 400 D | D101 | 27-Sep-07 | S | Helmets | WWII helmets with hogweed |

Photo register 6: OL-08007, pillbox and tank traps on Greenway

| ID | SITE CODE | SITE NAME                                      | FILM TYPE           | DATE      | DIRECTION | IDENTIFIER  | PLATE | COMMENTS  |
|----|-----------|--|---------------------|-----------|-----------|-------------|-------|---|
| 1  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | E         | Building 11 | 9     | General shot of pillbox and tank traps on Greenway in context |
| 2  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | W         | Building 11 | 41    | General shot of pillbox and tank traps on Greenway in context |
| 3  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/W       | Building 12 | 42    | Shot of all tank traps  |
| 4  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/W       | Building 12 |       | Detailed shot of tank trap                                    |
| 5  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/W       | Building 12 |       | Detailed shot of tank trap, close-up                          |
| 6  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | S         | Building 12 |       | Detailed shot of tank trap, close-up                          |
| 7  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/W       | Building 11 | 43    | Pillbox roof  |
| 8  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | E         | Building 11 |       | Pillbox entrance and blast wall                               |
| 9  | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | E         | Building 11 |       | Pillbox entrance and blast wall                               |
| 10 | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/E       | Building 11 | 39    | Pillbox entrance and blast wall                               |
| 11 | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N         | Building 11 |       | Internal shot of pillbox                                      |
| 12 | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N/W       | Building 11 | 40    | Internal shot of pillbox                                      |
| 13 | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | S/W       | Building 11 |       | Internal shot of pillbox showing doorway                      |
| 14 | OL-08007  | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | S/E       | Building 11 |       | Internal shot looking at external view of boundary wall       |

|    |          |  |                     |           |       |  |             |    |  |
|----|----------|--|---------------------|-----------|-------|--|-------------|----|--|
| 15 | OL-08007 | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | E     |  | Building 11 |    | Internal shot looking at external view                 |
| 16 | OL-08007 | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | E     |  | Building 11 |    | Internal shot looking at external view, close-up       |
| 17 | OL-08007 | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | N-N/E |  | Building 11 | 44 | Internal shot looking at external view, close-up       |
| 18 | OL-08007 | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | S-S/E |  | Building 11 |    | Internal shot of firing embrasure with bolts for shelf |
| 19 | OL-08007 | WWII Defences: Greenway Pillbox and Tank traps | Digital Canon 400 D | 28-Nov-07 | S/W   |  | Building 11 |    | Internal view of firing embrasure above entrance       |

Photo register 7: 08007, pillbox and tank traps on Greenway

| ID | SITE CODE | SITE NAME                                | FILM NO | FILM TYPE   | DATE      | DIR. | PLATE NO | IDENTIFIER | COMMENTS                                |
|----|-----------|--|---------|-------------|-----------|------|----------|------------|---|
| 1  | OL-08007  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | W    |          | General    | General shot of tank traps and pill box |
| 2  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | W    |          | General    | General shot of tank traps and pill box |
| 3  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | W    |          | General    | General shot of tank traps and pill box |
| 4  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | General    | Tank traps                              |
| 5  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | General    | Tank traps                              |
| 6  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | General    | Tank traps                              |
| 7  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | Elevation  | Elevation of tank trap                  |
| 8  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | Elevation  | Elevation of tank trap                  |
| 9  | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | N    |          | Elevation  | Elevation of tank trap                  |
| 10 | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | S    |          | Elevation  | Other elevation of tank trap            |
| 11 | OL-01907  | Items on Greenway-Pillbox and tank traps | 101     | Colour 35mm | 07-Dec-07 | S    |          | Elevation  | Other elevation of tank trap            |

|    |          |  |     |             |           |       |  |           |                                       |
|----|----------|--|-----|-------------|-----------|-------|--|-----------|---------------------------------------|
| 12 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | S     |  | Elevation | Other elevation of tank trap          |
| 13 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | N-N/W |  | Elevation | Elevation of Pillbox                  |
| 14 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | N-N/W |  | Elevation | Elevation of Pillbox                  |
| 15 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | N-N/W |  | Elevation | Elevation of Pillbox                  |
| 16 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | W-N/W |  | Elevation | Elevation of Pillbox and tank traps   |
| 17 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | W-N/W |  | Elevation | Elevation of Pillbox and tank traps   |
| 18 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | W-N/W |  | Elevation | Elevation of Pillbox and tank traps   |
| 19 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | E     |  | Elevation | Elevation of tank trap with blastwall |
| 20 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | E     |  | Elevation | Elevation of tank trap with blastwall |
| 21 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | E     |  | Elevation | Elevation of tank trap with blastwall |
| 22 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | S/E   |  | Window    | Shot through window                   |
| 23 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | S/E   |  | Window    | Shot through window                   |
| 24 | OL-01907 | Items on Greenway-Pillbox and tank traps | 101 | Colour 35mm | 07-Dec-07 | S/E   |  | Window    | Shot through window                   |

Photo register 8: 08007, pillbox and tank traps on Greenway

| ID | SITE CODE | SITE NAME                                | FILM NO | FILM TYPE     | DATE      | DIR. | PLATE | IDENTIFIER | COMMENTS                       |
|----|-----------|--|---------|---------------|-----------|------|-------|------------|--------------------------------|
| 1  | OL-08007  | Items on Greenway-Pillbox and tank traps | 103     | Medium Format | 07-Dec-07 | E    |       | Pillbox    | Shot of Pillbox and tank traps |
| 2  | OL-01907  | Items on Greenway-Pillbox and tank traps | 103     | Medium Format | 07-Dec-07 | E    |       | Pillbox    | Shot of Pillbox and tank traps |
| 3  | OL-01907  | Items on Greenway-Pillbox and tank traps | 103     | Medium Format | 07-Dec-07 | E    |       | Pillbox    | Shot of Pillbox and tank traps |
| 4  | OL-01907  | Items on Greenway-Pillbox and tank traps | 103     | Medium Format | 07-Dec-07 | N    |       | Ford lock  | Shot from Greenway to lock     |
| 5  | OL-01907  | Items on Greenway-Pillbox and tank traps | 103     | Medium Format | 07-Dec-07 | N    |       | Ford lock  | Shot from Greenway to lock     |

|   |          |  |     |               |           |   |  |           |                            |
|---|----------|--|-----|---------------|-----------|---|--|-----------|----------------------------|
|   |          | tank traps                               |     |               |           |   |  |           |                            |
| 6 | OL-01907 | Items on Greenway-Pillbox and tank traps | 103 | Medium Format | 07-Dec-07 | N |  | Ford lock | Shot from Greenway to lock |
| 7 | OL-01907 | Items on Greenway-Pillbox and tank traps | 103 | Medium Format | 07-Dec-07 | E |  | Pillbox   | Blast wall and pillbox     |
| 8 | OL-01907 | Items on Greenway-Pillbox and tank traps | 103 | Medium Format | 07-Dec-07 | E |  | Pillbox   | Blast wall and pillbox     |
| 9 | OL-01907 | Items on Greenway-Pillbox and tank traps | 103 | Medium Format | 07-Dec-07 | E |  | Pillbox   | Blast wall and pillbox     |

## Photo register 9: 08007, pillbox and tank traps on Greenway

| ID | SITE CODE | SITE NAME                                | FILM NO | FILM TYPE           | DATE      | DIR. | PLATE | IDENTIFIER  | COMMENTS                              |
|----|-----------|--|---------|---------------------|-----------|------|-------|-------------|---------------------------------------|
| 1  | OL-08007  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | E    |       | Pillbox     | Context Greenway and Pillbox          |
| 2  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | W    |       | Pillbox     | Context Greenway and Pillbox          |
| 3  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N/W  |       | Road blocks | Road blocks                           |
| 4  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N    |       | Road blocks | Elevation of 1 road block             |
| 5  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N    |       | Road blocks | Detail of Road block                  |
| 6  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | S    |       | Road blocks | Detail of Road block                  |
| 7  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N/W  |       | Pillbox     | Pillbox roof                          |
| 8  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | E    |       | Pillbox     | Pillbox entrance                      |
| 9  | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | E    |       | Pillbox     | Pillbox entrance                      |
| 10 | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N/E  |       | Pillbox     | Pillbox entrance and blast wall       |
| 11 | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N    |       | Pillbox     | Internal shot of pillbox              |
| 12 | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | N/W  |       | Pillbox     | Internal shot of pillbox              |
| 13 | OL-01907  | Items on Greenway-Pillbox and tank traps | D100    | Digital Canon 400 D | 09-Jan-08 | S/W  |       | Pillbox     | Internal shot of pillbox with doorway |

|    |          |  |      |                     |           |       |         |  |
|----|----------|--|------|---------------------|-----------|-------|---------|--|
|    |          | tank traps                               |      |                     |           |       |         |  |
| 14 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | S/E   | Pillbox | External view with boundary wall       |
| 15 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | E     | Pillbox | Internal shot out window               |
| 16 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | E     | Pillbox | Internal shot out window (zoomed in)   |
| 17 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | N-N/E | Pillbox | Internal shot out window (zoomed in)   |
| 18 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | S-S/E | Pillbox | Internal of window with bolts beneath  |
| 19 | OL-01907 | Items on Greenway-Pillbox and tank traps | D100 | Digital Canon 400 D | 09-Jan-08 | S/W   | Pillbox | Internal view of window above entrance |

Photo register 10: OL-01907, HAA gun emplacement

| ID | SITE CODE | SITE NAME      | FILM TYPE | DATE      | DIR. | PLATE NO | IDENTIFIER | COMMENTS                                     |
|----|-----------|----------------|-----------|-----------|------|----------|------------|--|
| 1  | OL-01907  | WW II defences | Digital   | 07-Jun-07 | N-E  | 10       | platform   | Aerial shot of north gun platform Building 1 |
| 2  | OL-01907  | WW II defences | Digital   | 07-Jun-07 | S-E  | 16       |            | Aerial shot of south gun platform Building 4 |
| 3  | OL-01907  | WW II defences | Digital   | 07-Jun-07 | N    | 17       |            | Aerial shot of south gun platform Building 4 |
| 3  | OL-01907  | WW II defences | Digital   | 07-Jun-07 |      | 45       |            | Re-deposited material from OL-01907          |



## 11 Appendix 3: list of working drawings made on site

### OL-01907: HAA gun emplacement

| Drawing | Description   |
|---------|---|
| 1       | Trench 4: NW-facing section   |
| 2       | Trench 4: plan  |
| 3       | Trench 4: plan (continued)  |
| 4       | Trench 4: plan (continued)  |
| 5       | Building 4, Cordite Store: E-facing elevation                         |
| 6       | Building 4, Cordite Store: E-facing elevation (continued)             |
| 7       | Building 2, Magazine: W-facing elevation                              |
| 8       | Building 2, Magazine: W-facing elevation (continued)                  |
| 9       | Building 2, Magazine: W-facing elevation (continued)                  |
| 10      | Trench 2: plan  |
| 11      | Trench 2: sketch of E-facing section                                  |
| 12      | Drain 1: plan   |
| 13      | Drain 2: plan   |
| 14      | Drain 3: plan   |
| 15      | Building 3, Gun Platform: plan of central babbett                     |
| 16      | Building 3, Gun Platform: plan of central babbett (continued)         |
| 17      | Building 3, Gun Platform: plan of central babbett (continued)         |
| 18      | Building 3, Gun Platform: plan of central babbett (continued)         |
| 19      | Building 5, Bofor Gun Emplacement: N-S section                        |
| 20      | Building 5, Bofor Gun Emplacement: N-S section (continued)            |
| 21      | Building 5, Bofor Gun Emplacement: N-S section (continued)            |
| 22      | Building 5, Bofor Gun Emplacement: N-S section (continued)            |
| 23      | Building 5, Bofor Gun Emplacement: plan                               |
| 24      | Building 5, Bofor Gun Emplacement: plan (continued)                   |
| 25      | Building 5, Bofor Gun Emplacement: E-W section                        |
| 26      | Building 5, Bofor Gun Emplacement: E-W section (continued)            |
| 27      | Building 5, Bofor Gun Emplacement: E-W section (continued)            |
| 28      | Building 5, Bofor Gun Emplacement: metal drain cover plan and section |
| 29      | Building 5, Bofor Gun Emplacement: detail drawing of brickwork        |
| 30      | Building 1, Gun Platform: sample sketch plan of paving                |
| 31      | Building 3, Gun Platform: sketch plan of metal runner                 |
| 32      | Drain: sketch of north facing elevation                               |
| 33      | Building 1, Gun Platform: sketch plan of central babbett              |

### OL-01907: Radar station complex

| Drawing | Description  |
|---------|--|
| 1       | Building 10, Radar Station W end: plan                     |
| 2       | Building 10, Radar Station W end: plan (continued)         |
| 3       | Building 10, Radar Station E end: plan (continued)         |
| 4       | Building 10, Radar Station: W-facing section               |
| 5       | Building 10, Radar Station: S-facing elevation             |
| 6       | Building 10, Radar Station: S-facing elevation (continued) |

|    |   |
|----|---|
| 7  | Building 10, Radar Station: S-facing elevation (continued)            |
| 8  | Building 10, Radar Station: detail drawing of stove                   |
| 9  | Building 6, Pillbox: plan   |
| 10 | Building 6, Pillbox: N-S section                                      |
| 11 | Building 6, Pillbox: E-facing elevation                               |
| 12 | Building 7, Pillbox: plan   |
| 13 | Building 7, Pillbox: N-S section                                      |
| 14 | Building 7, Pillbox: W-facing elevation                               |
| 15 | Building 8, Pillbox: W-facing elevation (continued)                   |
| 16 | Building 9, possible remnant of storage compound: plan                |
| 17 | Building 9, possible remnant of storage compound: SW facing elevation |
| 18 | Cobble wall: sample elevation   |
| 19 | Concrete base with brick footing: plan                                |
| 20 | Wind-driven pump: plan  |

### **OL-08007: Greenway pillbox and tank traps**

| <b>Drawing</b> | <b>Description</b>   |
|----------------|--|
| 1              | Building 11 and 12, Pillbox and tank traps: plan             |
| 2              | Building 11 and 12, Pillbox and tank traps: plan (continued) |
| 3              | Building 11, Pillbox: E-W section through centre of Pillbox  |
| 4              | Building 11, Pillbox: N-W facing elevation                   |
| 5              | Building 12, tank traps: N-facing elevation                  |