



CENTRAL SECTION PROJECT

Old Oak Common Worksites Archaeological Detailed Desk-Based Assessment: Non-Listed Built Heritage

Document Number: C150-CSY-T1-RGN-CR076_PT001-00011

Document History:

Revision:	Date:	Prepared by:	Checked by:	Authorised by:	Reason for Issue:
1.0	10 th June 2010	[REDACTED]	[REDACTED] (PCA)	[REDACTED]	Draft for Consultation
2.0	27 th July 2010	[REDACTED]	[REDACTED]	[REDACTED]	Draft for Consultation
3.0	20 th Aug 2010	[REDACTED]	[REDACTED]	[REDACTED]	Final
4.0	4 th October 2010	[REDACTED]	[REDACTED]	[REDACTED]	Final, with Salvage Assessment (Chapter 8)

This document contains confidential information. No part of this document may be reproduced without prior written consent from the chief executive of Crossrail Ltd.

**Old Oak Common Worksites Archaeological Detailed Desk-Based Assessment:
Non-Listed Built Heritage**

Central National Grid Reference: TQ 21870 82390

Researched and written and by Guy Thompson with Malcolm Gould and Tomasz Mazurkiewicz

Pre-Construct Archaeology Ltd

Project Manager: Charlotte Matthews

Commissioning Client: Capita Symonds Ltd

Contractor:

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

**Tel: 020 7732 3925
Fax: 020 7732 7896
Email: cmatthews@pre-construct.com**

Web: www.pre-construct.com

**Pre-Construct Archaeology Ltd
October 2010**



CONTENTS

1. EXECUTIVE SUMMARY	8
2 INTRODUCTION.....	10
3 THE SITE	14
4 PLANNING BACKGROUND	15
5 GEOLOGY AND TOPOGRAPHY	16
6 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	18
7 BUILDING DESCRIPTIONS AND SIGNIFICANCE.....	38
8 SALVAGE ASSESSMENT	48
9 ARCHAEOLOGICAL POTENTIAL AND SIGNIFICANCE.....	56
10 IMPACT ON THE BURIED ARCHAEOLOGICAL DEPOSITS	58
11 CONCLUSION	59
12 BIBLIOGRAPHY	65
13 ACKNOWLEDGEMENTS	74
APPENDIX 1: HISTORICAL ENVIRONMENT RECORD	
APPENDIX 2. FIGURES	
APPENDIX 3. PLATES	
APPENDIX 4. WATCHING BRIEF REPORT	

Appendix 1: The Historic Environment Record

Appendix 2: Figures

Figure 1: Site Location

Figure 2: Detailed Site Location Plan showing Test Pit and Building Locations

Figure 3: Proposed Development Plan

Figure 4: Sites and Monuments Record and Archaeological Priority Areas

Figure 5: John Rocque's plan of London and its Environs 1741-46.

Figure 6: Greenwood's Map, 1819-20

Figure 7: Ordnance Survey, First Edition, 1865-71.

Figure 8: Ordnance Survey, Second Edition, 1894-96

Figure 9: Sections & Elevations of Engine Shed, c.1903.

Figure 10: Details of 50' Roof Principals, Engine Shed, February 1903.

Figure 11: Detail of Roof & Partition to General Offices Engine Shed, April 1903.

Figure 12: Economical Boiler Washing Plant: Boiler House, December 1910

Figure 13: Ordnance Survey, Third Edition, 1914-16.

Figure 14: General Plan of New Waste Destructor, June 1927

Figure 15: Economical Boiler Washing Plant: General Arrangement of Pump Room, November 1927

Figure 16: Water Softening Plant, January, 1929

Figure 17: 50-Ton Overhead Crane from S.H. Heywood & Co. Ltd for Lifting Shop, September 1928

Figure 18: Proposed New Carriage Shop, March 1927

Figure 19: Proposed New Carriage Paint Shop & Sidings, June 1931

Figure 20: Ordnance Survey, London County Council Revision, 1935

Figure 21: Plan, Elevations & Sections of New Carriage Lifting & Carriage Paint Shops, August 1938.

Figure 22: Arrangement of Workshop at the Carriage Lifting Shop, October 1938.

Figure 23: Conversion of old Sand Furnace into new Messrooms, August 1937

Figure 24: New Engine Shed Foreman's Office & Lobby for Drivers & Shed Staff, July 1940

Figure 25: Old Oak Common Locomotive Yard Plan, September 1943

Figure 26: Carriage Paint Shop. Reinforced Dormitory/Shelter, 1940 - 1943

Figure 27: Proposed Locomotive Oil Fuelling Plant, September 1946

Figure 28: Gas Turbine Locomotive Fuelling Plant, March 1949.

Figure 29: Cowans Sheldon 70' Articulated Engine Turntable, December 1952

Figure 30: Ordnance Survey, 1955

Figure 31: Conversion of Carriage Paint Shop for Diesel Pullman Maintenance, October 1959

Figure 32: Preliminary Plan of Conversion to Diesel Depot c.1962

Figure 33: Floor Plan of Cleaning & Servicing Shed Showing Services, May 1964

Figure 34: Old Oak Common Diesel Depot, December 1966

Figure 35: Ordnance Survey, 1991

Figure 36: Archaeological Sections

Figure 37: Standing Buildings recommended recording levels

Figure 38. Elements identified during Salvage Assessment

Appendix 3: Plates

Plate 1. Pullman Shed (22) after air raid on 25/10/1940, showing damage to gable end and north wall

Plate 2. Pullman Shed (22) interior after air raid on 25/10/1940, showing damage to rolling stock and roof trusses

Plate 3. Pullman Shed (22) interior looking north-east after air raid on 25/10/1940

Plate 4. South elevation of 'Shunters' Cabin' (1), former WWII air raid shelter

- Plate 5. Carriage Washing Plant (3)
- Plate 6. Carriage Washer Treatment Plant (7) and Water Tower (8)
- Plate 7. Underframe Cleaning Shed (4)
- Plate 8. Underframe Cleaning Shed (4) interior looking west
- Plate 9. Steam Raising Plant (5), looking north-west
- Plate 10. Diesel/Oil Pump House (6) and Bunded Oil Tank (53), looking north-west
- Plate 11. Metal Store (9), looking south-west
- Plate 12. Offices/Portakabins (11 & 18), looking north-west
- Plate 13. Water Softening Plant (12) and Soft Water Tower (13), looking south-west
- Plate 14. The Factory Maintenance Shed (Building 15a), looking north-west
- Plate 15. South elevations of The Factory, central gable end wall of Lifting Bay (15b) and two gable end walls of Boiler House on left (15c)
- Plate 16. Interior of the Factory Maintenance Shed (15a) looking north-east
- Plate 17. Interior of the Factory Lifting Bay (15b), looking west
- Plate 18. Interior of the Factory Boiler House (15c), looking west
- Plate 19. Twin gable end walls of Stores / Offices (16a & 16b), looking north-west
- Plate 20. Gable end walls of west elevation of Stores/Offices (16a & 16b) on right with the Factory (15a, 15b & 15c) on left. The surviving turntable (28) is just out of sight on the right and the foreground is part of the area covered by the original 1905 Engine Shed
- Plate 21. Interior view of Stores/Offices (16a & 16b), looking south-east across central open area to ground floor offices against east and south walls
- Plate 22. Amenity Buildings (17a & 17b), looking north-east
- Plate 23. Amenity Buildings (17b & 17a), looking south-west
- Plate 24. South elevation of Diesel Refuelling and Maintenance Shed (19)
- Plate 25. Interior of Diesel Refuelling and Maintenance Shed (19), looking east
- Plate 26. Mess Room/Sand Furnace (20) on right and Fuel Oil Tanks and Pump House (34 & 54) on left
- Plate 27. Mess Room/Sand Furnace (20) looking north-west, showing recessed panels on the once exterior face of the original 1905 Engine Shed wall which had been retained as the north wall of this building and enclosed when this building was extended
- Plate 28. Pullman Shed Boiler House (21) looking north-east
- Plate 29. North elevation of the Pullman Shed (22) with Fuel Oil Tanks and grey Pump House (34 & 54) visible on the far left
- Plate 30. South elevation of Pullman Shed (22) with east gable end wall of Carriage Lifting Shed (23)
- Plate 31. West gable end walls of Pullman Shed (22) on left and Carriage Lifting Shed (23) on right
- Plate 32. Interior of Pullman Shed (22) looking west
- Plate 33. Original offices at west end of Pullman Shed (22)

- Plate 34. South elevation of Carriage Lifting Shed (23) with Sub-Station B3 (36) in foreground
- Plate 35. Interior of Lifting Shop (23), looking west with yellow painted crane at far end
- Plate 36. Sump/oil Interceptor (24), Bunded oil tank (54) and Sub Station B2 (26)
- Plate 37. Turntable (28), looking north-east
- Plate 38. Toilet block (30) looking north with Stores/offices building on right
- Plate 39. Substation B5 (38) looking south
- Plate 40. Mess Room (39)
- Plate 41. Composite roof truss on west side of Factory (former Lifting Shop) (15a)
- Plate 42. Composite roof truss, Factory former Lifting Shop (15a): Detail of cast steel junction ring
- Plate 43. Composite roof truss, Factory former Smiths' Shop (Lifting Bay) (15b)
- Plate 44. Composite roof truss, north side of Factory Boiler House (former Carpenters' and Coppersmiths' Shop) (15c)
- Plate 45. Composite roof truss, south side of Factory Boiler House (former Carpenters' and Coppersmiths' Shop) (15c)
- Plate 46. Cast iron column, centre of Stores/Offices building (16a & 16b): detail of manufacturer's stamp
- Plate 47. Cast iron column, centre of Stores/Offices building (16a & 16b)
- Plate 48. Detail of column capital, transverse beams and truss connection, Stores/Offices building (16a & 16b)
- Plate 49. Composite roof truss, south side of Stores/Offices building (16a & 16b)
- Plate 50. Detail of probable cast iron pulley wheel, Stores building (16a)
- Plate 51. Teak carriage wheel sections reused as flooring in the west end of Carriage Lifting Shop (23)
- Plate 52. Cast iron railing, Sump/Oil Interceptor (24)
- Plate 53. Steel door at west end of Substation B2 (26)
- Plate 54. Steel door at west end of Substation B2 (26): detail of maker's nameplate
- Plate 55. North elevation of Diesel Pump House (6), showing heavy oil/diesel pumps
- Plate 56. Heavy oil/diesel pipe and valves, Oil/Diesel delivery area (32)
- Plate 57. Diesel oil unloading jib, Diesel/Oil Tank and Pump House (6 & 53)
- Plate 58. S.H. Heywood & Co Ltd gantry crane, south-east end of Factory former Lifting Shop (15a)
- Plate 59. Detail of running wheel of Heywood crane on central 'fish belly' beam of Factory former Lifting Shop (15a)
- Plate 60. Detail of lifting gear of Heywood crane, Factory former Lifting Shop (15a)
- Plate 61. Composite roof trusses, Amenities Building, first floor (17a)
- Plate 62. Original Engine Shed exterior window at west end of Mess Room (former Sand Furnace) (20)



Plate 63. Wharton gantry crane at west end of Carriage Lifting Shop (23)

Plate 64. Pooley & Sons scales, Steam Raising Plant (5)

Plate 65. Urinals in lavatory, south side of Carriage Lifting Shop (23), with inset of maker's plate

Plate 66. 'Self reversing' points lever baseplate, locomotive shunting yard, near Shunters' Cabin (1)

Appendix 4: Watching Brief Report

1. EXECUTIVE SUMMARY

- 1.1 This report presents the results of a detailed archaeological desk-based assessment (DDBA) of the archaeological and non-listed built heritage (NLBH) elements of the Old Oak Common Crossrail Worksites, Acton, London Borough of Hammersmith & Fulham NW10. The Old Oak Common Depot Worksites are located within Route Window 3 as defined in the Crossrail Environmental Statement (2005). The site comprises a corridor of land presently occupied by a complex of railway facilities including stabling sidings, carriage sheds, workshops and other elements. The study area for this DDBA comprises the Maintenance Depot in the northern half of the Old Oak Common site.
- 1.2 The proposed works entail the demolition of existing buildings and the remodelling of the entire Old Oak Common depot site in order to provide depot and stabling facilities for Crossrail. These facilities will include stabling sidings, a new train care facility building, accommodation for maintenance staff, a maintenance storage building, new access roads and turning area, parking spaces for 150 cars, train crew accommodation and parking for a further 50 vehicles. Other new facilities will include a paint shed, a biohazard pit, a wheel lathe facility and associated siding, train washers and lighting gantries. The sidings will be fitted with Overhead Line Equipment (OHLE) and a new traction substation will be built. During the main construction phase of the Crossrail project the Old Oak Common depot will also be used to support the main tunnelling works. The pre-cast concrete sections of the twin-bore tunnels will be manufactured and stored at the depot. A number of temporary facilities will be constructed including a concrete batching facility, silos, concrete segment storage facilities and new track.
- 1.3 This DDBA has identified that the site was woodland until the beginning of the post-medieval period, after which it was used for common grazing until the end of the 1890s, when it was acquired by the Great Western Railway (GWR). The site was partially excavated c.1900 in association with the construction of the Acton to Northolt line. Subsequently the site was remodelled in 1904 in advance of the construction of the GWR Old Oak Common locomotive and carriage depots. This report concludes that the potential for the presence of archaeological evidence of activity predating c.1900 within the present site boundaries is **negligible to low**. Any prehistoric material encountered would be of **regional** significance, whilst archaeological evidence of subsequent pre-modern periods would be of **local** significance. There is a **very high** potential for modern archaeological material. Archaeological evidence of the demolished elements of the 1904-6 locomotive depot is considered to be of **regional significance**, while evidence of other demolished 20th century structures is of **local significance**.
- 1.4 Built under the auspices of the GWR's Locomotive Superintendent George Jackson Churchward, the Old Oak Common locomotive depot was one of the most up-to-date locomotive repair facilities in the country when it opened in 1906. A combination of tried-and-tested construction techniques and modern materials was used to create a depot capable of accommodating and servicing the company's latest and largest locomotives. Churchward took advantage of readily available electrical power and procured a range of the latest electrically-operated machinery for the new depot.
- 1.5 As the first of a number of new locomotive depots built by the Great Western during the Churchward era, the layout of Old Oak Common served as the template for those that followed, the majority of which were closed and demolished in the late 1960s. In contrast, Old Oak Common was retained and converted into a motive power depot (MPD) for diesel locomotives in the mid-1960s. Despite the demolition of the engine shed, much of Churchward's depot survived and continued to flourish into the diesel era.

- Old Oak Common represents the last remaining ‘factory’ repair facility on the former Great Western network, and this report therefore concludes that the standing elements of Churchward’s depot of 1904-6 can be considered to be of **regional significance**.
- 1.6 Structures thus designated include the ‘factory’ complex (buildings 15a-15c inclusive); the stores (buildings 16a and 16b); the amenity building (previously the yard offices and subsequently a canteen: building 17a); electricity sub-station B2 (building 26) and the messroom (previously sand furnace: building 20). It is recommended that these historic buildings be recorded to **English Heritage Level 3**.
 - 1.7 The late 1930s carriage repair depot (buildings 22 and 23) is considered to be of **regional significance**. While the former carriage paint shop/ Pullman shed (building 22) features a shelter/dormitory dating to the Second World War, the former carriage lifting shop (building 23) features a workshop area containing well-preserved original elements such as a floor paved with teak blocks made from the centres of old carriage wheels. It is recommended that these buildings are recorded to **English Heritage Level 2**.
 - 1.8 In 1946 the GWR built a heavy oil fuel depot in order to refuel coal-fired locomotives converted to run on oil. The depot was converted at the end of the decade by the recently nationalised British Railways into a fuelling plant for gas-turbine locomotives, only two of which ever operated on the national railway network. The former heavy oil fuelling depot (buildings 6 and 53) can be considered to be of **regional to national significance**. It is strongly recommended that this facility is recorded to **English Heritage Level 3**.
 - 1.9 Elements including the pre-war sump/oil interceptor (building 24) and the surviving surface air raid shelter (building 1) are of **local importance** and should be recorded to **English Heritage Level 2**. It is recommended that the 70’ locomotive turntable, which replaced an earlier model in the 1950s, also be recorded to **English Heritage Level 2** as it is to be lifted and preserved off-site,
 - 1.10 The structures built during the conversion of the steam depot to a diesel MPD in the mid-1960s are of **local significance**. Those built since are of **negligible significance**. This report recommends that structures built during and since the conversion of the depot in the mid-1960s should be recorded to **English Heritage Level 1**, whilst buried archaeological remains should be subject to an **Archaeological Watching Brief**.
 - 1.11 Following the completion of the DDBA component of this research a separate assessment was undertaken in order to identify structural and other elements considered worthy of salvage, storage or reuse. This assessment concluded that a number of elements qualified for preservation, including a number of composite roof trusses that formed part of Churchward’s original locomotive depot. It is recommended that these elements are retained following the recording and eventual demolition of the remaining buildings.

2 INTRODUCTION

2.1 Origin and Scope of the Report

- 2.1.1 This archaeological detailed desk-based assessment (DDBA) has been commissioned by Crossrail in advance of the proposed redevelopment of Old Oak Common Depot, London Borough of Hammersmith & Fulham NW10 in accordance with the Crossrail Act 2008.] Crossrail defines a DDBA as ‘a programme of targeted research utilising existing written, graphic, photographic and electronic information, undertaken in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource at a specific site’ (Crossrail, 2007). The report has been written following guidelines issued by the Greater London Archaeological Advisory Service (GLAAS, 1998) and in accordance with the standards specified by the Institute of Field Archaeologists (1993). The building assessment element was written in accordance with guidance on the recording of historic buildings published by English Heritage (English Heritage, 2006) and in accordance with the WSI (Crossrail, 2009a).
- 2.1.2 This report builds upon earlier desk-based research into the archaeological potential and significance of the Old Oak Common worksites. The Crossrail Environmental Statement (ES) described the general archaeological potential in the area of the Crossrail worksites for Old Oak Common as ‘**moderate**’ (Volume 3: 198). Further detailed information was presented in the Specialist Technical Reports: Assessment of Archaeological Impacts (Parts 1-6), published in February 2005 in support of the Crossrail ES. Desk-based research carried out to inform the site-specific Written Scheme of Investigation (WSI) recommended that a general watching brief be carried out to monitor ground investigation and ground reduction within the area of the former Engine Shed during the Enabling Works phase in order to ascertain the potential extent of any further mitigation during Main Works (Crossrail, 2009a). The results of this investigation inform the present assessment and are reproduced in Appendix 4.
- 2.1.3 The WSI also identified a requirement to assess and record a number of non-listed built heritage (NLBH) assets to inform the archaeological mitigation strategy for Crossrail. Among the assets recognized by the WSI, the former Lifting Shop (known also as ‘The Factory’) was identified as being of ‘**moderate to high significance**’. The present report presents a detailed historical and built heritage assessment of the NLBH assets, which have been used to inform recommendations regarding the levels of archaeological recording necessary prior to demolition.
- 2.1.4 This report incorporates evidence gathered from the British Library, the Hammersmith and Fulham Archives Centre, The National Archives (TNA) at Kew and the Wiltshire & Swindon History Centre (WSHC) at Chippenham in addition to relevant historical maps, archaeological and historical publications and reports. The National Archives were the primary archival resource consulted during the research process. Reference was made to records produced by the Board of Trade (BoT), the British Railways Board (BRB), the British Railways Western Region (BR-WR), the British Transport Commission (BTC) and the Great Western Railway (GWR) amongst others. More than 120 architectural and engineering drawings of buildings and installations at the Depot produced by or on behalf of the Great Western and its successor, British Railways (Western Region) between 1902 and 1974 held by the Wiltshire & Swindon History Centre (WSHC) at Chippenham were supplied by Crossrail have been used to inform the historical narrative and building descriptions. A search of the Greater London Historic Environment Record (GLHER) has also been conducted.

2.2 Report Objectives

2.2.1 The WSI (Crossrail, 2009a) stipulated that a Detailed Desk-Based Assessment (DDBA) be undertaken of those NLBH elements identified by the preliminary Desk-Based Assessment (undertaken as part of the Environmental Statement) and by the site walkover conducted during the preparation of the WSI. The purpose of the DDBA is to provide more detailed information regarding the potential NLBH resource identified in the WSI, and to validate the conclusions of the latter regarding the significance of the NLBH assets by identifying their age, construction, design, function, development, phasing and significance. This necessitated a two-stage programme comprising targeted in-depth documentary research and an on-site appraisal of the built heritage assets. On the basis of this information, this report defines the levels of NLBH recording to be undertaken at the Old Oak Common Worksites. The levels of recording recommended are in accordance with the English Heritage *Understanding Historic Buildings: A Guide to Good Recording Practice* (2006).

2.2.2 NLBH recording serves the following purposes (Crossrail 2009b):

- To determine the potential for, and survival of, archaeological (above-ground non-listed built heritage) resources within a given area or site;
- To determine the nature of any relationships between above-ground built heritage and below-ground archaeology;
- To determine the nature of any relationships between non-listed and listed built heritage;
- To inform subsequent phases of mitigation planning (i.e. focus and refine the proposed mitigation measures for works at a particular site and set these out in archaeological Written Schemes of Investigation (WSIs)).
- Prior to works commencing and where appropriate, additional archaeological (non-listed built heritage) assessment e.g. walkover survey and building appraisal, will be undertaken to determine the need for mitigation works. The mitigation measures may include detailed recording of the structure before works commence or where appropriate, storage of items for reuse either within the site or elsewhere. Detailed requirements for site assessment and mitigation will be defined in site-specific WSIs.

2.3 Methodology

2.3.1 Two PCA historic buildings archaeologists (Malcolm Gould and Paul McGarrity) undertook the on-site visual analysis of the built heritage during the week of 19th-23rd April 2010. Identification of individual buildings and structures followed the numbering system provided by Capita Symonds (CS/038089-GEO-STA-SK-0004 amended 22/4/2010) and depicted on Figure 2. The same team carried out a follow-up visual assessment during the week of 20th-24th September 2010 in order to identify structural and other elements that might merit salvage, storage or reuse following the recording of the built heritage assets prior to demolition. This latter exercise was undertaken in accordance with a Method Statement prepared by Pre-Construct Archaeology Ltd in September 2010 (Matthews, 2010).

2.3.2 A preliminary photographic survey was also undertaken in order to identify and record key features; an illustrative selection of these can be found in Appendix 3 of this report. 'Opening up' was not carried out to specifically identify elements of the fabric of the

building or illuminated aspects of phasing. A physical survey containing scale plans and sectional elevations was beyond the scope of this report and existing plans were used as a basis for the Figures shown in this report.

2.3.3 All historic building-related works were undertaken in accordance with standards set out in the following documents:

- Association of Local Government Archaeological Officers, 1997: *Analysis and Recording for the Conservation and Control of Works to Historic Buildings*
- British Archaeologists and Developers Liaison Group, 1986: *Code of Practice*
- British Standards Institution, 1998: *Guide to the Principles of the Conservation of Historic Buildings (BS 7913)*
- English Heritage: *Guidance Paper 98: GLAAS: Guidance Paper 3-Standards and Practices in Archaeological Fieldwork in London*
- English Heritage, 2006: *Understanding Historic Buildings; a guide to good recording practice*
- English Heritage (Clark K), 2001: *Informed Conservation*
- English Heritage, 2000: *The Presentation of Historic Building Survey in CAD*
- IFA, 1999: *Standards and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures*
- Crossrail, 2009b: *Archaeology Procedure for Non-Listed Built Heritage Recording*

2.4 Significance Criteria

2.4.1 Determination of the **significance** of receptors (site and features) has been based upon existing designations, whilst professional judgements have been made in the case of undesignated receptors in accordance with the criteria stipulated in Table 1.1.

Table 1.1: Criteria Used to Determine Significance

Significance	Description
International	Archaeological Sites or Monuments of International significance, including World Heritage Sites and Grade I Listed Buildings
National	Ancient Monuments scheduled under the Ancient Monuments and Archaeological Areas Act 1979, or archaeological sites and remains of comparable quality, assessed with reference to the Secretary of State's non-statutory criteria. Grade II* Listed Buildings
Regional	Archaeological sites and remains which, while not of national importance, fulfil several of the Secretary of State's criteria and are important remains in their regional context. Grade II Listed Buildings
Local	Archaeological sites and remains that are of low potential or minor importance. Buildings of local heritage value.

Negligible	Areas in which investigative techniques have produced negative or minimal evidence for archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated. Buildings of no architectural or historical note
------------	---

2.4.2 The **potential** for the presence of archaeological remains is assessed with regard to documentary evidence and the results from the corpus of investigation undertaken within the study area and within close proximity to this. This potential is rated on a three-point scale:

LOW	There is low potential for the presence and survival of significant archaeology relating to the period under discussion
MODERATE	There is moderate potential for the presence and survival of significant archaeology relating to the period under discussion
HIGH	There is high potential for the presence and survival of significant archaeology relating to the period under discussion

3 THE SITE

3.1 Site Description

- 3.1.1 The site comprises a broad corridor of land covering an irregularly-shaped area of 14.1619ha and is presently occupied by an extensive complex of railway facilities including stabling sidings, carriage sheds, workshops and other elements. Non-listed built heritage assets on the site include surviving elements of the locomotive depot built by the Great Western Railway in 1904-6, a carriage repair depot built in the late 1930s, a locomotive oil fuelling plant built in the late 1940s and various servicing facilities added in the mid-1960s when the locomotive depot was converted into a motive power depot (MPD) for diesel locomotives.
- 3.1.2 The site is bounded to the east by Old Oak Lane, to the north and west by the Grand Union Canal and to the south by the Old Oak Common railway sidings and the Great Western Mainline (GWML) between London and the South-West (Figure 1). The central Ordnance Survey National Grid Reference for the site is TQ 21870 82390.

3.2 Proposed Development

- 3.2.1 The proposed redevelopment entails the demolition of all existing buildings and the remodelling of the entire Old Oak Common depot site in order to provide depot and stabling facilities for Crossrail (Figure 3). These facilities will include track remodelling to provide thirteen stabling sidings, construction of a new train care facility building, accommodation for maintenance staff, a maintenance storage building, new access roads and turning area, parking spaces for 150 cars, train crew accommodation and parking for a further 50 vehicles. Other new facilities will include a paint shed, a biohazard pit, a wheel lathe facility and associated siding, two train washers and lighting gantries. The sidings will be fitted with Overhead Line Equipment (OHLE) and a new traction substation will be built. Some piling will be required for the construction of the new depot structures.
- 3.2.2 During the main construction phase of the Crossrail project the Old Oak Common depot will also be used to support the main tunnelling works. The pre-cast concrete sections of the twin-bore tunnels will be manufactured and stored at the depot. A number of temporary facilities will be constructed including a concrete batching facility, silos, concrete segment storage facilities and new track.



4 PLANNING BACKGROUND

4.1 Scheduled Ancient Monuments and Listed Buildings

- 4.1.1 There are no Scheduled Ancient Monuments (SAMs), Listed Buildings or Registered Parks and Gardens within the 1 km radius of the study area.
- 4.1.2 There are no Listed Buildings within the boundaries of the development site. There are two Listed Buildings within the 1 km radius of the study area, the nearest of which is located approximately 975m to the north-east of the site.

5 GEOLOGY AND TOPOGRAPHY

5.1 Geology

- 5.1.1 The Geological Survey of Great Britain 1:50 000 scale map of the area (Sheet 256, 'North London') shows that the site is underlain by London Clay (approximately 90m-110m thick). In turn this overlies the mottled clays with sand and pebble beds of the Upnor, Woolwich and Reading Formations (approximately 8m-23m thick) and fine-grained sand of the Thanet Sand Formations (0m-16m thick), collectively known as the Lambeth Group. An area of worked ground is located approximately 250m north-west of the site.
- 5.1.2 The WSI noted that a preliminary archaeological assessment of the site concluded that deposits of made ground varying in thickness between approximately 0.8m to 5.0m overlies the London Clay Formation in the immediate vicinity of the site (Crossrail 2009: 7). The Specification for the 1904-6 Engine Shed instructed that prior to construction a layer of "dry filling or ashes" 15" (0.38m) thick was to be spread across the site, topped by a bedding layer of ash 6" (0.15m) thick underneath paved or surfaced areas (TNA RAIL 252/1340, Specification: 17). Excavations for foundations varied between 0.6m and 3.9m in depth, the spoil from which was to be "deposited and filled in over the site as directed... not exceeding 2" (0.6m) deep" (TNA RAIL 252/1340, Schedule of Quantities Bill No. 2: 5).
- 5.1.3 When the development of a carriage and locomotive depot at Old Oak Common was first proposed by the Great Western Railway in 1899, it was estimated that it was necessary to excavate 240,000 cubic yards of material to facilitate the works (TNA 250/270: 132). An unknown quantity of material was excavated from Old Oak Common in association with the construction of the Acton to Northolt line c. 1900 (TNA RAIL 252/1235). Historical mapping suggests that the original topography was greatly altered by the removal of deposits in advance of the construction of the depot during the first decade of the 20th century, and that further reduction, embankment and earth moving took place in association with subsequent enlargement in the 1930s. The construction of the British Railways Staff Hostel adjacent to the north-west boundary of the present site in 1947/8 necessitated further extensive groundworks, including additional unanticipated excavations owing to the "excessive amount of sulphate crystals in the soil", while the collapse of the earthwork bank between the two buildings necessitated a mitigation strategy that included the construction of reinforced concrete retaining walls in the vicinity of the rebuilt embankment (TNA AN 13/168, 26/06/1953).
- 5.1.4 The nearest open waterway to the site is the Grand Union Canal, which forms the east and north-east boundaries of the application site.

5.2 Topography

- 5.2.1 John Rocque's map of the early 1740s (Figure 5) suggested that the site formerly sloped eastwards from Old Oak Common Lane, although early editions of the Ordnance Survey map surveyed before the site was extensively remodelled in the first decade of the 20th century provided no indications of levels above OD. Maps surveyed in 1914-16 (Figure 9) and 1935 (Figure 10) after the Old Oak Common depot was built showed evidence of earthen embankments constructed during the development of the site, while the 1955 Ordnance Survey map (Figure 11) indicates that further extensive landscaping took place during the second half of the 1930s. Modern Ordnance Survey maps provide no spot heights within the site boundaries, although levels of between 30.1m OD and



30.23m OD are recorded along the man-made canal towpath that forms the east and north-east boundary of the site (Figure 12).

5.3 Previous Site Investigations

- 5.3.1 Ten Trial Pits were excavated during the course of an Archaeological Watching Brief, conducted between 26th-29th April 2010 and on Tuesday 4th May 21010, the results of which are presented in Appendix 4. The location of the Trial Pits is shown on Figure 2.
- 5.3.2 The main objectives of the Watching Brief were to assess the nature of underlying geology, to establish the presence or absence of archaeological activity and also to determine the extent of truncation at the site and its effect upon any underlying archaeology.
- 5.3.3 Natural London Clay was uncovered in eight of the Trial Pits (604, 605, 607, 608, 609, 610, 633 and 637. The highest point of the London Clay was recorded at 28.20m OD in Trial Pit 607, which was located in the western part of the site. The lowest point was recorded at 25.10m OD in Trial Pit 637, which was located in the eastern part of the site, suggesting that the natural deposit slopes down towards Wormwood Scrubs to the south-east.

6 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

6.1 Introduction

- 6.1.1 In order to assess the potential of the archaeology within the development area, an examination of all archaeological entries in the Greater London Historic Environment Record (GLHER) has been made within a 1 km radius from central point TQ 21870 82390. The search area is defined as the 'study area' for the purposes of this assessment. A complete listing of these entries is provided in Appendix 1 to this report, and is presented in Figure 3.
- 6.1.2 The purpose of the GLHER search is to identify known archaeological sites and finds in the vicinity in order to predict the likely archaeological conditions within the development area itself. It is important to understand that many of the entries on the HER result from chance discoveries or non-systematic observations, and is therefore at best a small and unrepresentative sample of the total buried heritage.
- 6.1.3 The information derived from the GLHER is supplemented by other archaeological, documentary and cartographic resources.

6.2 Prehistoric (450,000 BC – 43 AD)

- 6.2.1 The majority of Palaeolithic artefacts discovered in the Greater London area have been found in river terrace gravel deposits, their deposition primarily the result of fluvial action that took place during interglacial interludes. No archaeological evidence of Palaeolithic activity has been discovered in the study area.
- 6.2.2 Most of the Mesolithic artefacts found in Greater London have been isolated finds recovered from surface or riverine contexts, the majority of which comprised tools used for hunting or fishing (MoLAS, 2000: 49). No archaeological evidence of Mesolithic activity has been identified on the London Clay of the study area.
- 6.2.3 No archaeological evidence of the early farming communities of the Neolithic period has been found in the study area, and it is likely that the London Clay that covers much of the area would have been a major barrier to Neolithic cultivation and settlement (*ibid*: 65).
- 6.2.4 Archaeological evidence of Bronze Age activity is relatively poorly represented in the northern part of Hammersmith and Fulham, and in the adjoining areas of the London Boroughs of Brent and Ealing. A founder's hoard (GLSMR 0950206) was discovered at Disraeli Road, Park Royal, approximately 1.5 km north-west of the site, suggesting that settlers had begun to encroach upon the London Clay by this period; however no evidence of Bronze Age settlement, cultivation or industrial activity has been identified within the study area. (*ibid*: 94).
- 6.2.5 The Iron Age is poorly represented in the archaeological record of Greater London, and Old Oak Common is no exception. No evidence of Iron Age activity has been identified in the study area and it is likely that it remained wooded during the period.

6.3 Roman (43 – 410 AD)

- 6.3.1 Archaeological evidence of Roman activity in north-west London has been largely restricted to the river terrace gravels beside the River Brent (*ibid*: 162). In contrast it is likely that the London Clay soils of the study area remained heavily wooded during the period (*ibid*: 152), though this vital resource may well have been managed and exploited for fuel, timber and foraging. No archaeological evidence has yet emerged of Romano-British settlement or cultivation in the study area.

6.4 Early Medieval/Saxon (410 – 1066 AD)

- 6.4.1 Despite the Saxon derivation of the place name Acton (meaning ‘oak town’), no credible references to the settlement predate the Conquest, and the name was first recorded in 1181 (Baker & Elrington, 1982: 7).
- 6.4.2 At the eve of the Conquest Acton was a division of the Bishop of London’s manor of Fulham (*ibid*: 16). The estate was not mentioned in the Domesday Book and the extent of cultivation remains unknown.
- 6.4.3 No archaeological evidence of settlement or cultivation dating to the period has been discovered within the study area. Given the medieval and post-medieval history of Old Oak Common, it is likely that the site was marginal, and almost certainly remained wooded throughout the Saxon period.

6.5 Medieval (1066 – 1539)

- 6.5.1 The earliest evidence of permanent settlement in Acton dates to the early 13th century, by which date the hamlet of Church Acton had become established in the western part of the parish (*ibid*: 35-39). A second hamlet had emerged on the edge of an area of common land on the east side of the parish by the 1290s; originally called *Estacton* the hamlet subsequently became known as East Acton (*ibid*).
- 6.5.2 Manorial control in medieval Acton appears to have been comparatively weak; because there was no demesne to speak of there were no major landowners resident in the parish, and most estates and holdings were relatively small. Local estates included the sub-manor of Acton, which had emerged by the mid-12th century, and an estate granted to the priory of St Bartholomew’s, Smithfield in the 1320s (*ibid*: 16-23). The capital messuage of the latter is believed to have been located at the moated site at Friar’s Place Farm, approximately 1.2 km south-west of the site (GLHER 052343-7), while a second moated medieval site was identified during the 19th century approximately 550m north-east of the site near Willesden Junction Station (GLHER 052258; Figure 3:1). It is likely that the latter site was associated with one of the sub-manorial estates in the neighbouring parish of Willesden.
- 6.5.3 Other manors with holdings in the area included Sutton Court, a manor in Chiswick held by the dean and chapter of St Paul, but leased out to lay tenants since at least the 13th century (*ibid*: 71). In the 1520s Sir Thomas More leased both the manor and Old Holt Wood, nearly 200 acres of woodland stretching between Acton and Willesden (*ibid*: 78-86). By the 1590s Old Holt Wood had been so denuded of trees by the tenants of Sutton Court that it was described as comprising little more than “scrubbed oaks [i.e. oak scrub] full of thorns, bushes and furze” (*ibid*). Used by the householders of Sutton Court as common grazing land, the former wood was known as Old Oak Common by the second decade of the 17th century (*ibid*: 23-30).
- 6.5.4 It is likely that Old Holt Wood was managed as a source of timber and for rough grazing throughout the Middle Ages. By the end of the period the clearance of trees had largely reduced the area to scrub and undergrowth, upon which cattle and sheep grazed. The dramatic remodelling of the terrain undertaken by the Great Western Railway during the early 20th century is likely to have removed even the most stubborn trace of any activity predating the modern period.

6.6 Post-Medieval (1539 to 1899)

- 6.6.1 At the beginning of the post-medieval period farming remained the mainstay of the local economy. The right to graze livestock on Old Oak Common continued to be enjoyed by parishioners until the second half of the 19th century, although a series of

- encroachments during the 18th and 19th centuries gradually reduced the acreage available for grazing.
- 6.6.2 The earliest significant post-medieval encroachment upon the Common was a result of the commercial development of the Acton Wells, three springs located on the south-western edge of the Common, approximately 200m south-west of the south-western corner of the site. Towards the end of the 18th century Daniel Lysons wrote that water from the Wells was held in great repute for its medicinal virtues (Lysons, 1795: 625). The Wells became an attraction in their own right in the mid-18th century, when an Assembly Room was built at the spa to host fashionable entertainments for the visitors, who provided a welcome boost to the local economy. John Rocque depicted Acton Wells when they were at the height of their fame (Figure 5); however by the end of the century they had fallen out of favour and the Assembly Rooms were “nearly in ruins” (*ibid*: 1-20). The Assembly Rooms were subsequently converted into tenements, before becoming part of Wells House Farm. By the time that the Greenwood map was published in the 1820s (Figure 6), approximately 3 acres of former common land surrounding the farm buildings had been enclosed (Baker & Elrington, 1982: 23-30).
- 6.6.3 During the 1790s the Grand Junction Canal Company began to acquire land for the proposed Paddington canal branch. The company purchased land and grazing rights on Old Oak Common at the end of the decade following which the new canal opened to traffic in 1801 (*ibid*: 2-7; 23-30). The company built and maintained a number of bridges that spanned the canal, including the Mitre Bridge, which carried Scrubs Lane across the waterway approximately 300m east of the present site (GLHER 054617; Figure 3:3). A footbridge located on the northern edge of the development site and listed by the GLHER was built by contractors Messrs Hill & Smith on behalf of the Great Western Railway Company in 1906 (GLHER 054589; Figure 3: 2; TNA RAIL 250/48: 76, 130).
- 6.6.4 At first the canal made little impact upon the local economy, which continued to be dominated by agriculture. As late as the 1880s the majority of the adult residents of Old Oak (Common) Lane still worked in the agricultural sector, typically as pig breeders and dealers (TNA RG 11/1353/16, 17). Though most of the piggeries were located to the south of the present site, there was at least one ‘pig keeper & chemical manure manufacturer’ trading from a farm near the Willesden Paper & Canvas Works, on the other side of the railway lines from the western boundary of the present site (*ibid*). This piggery survived until at least the mid-1890s, and it is likely that pig keepers grazed their livestock on the rough scrubland of Old Oak Common (Kelly’s Directory, 1889-90: 127; Kelly’s Directory, 1893-4: 141).
- 6.6.5 In 1862 the landowner Henry John King Church erected fences on the common and successfully sued a group of landowners who objected to his actions and tried to pull the fences down (Baker & Elrington, 1982). Church’s action presaged the formal enclosure of the land, the pattern of which was depicted on the Second Edition Ordnance Survey map of 1894-6 (Figure 8).
- 6.6.6 By far the most significant long-term developmental impact upon the local landscape was the arrival of the railways. The earliest line to be built across Old Oak and Wormwood Scrubs Commons was laid by the Great Western in 1837. The railway company purchased a corridor of land across the two parishes, including three acres of pasture in Hammersmith which comprised the easternmost part of the present site (Roberts, 1853, not reproduced here; the plot is shown on the east side of the parish boundary in Figure 7).
- 6.6.7 The next railway to open in the vicinity was the North & South Western Junction Railway (NSWJR), which provided a link between the London & North-Western Railway (LNWR)

mainline at Kensal Green and Old Kew Junction (Baker & Elrington, 1982: 2-7). This line passed within 60m of the western boundary of the site and is depicted in Figure 6. In January 1860 the North London Railway (NLR) opened its Hampstead Junction Railway, a six-mile line from Camden Town that joined the NSWJR line at Old Oak Junction, approximately 70m north-west of the north-western 'spur' of the present site boundary (White, 1962: 77). The First Edition Ordnance Survey map of 1865-71 indicated that a bridge was built to carry Old Oak (Common) Lane across the tracks a short distance to the north of Old Oak Junction (Figure 7).

- 6.6.8 The fourth railway line to be built in the immediate vicinity of the site was the Midland & South-Western Junction Railway (MSWJR) line connecting the Midland Railway mainline at Welsh Harp and the NSWJR, which it joined at Acton Wells Junction, approximately 180m south-west of the south-west boundary of the site. The MSJWR opened to freight traffic in 1868 (Baker & Elrington, 1982: 2-7). Despite the abundance of railway lines in the vicinity, it was not until the mid-1860s that the first passenger station opened in the study area. The platforms of the London & North-Western's station at Willesden Junction first opened to passengers in 1866. Situated on the Hammersmith side of that parish's boundary with Willesden, the new station had little immediate impact upon the residential development in the vicinity. Census returns confirm that Old Oak Lane remained sparsely populated in 1871, with little settlement to the north of Wells House Farm (TNA RG 10/1323).
- 6.6.9 While the railways had little immediate impact upon the residential development of north-east Acton, by the late 1870s population growth in nearby towns and villages meant that several had taken on distinctly suburban attributes. To the east of Old Oak Common Kensal Green had grown considerably since the middle of the century, and a cemetery covering 29 acres was created for its sizeable Roman Catholic population in 1858, approximately 1 km north-east of the site (GLHER 211862; Figure 3:4; GLHER MLO84171; Figure 3: 7; GLHER MLO84205; Figure 4: 8; GLHER MLO84074 Figure 3:11). The neighbouring district of Harlesden began to grow after the completion of Willesden Junction station. The growth of the suburb prompted the establishment of the new ecclesiastical district of All Souls in 1875, although parishioners had to make do with an iron church on Station Road until E.J. Tarver's Church of All Souls was completed in 1879 (GLHER MLO79322; Figure 3:9; Thompson, 2009: 12).
- 6.6.10 In contrast, north Acton did not experience comparable population growth until much later. While the railways failed to set off a wave of new residential development in the area, the opening of stations at Acton, Willesden Green and Harlesden made it much more accessible to visitors. In the early 1870s the People's Garden Company Ltd, supported by the German Club of Foley Street, London W1 opened what was described as a 'People's Garden' on former common land between Old Oak Common Lane and the south bank of the Grand Junction Canal (Baker & Elrington, 1982: 14). The People's Garden represented an attempt to establish a Bavarian-style *biergarten* in the suburbs of north-west London, offering entertainments throughout the summer months (*ibid*). The Garden finally closed down in the mid-1880s (Post Office Directory, 1874: 594).
- 6.6.11 When the census enumerator visited the site in 1881 he noted that two families lived at the People's Garden, one of which was headed by a Thomas Houseman, who was described as a 'farmer of 60 acres' [24 ha] (TNA RG 11/1353/17). It is conceivable that his family resided in the building labelled 'Old Oak Farm' on the Second Edition Ordnance Survey map of 1894-6 (Figure 8). Interestingly, neither census returns nor trade directories contained any reference to a property of that name between 1861 and 1911.

6.6.12 By the early 1890s north Acton and the adjacent portion of Hammersmith had taken on many of the attributes of modern suburbs. In 1866 Acton had acquired a Local Board, which was empowered to provide sewerage, highway maintenance and street lighting; this was succeeded in 1894 by the Urban District of Acton (Baker & Elrington, 1982: 7-14). These bodies may have been responsible for the construction and upkeep of the new Old Oak Common Lane across the former common first shown on the Second Edition Ordnance Survey map (Figure 8). In the late 1880s the LNWR built an estate of 130 terraced houses known as Railway Cottages for its employees and their families on Old Oak Lane a short distance south-west of Willesden Junction station (*ibid*: 7-14). While there was no comparable development to the south of the canal at this time, the demand of the Great Western Railway for space and facilities to accommodate its carriage and locomotive stock would ensure that Old Oak Common would be transformed during the decade that followed.

6.7 Modern (1900 - present)

6.7.1 By the second half of the 1880s railway congestion in the west London area was causing considerable disruption to services using Paddington goods and passenger stations. Since both stations were situated in a densely built-up area that offered little room for enlargement, there was insufficient space at either to accommodate and repair locomotive and rolling stock. Although the 1855 locomotive roundhouse on Bishops Road had long been superseded by sheds at Westbourne Park, carriages continued to be accommodated on sidings at Paddington Station, and repaired at a small depot nearby (MacDermot, 1964: 230; Walters, 1993: 140). Goods wagons were accommodated on sidings at Kensal Green, near the GWR gasworks at Mitre Bridge, just east of the West London Junction. The West London Junction sidings were enlarged in the early 1890s, by which date consideration had also been given to accommodating passenger carriages at the same location (TNA RAIL 250/334: 17, 148). Approval was subsequently granted for the construction of additional carriage sidings at West London Junction in 1892 to relieve overcrowding at Paddington (TNA RAIL 250/335: 150).

6.7.2 Within five years of the opening of the new carriage sidings it had become apparent that further carriage accommodation was required in the vicinity of West London Junction. Owing to the insufficient space available for carriages, marshalling operations had begun to obstruct traffic on the running lines, so it was proposed to build additional sidings at a total cost of nearly £12,000 (TNA RAIL 250/339: 66).

6.7.3 While the new carriage sidings offered a temporary solution to the problem of overcrowding, the proposed reconstruction of the Westbourne Park Bridge at the Great Western locomotive depot in 1898 presented the company with an opportunity to radically reorganise engine and carriage lines and facilities and reduce congestion in the bottlenecks between Paddington and Old Oak Common (*ibid*: 255). In November of that year the General Manager proposed an ambitious scheme of works which comprised the erection of new carriage sheds on the up side of the line at Old Oak Common in order to replace those on the down side at West London Junction, the site of which was required for a new line and engine sheds (the latter to replace those at Westbourne Park); the construction of a general goods and coal depot at Old Oak Common and the provision of additional sidings for standing and marshalling wagons (*ibid*: 255-257).

6.7.4 The scheme was comprehensively revised the following October, when it was decided to build the new engine sheds at Old Oak Common instead of at West London Junction, and that the existing lines in the vicinity of Acton Wells were to be modified in order to accommodate the Acton to Northolt stretch of the High Wycombe line, which the company had been granted powers to build earlier that year (TNA RAIL 250/340: 145-6;

- White, 1963: 114). Authorisation was subsequently granted to purchase a small strip of land at Old Oak Common in advance of the Board's anticipated approval of the plans (TNA RAIL 250/340: 146)
- 6.7.5 That December George Jackson Churchward, the Chief Assistant to the Locomotive, Carriage and Wagon Superintendent reported that that the new engine shed at Old Oak Common would cost approximately £70,000 exclusive of the cost of site preparation and excavation (TNA RAIL 250/270: 97). The following May it was calculated that in order to prepare the site of the shed it would be necessary to remove approximately 240,000 cubic yards of material, at an additional cost of £20,000 (*ibid*: 132).
- 6.7.6 The Great Western appears to have taken a great deal of time to ensure that the proposed sheds and sidings at Old Oak Common met the company's requirements. Board minutes give little sense of any great urgency to initiate the works, and it seems that the company had yet to acquire all of the land necessary for the proposed works between Paddington and Old Oak Common by April 1900, despite the fact that the powers to purchase the land were due to expire the following August (TNA RAIL 250/340:253).
- 6.7.7 Meanwhile the company pushed ahead with the construction of the Acton to Northolt branch. In November 1899 the company awarded the contract for the construction of the line to Joseph Thomas Fairbank of London Bridge for the sum of £155,846 (TNA RAIL 252/1235, 21/11/1899). The agreement specified that Fairbank was also responsible "for the removal of excavation from Old Oak Common within the line", suggesting that material was taken from the Common in advance of the construction of the line west of Acton Wells Junction, perhaps for use elsewhere on the route (possibly accounting for some of the earthworks shown on Figure 9).
- 6.7.8 In 1901 the census enumerator came across a number of railway huts on Old Oak Common in the approximate location of the former People's Garden. It is not clear whether the huts had been built to accommodate the labourers working on the Old Oak Common phase of the Acton to Northolt branch, or perhaps in advance of the preparation of the site for the planned locomotive and carriage depots. Of the four huts, one was empty, while the others were occupied by a contractor's foreman, a stationary engine driver, a 'navvy driver', their wives, children and a number of lodgers, several of whom also worked as railway labourers (TNA RG 13/1201/17).
- 6.7.9 While the census return suggests that the company had acquired at least some of the land at Old Oak Common earmarked for the proposed depot by the spring of 1901, the final designs of the buildings had yet to be approved. That October further modifications to the proposed carriage shed were agreed upon, including the provision of seven pits to facilitate the examination and repair of brake work of carriages stabled at the shed (TNA RAIL 250/46: 11-12; TNA RAIL 250/270: 250). It seems that by the end of 1902, aside from the works associated with the Acton to Northolt line, the company had done little more than build a number of carriage sidings and lay an oil gas main (for carriage lighting) at Old Oak Common, the proposals for a new locomotive depot having lapsed.

Construction of the Old Oak Common Depot, 1904 – 1906

- 6.7.10 In 1903 Churchward (Locomotive Superintendent since June 1902) formally revived proposals to build a locomotive depot at Old Oak Common. That June Churchward presented the Board with plans of the new depot, which he estimated would cost £110,000 to realise; the difference between the cost of this and the earlier proposals being accounted for by the addition of "machinery and internal fittings" not included in the earlier scheme (TNA RAIL 250/271: 124). The Great Western Board approved the

- proposals and invited tenders for the structural element of the works shortly thereafter (TNA RAIL 250/46: 478).
- 6.7.11 Interested parties submitted tenders for the construction of the engine shed and lifting shop that autumn. The contract was initially awarded to Messrs. Relford & Greaves, who offered to complete the works for £38,554, however a few weeks later this decision was revoked and the contract was awarded instead to Messrs William Walkerdine of Bridge Street, Derby, who tendered to undertake the works for £40,313 (TNA RAIL 250/47: 52, 86). At the beginning of January Walkerdine was formally instructed to proceed with construction, under the supervision of the Great Western's New Works Engineer, Walter Young Armstrong (TNA RAIL 252/1340, 04/01/1904).
- 6.7.12 Walkerdine undertook to build the offices, lifting shop, stores, carpenters', smiths' and coppersmiths' shops, sand furnaces (collectively known in Great Western parlance as the 'Factory'), the engine shed, WCs, messrooms, internal and external inspection pits, turntable foundations and a coal stage and elevated road thereto (*ibid*, Bill No. 2: 5; Bill No. 3: 48-55). The Great Western agreed to supply and fix the following elements: timber baulks and rails, chairs, hydrants and stand pipes, the sand furnace ironwork and bunkers, the coal stage tank and ladder, steel platforms, water pipes, valves, turntables, traversers and traverser foundations and to lay tracks outside the shed (*ibid*, General Conditions & Specification of Works: 2).
- 6.7.13 The specification described all aspects of the new buildings in considerable detail. With regard to the foundations and flooring, Walkerdine was instructed to ensure that all paved areas were "to have a bed of dry ashes 6" thick, well rammed on a layer of dry filling or ashes about 15" thick", while the floors of the offices of the shed foreman and clerk, the stores clerk and the messengers were to have a bed of cement concrete 6" thick, "in which will be bedded dovetail joists to receive felt and boarding". The floors of the lifting shop and carpenters shop were to be similarly constructed, though they were to be laid with 5" creosoted wooden blocks (*ibid*, General Conditions & Specification of Works: 18, 26). In contrast, the engine shed, the sand furnace houses, messrooms, engineman's room, stores, coppersmiths' shop, WC and pits were to be paved with Staffordshire blue bricks laid flat, while the floor of the smith's shop was to consist of 3" of fine ashes on top of 6" of dry ash (*ibid*: 22).
- 6.7.14 Brickwork was unless instructed otherwise, to be laid in lime mortar in Old English bond, to be faced externally with red-pressed facing bricks (*ibid*: 21-22). Exceptions included the foundation walls of the turntables in the engine shed and the walls of the catch pits, both of which were to be of brindled brickwork in cement (*ibid*: 9-10); the windows of the sheds, which were to have 'special-made' blue brick sills, while the external walls were to be surmounted by a blue brick plinth (*ibid*: 21-22).
- 6.7.15 Principal rafters were to be fashioned from rough sawn pitch pine. The majority of the roofs were to be clad with Bangor slates, though the raised roof over the lifting shop was to have glazed sashes, and the sides of the roof light were to be part-glazed and part louvred (*ibid*: 26). Sliding doors, 4" thick and fitted with cast iron wheels that ran along cast iron guide rails were hung at the engine shed, whilst folding doors were hung at the lifting shop (*ibid*: 27, 32). All of the iron and steelwork, including two box girders in the engine shed and six 30' long plate girders for the lifting shop roof were supplied by the Great Western (*ibid*: 35-37).
- 6.7.16 A number of original contract drawings of the new buildings produced by the Drawing Office of the Locomotive & Carriage Department at Swindon have survived to the present. Examples include a set of elevations, plans and sections of the Sand Furnace (Building 20), dated September and October 1902 (WSHC 2515/409/0868; /0869;

- 2515/406/1279, 1902). Drawings issued in February and June 1903 show the cast iron dry sand bins supplied and fitted by the Great Western (2515/409/1867(1;2); 2515/406/2713, 1903).
- 6.7.17 Other drawings of the original depot include an undated original set of elevations and sections of the engine shed (Building 27) complex in its entirety (WSHC 2515/403/348; 2515/409/0519, c.1903, reproduced here as Figure 9). Detail drawings of the timber and cast-iron elements of the roofs of the lifting shop (Building 15a), and the General Offices (Building 17a) were produced in February and April 1903 respectively (WSHC 2515/409/0692, February 1903; WSHC 2515/406/1806, March 1903; Figures 10 & 11). Though the majority of these drawings depict internal or structural elements, a set of elevations and sections of the coal stage and its elevated road has also been preserved (WSHC 2515/406/3272, 03/1903).
- 6.7.18 Construction of the locomotive depot started in January 1904. By October the works were sufficiently advanced for Churchward to be ordering the fixtures, fittings and machinery for the new buildings. Churchward placed orders for a 30-ton electrically driven crane with Messrs Vaughan & Son for £1,025 and for four 65' turntables from Ransomes & Rapier of Ipswich for £3,900 (TNA RAIL 250/271: 224). Ransomes supplied their in-house workshop with engineering blueprints of elements of these turntables in April 1905 (WSHC 2515/403/0350, 11/04/1905). Churchward also recommended that the company accept a tender from Ransomes to supply an 80-ton electric traverser (Building 42) for a further £2,760 (*ibid*: 226). The cost of each of these items was met from the £110,000 that Churchward had originally budgeted for the works.
- 6.7.19 Electrical power for the Great Western's facilities in West London was to be supplied by the company's new generating station at Park Royal, which necessitated the construction of new sub-stations at Old Oak Common, Shepherds Bush and Royal Oak. In April 1905 a contract was awarded to Messrs Pattinson & Sons to build the sub-stations at Shepherds Bush and Old Oak Common and the following month Churchward proposed that the turntables in the Engine Shed be driven by electricity (TNA RAIL 250/47: 405)¹. Shortly thereafter Ransomes submitted a tender for the supply of 'electric tractors' to drive the turntables for £1,240, which was duly accepted (*ibid*: 416). The same month the Great Western agreed to pay an additional £82 to Vaughan & Sons for the 30-ton electric crane, and a further £22 for Ransomes' electric traverser (TNA RAIL 250/271: 280-281). Other equipment purchased for use in the new engine depot in the summer of 1905 included an electric wheel lathe, a pneumatic power hammer and a 'universal wood-working machine' (*ibid*: 281, 297).

¹ Churchward's insistence upon the use of electrically driven engine turntables at Old Oak Common was somewhat ahead of its time. A British Railways inventory of Western Region steam MPDs (including Stourbridge, Tyseley and Wolverhampton) compiled c.1955 listed ten depots (the majority built during the Churchward era to a similar design as Old Oak Common, albeit on a smaller scale), all of which still used manually operated 65' turntables (TNA AN 7/188; Lyons, 1978: 6-7).

- 6.7.20 Construction of the Old Oak Common sub-station (Figure 2: Building 26) was sufficiently advanced by October 1905 for Churchward to place orders for a 400KW generator from Bruce Peebles & Co. (£1,420), for electrical power cables from Siemens Bros (£3,130) and for panels for the high and low tension switchboards with British Thomson Houston Co. Ltd and the Electrical Construction Co. (TNA RAIL 250/48: 22-23; see WSHC 2515/403/0363, May 1939).
- 6.7.21 Towards the end of 1904 Walkerdine was awarded a contract worth £700 to ballast the approaches to the engine shed (TNA RAIL 250/47: 310). A couple of months later the contract to lay the tracks leading up to an inside the new shed was awarded to Messrs Jackaman & Son for a further £940 and the construction programme appeared to be on course for a timely completion (*ibid*: 356). However during the spring of 1905 the Great Western decided to commission a number of additional works from the contractors working on site, and Walkerdine's contract was amended accordingly to the value of an additional £2,500 (TNA RAIL 250/271: 269). The precise nature of these additional works remains unknown.
- 6.7.22 Contracts were also awarded during the summer of 1905 for the construction of the carriage shed. Messrs Thomas Rowbotham of Birmingham and Messrs E.C. & J. Keay were awarded contracts for the work, which was to be carried in accordance with a specification issued by the Traffic Committee back in October 1903 (TNA RAIL 250/47: 461; TNA RAIL 252/1462; WSHC 2515/409/338, n.d). The shed was completed later that year, whilst utilities including the water supply and electrical lighting were fitted throughout the first half of 1906 (WSHC 2515/406/1551, 04/1906).

Old Oak Common Depot, 1906-c.1924

- 6.7.23 The new locomotive depot entered service in March 1906. The same month the company issued instructions to modify the turning bars and stop levers of the 65' Ransomes turntables in the engine shed, alterations which may have been a consequence of the earlier decision to electrify the turntables (WSHC 2515/403/0351, 03/1906). The construction and fitting out of both locomotive and carriage depots cost rather more than originally anticipated and it was not until the following year that the main contractors were fully recompensed for their labours (TNA RAIL 250/48: 291; TNA RAIL 252/1462).
- 6.7.24 It is likely that Walkerdine's contract was extended to include the construction of a number of engine pits beneath certain (rail) roads leading to the engine shed. The pits were to be between 88' and 226'6" in length and were originally proposed during the autumn of 1906, while completion was scheduled for the following May (WSHC 2525/410/0062, 10/10/1906; WSHC 2515/409/1172, December 1906; WSHC 2515/409/1180, May 1907). In December 1907 it was proposed to construct two further pits, of 400' and 500' in length respectively beside the coal stage (WSHC 2515/409/0866, December 1907).

6.7.25 Towards the end of 1910 it was decided to build an 'economical boiler washing plant' at the locomotive depot. Boiler washing plants were used to wash out accumulated sludge and scale from locomotive boilers, which were then refilled with fresh water. Before the Economical Boiler Washing Company devised its proprietary boiler-washing process, cold water was used to refill locomotive boilers after washing-out, which meant that engines had to be taken out of service for several hours at a time. However the new process allowed boilers to be refilled with hot water, thus considerably reducing the time locomotives spent idle (Lyons, 1978: 26; Townend, 1975: 33). The plant was one of a number supplied by the company to locomotive depots during this period, though the first of its type to be built on the Great Western network (Lyons, 1978: 26)². The plant was located in an extension to the north side of the engine shed, adjacent to the northernmost sand furnace building (Figure 2: Building 45). The plant comprised two adjoining buildings: a boiler washing plant house (which stood adjacent to the north wall of the Engine Shed; Figure 2: Building 63) and a boiler house (Figure 2: Building 64; WSHC 2515/409/0075, December 1910; Figure 12). Tanks containing the water used for washing-out and refilling boilers were located in the plant house, the water for which was heated by static boilers situated in the boiler house (WSHC 2515/409/0135, December 1910).

6.7.26 The majority of works undertaken at Old Oak Common during the years immediately after the end of the First World War comprised essential repairs to and maintenance of existing plant and machinery. Expenditure authorised during this period included £3,900 for the repair of the engine turntables in early 1919 (the cost later rose by a further £2,800); £2,350 for the repair of the economical boiler washing plant and £430 for the repair of a sand furnace, both in October 1919 (TNA RAIL 250/275: 75, 114, 122). In addition the provision of new washing facilities for staff in the lifting shop and the engine shed was approved in late 1919, while new staff messrooms were approved for both the Engineering and Locomotive Departments in January 1921 (*ibid*: 128; 213; see Figure 10). Although Great Western committee minutes revealed little about the nature and extent of the somewhat costly turntable repairs, a plan of the turntables produced shortly after the Second World War suggests that the turntable in the north-east corner of the shed may have been replaced relatively early in the history of the depot³. A set of drawings issued in the early 1930s showing proposed modifications to the locking gear also offer an indication that the stresses and strains of daily use necessitated extensive periodic repairs and refurbishment (WSHC 2515/403/352, /3523, /3254, March 1933).

Additions to the Locomotive Depot, c.1925-c.1934

6.7.27 During the second half of the 1920s it was proposed that the engine shed be doubled in size in order to accommodate a further four locomotive turntables (Hawkins & Reeve, 1987: 57; also see the untitled plan WSHC 2525/410/0632, dated 30/03/1927). Though

² Other examples include the installation of a hot water boiler washing out plant at the Great Northern Railway's King's Cross Locomotive Depot in 1909 (Townend, 1975: 83).

³ See paragraph 6.7.55, footnote 5

the scheme was never realised, a number of significant developments took place in the vicinity of the shed during this period.

- 6.7.28 At the beginning of 1927 the Great Western commissioned the New Destructor Co. Ltd of Pershore, Worcestershire to build a refuse destructor (incinerator) on ground a short distance to the north-east of the boiler washing plant (WSHC 2515/409/0772, May 1927; WSHC 2515/409/0774 (1), 01/07/1927; WSHC 2515/409/0803, 18/07/1927; WSHC 2515/409/0804, 16/05/1927; WSHC 2515/409/0862, 20/06/1927; WSHC 2515/409/0863, 05/07/1927). The destructor was designed to burn waste in a coal-fired furnace which heated a boiler, the steam from which drove two new compound duplex pumps installed in the boiler house (Figure 2: Building 44; Figure 14). In turn these pumps circulated the hot water for the washing and filling tanks in the boiler washing plant, replacing the existing boilers (WSHC 2515/406/1715, November 1927; Figure 15). The waste to be incinerated was brought into the destructor building by wagons using an existing siding, while smoke was expelled by an 80' high brick chimney built at the south-west corner of the building (WSHC 2515/409/0864, 12/04/1928). Seven years after the destructor and pumps were installed it was decided to replace the existing washing and filling tanks and pipework in the boiler washing plant (WSHC 2515/406/3516, April 1935).
- 6.7.29 At the end of the 1920s a water softening plant was built close to the boiler washing plant in order to reduce the occurrence of scaling in engine boilers (Figure 2: Building 43). Drawings of the 24'4" high cylindrical tower were issued in January of that year and the plant built shortly afterwards at the top of the embankment overlooking the recently completed refuse destructor (WSHC 2515/406/0730, January, 1929; Figure 16).
- 6.7.30 Other changes made to the fabric of the locomotive depot during this period included the provision of a replacement free-standing cast iron water tank at the coaling stage in 1930 and the acquisition of a new 50-ton electrically operated overhead crane to replace the 30-ton Vaughan's model in the lifting shop purchased by Churchward in 1905 (WSHC 2515/404/1756, February, 1930). The new crane was ordered in late September 1928 from S.H. Heywood & Sons of Reddish, Greater Manchester and remained in use until the Old Oak Common depot finally closed down (WSHC 2515/406/3394, 26/09/1928; WSHC 2515/406/2621, 23/10/1929; Figure 17).

Government Works Schemes and the New Carriage Repair Depot, 1935-1940

- 6.7.31 In the wake of the Depression of the early 1930s, a number of initiatives were implemented by central government to stimulate private capital investment in major infrastructural works and thereby relieve the burden of mass unemployment. The government invited large companies to participate in works schemes whereby the latter undertook to implement schemes of proven public utility and employ otherwise unemployed labour, the finance for which was guaranteed by the government. In 1935 the Ministry of Transport asked each of the Big Four railway companies to supply a list of improvement schemes that they considered to be economically viable and of ultimate benefit to their shareholders, which might be eligible for inclusion in the proposed Government Works Schemes. At the beginning of November the Great Western informed the Ministry that it was prepared to spend up to £5.5 million over five years upon a number of suitable schemes, on the condition that finance could be obtained at an effective cost to the company of not more than 3% per annum for a period of up to 20 years (TNA RAIL 250/57: 232). Among the eight schemes that the company undertook to carry out was a plan to enlarge marshalling yards, goods depots and carriage sheds at Brentford, Cannock Road, Hockley and Old Oak Common (*ibid*). At the end of the month the Board approved expenditure of £303,000 towards the 'rearrangement of Carriage Sidings and a Carriage Repair Shed' at the Old Oak Common depot (*ibid*: 243).

- 6.7.32 The scheme approved by the Board was not altogether new. As early as spring 1927, when plans to radically enlarge the locomotive depot were also under consideration, it was proposed to build a carriage repair shop on the empty ground between the engine shed and the 1905 carriage shed, which would itself be extended to the north. An untitled plan of the 1927 scheme indicated that the new complex was originally intended to be much larger than was eventually realised, comprising five ‘stepped’ sheds, the northernmost of which was to serve as the new carriage paint shop (WSHC 2525/410/0632, 30/03/1927; Figure 18).
- 6.7.33 Although the 1927 scheme appears to have been shelved soon after the plans were prepared, date stamps on the original drawing suggest that it may have been given a second lease of life in 1931 (*ibid*). The same year a new plan showing a proposed rearrangement of carriage sidings and additional carriage repair accommodation was commissioned, which abandoned the ‘stepped’ carriage sheds in favour of additional carriage sidings (eventually built as the Coronation Sidings) but retained the proposed carriage paint shop (WSHC 2525/410/1196, received 18/06/1931; Figure 19). It was also planned to enlarge the original carriage shed by building a two bay extension alongside its northern elevation, providing an additional ten carriage roads, each of which was to be heated by steam supplied from a new boiler house situated between the carriage paint shop and the extended carriage shed (Figure 2: Building 37). When completed, the boiler house was fitted out with Lancashire boilers, the furnaces of which were each fitted with mechanical stokers (*ibid*; Walters, 1993: 141). That the 1931 scheme failed to progress beyond the drawing board is evidenced by the 1935 Ordnance Survey map, reproduced here as Figure 20.
- 6.7.34 The decision of the Board to proceed with the Old Oak Common Government Works Scheme at the end of 1935 breathed new life into the moribund proposals to build new carriage servicing facilities at the depot. Before the new buildings and sidings could be built it was necessary to clear the area between the carriage and engine sheds, which necessitated extensive ground reduction works comparable to those undertaken by the company thirty years earlier (Hawkins & Reeve, 1987; also see 1955 Ordnance Survey map Figure 30). The decision of the Board to authorise additional expenditure of £12,602 for the project the following October hints at the magnitude of these works, and it was not until September 1937 that drawings of the proposed carriage servicing depot were issued (TNA RAIL 250/57: 338; WSHC 2515/409/0218, 01/09/1937). In the meantime, the Great Western awarded the contract for the extension of the 1905 carriage shed to the Cleveland Bridge & Engineering Co Ltd (TNA RAIL 250/58: 348).
- 6.7.35 A blueprint of the layout of the new carriage repair depot issued in September 1937 indicated that the company had decided to build the carriage paint shop (Figure 2: Building 22) adjacent to a new carriage lifting shop (Figure 2: Building 23), a feature absent from earlier schemes. A full set of new drawings was made available to the building contractors the following August (e.g. WSHC 2515/404/1654, August 1938; WSHC 2515/403/0360, received 26/09/1938; WSHC 2515/403/0361, received 26/09/1938).
- 6.7.36 When complete the carriage lifting shop was 412' long by 70'5" wide, while the carriage paint shop was 592' in length by 69'6" wide (WSHC 2515/404/1654, August 1938; Figure 21). The roofs of both sheds were clad in Robertson's Protected Metal V-Beam Sheeting (the same material used for the roof of the carriage shed extension), with 9'3" deep glazed panels running the length of each. Both roofs were surmounted by continuous glazed lanterns reminiscent of those on the Churchward-era buildings. The lanterns were fitted with fixed louvres for ventilation. Internal features of the carriage paint shop included a two-storey block of single depth rooms located at the western end

of shed designed to accommodate stores, the trimming shop and the piecework checker's office on the ground (shop) floor and a messroom and offices for the shop clerks and foreman on the first (WSHC 2515/403/0361, 26/09/1938).

- 6.7.37 An extensive range of machinery was installed in the carriage lifting shop. This included two 20-ton electric overhead travelling cranes used for lifting coaches from their bogies, which could traverse the entire length of the building. The main workshop area of the shed was situated at the west end of the building (WSHC 2515/406/0900, October 1938; see Figure 22). The workshop was fitted with a number of pieces of carriage wheel lifting, turning and grinding machinery, including an electric carriage wheel lift and journal polishing lathe (WSHC 2515/406/2904, January 1938), a radial drill, a 36" diameter tool grinder, a Churchill bench grinder and two heavy duty carriage wheel turning and grinding lathes, the latter supplied by Craven Bros of Manchester (WSHC 2515/403/2742, received 26/09/1938; WSHC 2515/403/2743, 26/09/1938). The floor of the workshop was paved with teak blocks made from the centres of old carriage wheels (WSHC 2515/406/0900, October 1938), while a new electricity substation was built adjacent to the south-west corner of the lifting shop in order to supply power to the machinery (Figure 2: Building 36). Construction and fitting out of the new carriage repair depot continued throughout 1939 and into the following year, the completed depot formally opening in April 1940.
- 6.7.38 A number of other major works were carried out during the second half of the 1930s in both the carriage and locomotive depots. Proposals to substitute a new 70' articulated engine turntable for an existing 50' turntable in the carriage yard had been raised in the middle of the decade, presumably in association with plans to increase the capacity of the carriage sidings (WSHC 2515/403/0356, May 1935; Walters, 1993: 141). The contract for the construction and supply of the turntable was won by Cowans Sheldon & Co Ltd of Carlisle, who appear to have installed it at some point between May 1935 and March 1937⁴, when the Swindon Drawing Office took possession of the drawings (WSHC 2515/403/0357, dated 17/04/1935, received 11/03/1937; WSHC 2515/403/0358, received 11/03/1937; WSHC 2515/403/0359, received 24/03/1937; Walters, 1993: *ibid*). Plans to extend the 1905/6 electricity sub-station were issued in the late spring of 1939 (WSHC 2515/403/0363, May 1939).
- 6.7.39 In order to accommodate the additional cleaning and workshop staff required to operate the new carriage repair depot it was decided to enlarge and improve the existing welfare facilities at the locomotive depot. In the summer of 1937 the Great Western presented plans to rearrange the messroom and cloakroom accommodation at the engine shed (WSHC 2515/409/0808, July 1937; WSHC 2515/406/1370, August 1937). The plans necessitated the relocation of the messrooms from their original premises on the north side of the shed (Figure 2: Building 46) to the sand furnace building on the south-west corner of the Shed (Figure 2: Building 20). The former messroom would be converted

⁴ The Cowans Sheldon 70' turntable installed in the Carriage Yard was of a very similar design to that fitted in the Engine Shed as a replacement for the south-west Ransomes & Rapier 65' turntable c.1953 (see below)

into new cloakrooms and stores, while the former sand furnace would be extended by 24' to the south west and fitted with a new kitchen and seating and tables for 170 diners (WSHC 2515/409/0808, July 1937; WSHC 2515/406/1370, August 1937, see Figure 23).

- 6.7.40 The improvements programme continued even after the outbreak of the Second World War, and included the construction of a new office for the head foreman and a lobby for engine drivers on the south side of the stores/office building (Figure 2: Building 16b), built in 1942 by Richard Costain Ltd for £841 (TNA RAIL 250/59: 312; WSHC 2515/409/0805 (2), July 1940; WSHC 2515/409/0805 (1), 28/09/1942, see Figure 24). Despite the War the company continued to improve the quality of the welfare facilities at the locomotive depot, installing a new hot water heater in the canteen at the end of 1941, which was followed a year later by a new beer cooling cabinet (TNA RAIL 250/59: 66, 147).

The impact of the Second World War upon the Old Oak Common Depot, 1939-1945

- 6.7.41 In October 1938 officials from the Ministry of Transport met with representatives of the Big Four railway companies to discuss arrangements that the latter needed to make for the protection of property and personnel in the event of war (TNA RAIL 250/58: 52). The following year the Government introduced legislation which compelled employers to implement at their own cost, Air Raid Precaution (ARP) measures to protect resources against attack from the air (Civil Defence Act 1939). While the Government was willing to bear the initial cost of a range of 'special precautionary measures' that were necessary in the case of the railways, the companies were expected to bear in full the cost of providing air raid shelters for their staff (TNA RAIL 250/58: *ibid*). The Great Western estimated that the provision of shelters and ARP training for personnel across the network would cost the company in the region of £200,000, while 'special measures' would cost a further £500,000 (TNA RAIL 250/58: 52).
- 6.7.42 Five air-raid shelters were built at locations along the north and west boundaries of the Old Oak Common locomotive depot (Figure 2: 60). A plan of the depot surveyed in 1943 indicated that four of these were protected by the embankments to the north and west of the engine shed, suggesting that all were sunken or semi-sunken in order to afford blast protection to the occupants (2525/410/0672, September 1943; Figure 25). A brick-built blast and splinter-proof surface shelter (Figure 2: Building 1) provided shelter for staff working the locomotive yard signal box (Figure 2: Building 39) or those caught out in the open at the east of the yard.
- 6.7.43 During the months leading up to the outbreak of the Second World War, Anti-Aircraft (AA) Command identified a number of sites on the fringes of the capital suitable for permanent AA batteries to defend the London Inner Artillery Zone (IAZ). A fixed battery (named ZW10) of 3.7" Heavy Anti-Aircraft (HAA) guns was established at the beginning of 1940 and was active in the AA defence of London from September of that year (Dobinson, 2001: 249; 573; see Figure 3: 6). In 1943 the site was assigned a complement of 5.25" AA guns, while a 'Z' battery equipped with 64 static rocket launchers was established nearby in 1942 (Figure 3: 5).
- 6.7.44 Despite the proximity of the AA defences, Old Oak Common was attacked by enemy aircraft on a number of occasions during the early stages of the Blitz of 1940. On 24th September the carriage depot was attacked and a number of carriages destroyed. Just over a month later enemy aircraft launched a daylight raid on the depot, during which at least one 500lb bomb fell on the recently completed carriage paint shop (TNA RAIL 253/309, 1940). A section of the roof was badly damaged, while brickwork at the south-east gable end was cracked by the blast. A number of carriages which were inside the shed when the bomb fell were damaged or destroyed (Plates 1-3). The following month

- authorisation was granted for the expenditure of £1,275 for the repair of damage caused by enemy action to a number of pits in the carriage shed roads (TNA RAIL 250/58: 305).
- 6.7.45 Shortly after the October raid, proposals were submitted to convert the ground floor office in the carriage paint shop into a reinforced dormitory/shelter for company staff (2515/403/0361(A), received 21/11/1940; Figure 26). The plan and sections of the shelter indicate that the existing 4½” thick walls were to be taken down and replaced by a 13½” thick brick wall, while new baffle walls of the same thickness were to be built to protect the two doorways at the front (east end) of the structure. The baffles were to be surmounted by 6” thick concrete slabs. The structure was to be strengthened by the addition of an internal steel frame, which was to be constructed of reused Rolled Steel Joists, while the roof of the (unreinforced) first floor office was to be covered in a layer of sandbags. Minutes of the Great Western Board suggest that the conversion and reinforcement of the office was undertaken in mid-1943 by Messrs Terson & Co for £1,675 (TNA RAIL 250/59: 474).
- 6.7.46 Following the intensification of German air raids against London during the early months of 1941, the Great Western implemented a number of additional ARP measures at the Old Oak Common depot. Towards the end of April the Board authorised expenditure of £2,519 for the protection of the glazed roofing of the carriage and locomotive workshops, the contract for which was awarded to James Clark & Eaton Ltd (TNA RAIL 250/58: 396). This work was carried out over the summer and was complete by the beginning of October (TNA RAIL 250/59: 14). Meanwhile a contract was awarded to Smith Walker Ltd for the supply and erection of two steel-framed shelters (Figure 2: Building 33) to be placed over the ash roads on either side of the coal stage in order to conceal the glow of firebox ash waste from enemy aircraft (TNA RAIL 250/58: 418; Lyons, 1978: 7). Built for a total cost of over £2,000, these asbestos-clad shelters can be seen to the north-east and north-west of the coal stage in Figure 25.
- 6.7.47 In December 1941 the Board approved a recommendation that the locomotive yard offices be converted into a canteen (Figure 2: Building 17A), in order that the clerical staff could be transferred to new office accommodation at Paddington (TNA RAIL 250/59: 90). A sum of £4,631 was allocated for the conversion, which took place the following year.
- 6.7.48 As the War progressed the renamed Ministry of War Transport (MoWT) instructed the company to undertake an increasing number of ‘special measures’ at the depot, the cost of which was borne by the Government. At the start of the conflict the railway companies had effectively ceded control of their operations to the Government in return for a financial guarantee of net revenue. The latter enabled the railway companies to maintain rates at a pre-War level, prompting industry to overwhelmingly choose rail over rival modes of transport (TNA MT 52/105, 1941). The combination of the suspension of the Great Western’s locomotive, carriage and wagon construction programmes in the summer of 1940 and the increased workload borne by existing vehicles meant that demand upon the locomotive facilities at Old Oak Common was high, and repairs accounted for a substantial proportion of subsequent expenditure (TNA RAIL 250: 58: 120, 225; RAIL 250/60). Naturally much of the spending was the consequence of increased wear and tear, examples of which included the renewal of the engine pits and coal stage pits, authorisation for which was granted in July 1943 (RAIL 250/60: 13). Instructions were given to repair the coal stage water tank in October 1941 and again in October 1943 (TNA RAIL 250/59: 51; TNA RAIL 250/60: 45). Existing facilities, plant and machinery were upgraded as the War progressed, examples included the installation of an additional boiler at the economical boiler washing plant and the

installation of new electrically-driven coaling lifts at the coal stage, which together cost almost £4,200 (TNA RAIL 250/60: 45, 89-90).

- 6.7.49 A number of the expenditures incurred at Old Oak Common during the War were associated with schemes intended to improve the operational efficiency of the depot during wartime and beyond. In December 1943 elements of the abortive 1927 scheme for the enlargement of the engine shed were revived (WSHC 2525/410/0720, Scheme no. 1, 08/12/1943). The scheme proposed building a new 65' turntable to the north-east of the lifting shop and the removal of the coal stacks in that location in order to allow the lifting shop to be extended the east. On completion the latter building was to be converted into a new engine shed. Consequently the existing traverser would be lifted and moved to a new location at the west end of the existing engine shed, the west wall of which would be knocked through to permit the westward extension of the tracks. This scheme never came to fruition and was instead supplanted by less ambitious proposals for the removal of the coal stack in front of (east of) the traverser, the enlargement of the existing 30' engine pits under the two roads in that location extended to 40' and the addition of a new stationary boiler for boiler washing at south-west corner of the engine shed (WSHC 2515/403/2192, 08/05/1944). In October 1944 expenditure of £4,830 was authorised for unspecified 'improvements at the locomotive depot', the cost of which was borne by the Government (TNA RAIL 250/60: 238).
- 6.7.50 During the spring of 1944 Allied forces assembled at camps and bases across south-eastern England in anticipation of the forthcoming invasion of continental Europe. Towards the end of March that year the MoWT instructed the Great Western to build accommodation at the Old Oak Common depot for troops of the US Army, the cost of which (£2,920) was met by the Government (TNA RAIL 250/60: 154).
- 6.7.51 It has not been possible to confirm a reference to Italian prisoners-of-war having been billeted in the Carriage Paint Shop from the primary sources consulted during the course of this research (Walters, 1993). Minutes of the Great Western Board contained no references to the incarceration of prisoners-of-war at Old Oak Common. There were working camps for German prisoners-of-war nearby at Scrubs Lane (32 Working Camp) and slightly further afield at Richmond Park (9 Bomb Disposal Camp), whilst Italian prisoners-of-war were accommodated at the Ruskin Avenue Camp in Kew (TNA FO 939/116, 1947; TNA FO 939/94, 1947; English Heritage survey of prisoner-of-war camps 2003, online at: http://www.kg6gb.org/pow_camps_in_uk_101_-_250.htm). However Italian prisoners-of-war (including those from the Ruskin Avenue Camp) were widely employed as railway labourers in the London area during and after the War and it is possible that prisoners were temporarily billeted at the depot whilst repairing war damage in the vicinity (TNA RAIL 1172/2343, 1944). It is also worth noting that the facilities at Ruskin Avenue were used successively by the US Army and then by Italian prisoners (<http://www.nationalarchives.gov.uk/news/314.htm>) and it is quite conceivable that similar arrangements prevailed at Old Oak Common after the American troops moved out.

Post-War Austerity and Railway Nationalisation at Old Oak Common, 1946-1954

- 6.7.52 The months that followed the end of the Second World War were largely taken up at Old Oak Common by the ongoing process of repairing war damage (TNA RAIL 250/60: 417). A number of improvements were made to signalling arrangements and track circuitry during the autumn of 1945 and a system for the electrical detection of points was installed at the east signal box that winter (*ibid.*: 483).
- 6.7.53 By the end of the War, supplies of fuel for domestic, industrial and transport uses had become greatly depleted. This situation was exacerbated by the failure of the

Government to maintain adequate stockpiles of coal, prompting widespread fears of imminent coal shortages (Kynaston, 2007: 189). In order to reduce the impact of any shortages on the transport infrastructure, each of the Big Four railway companies launched initiatives to convert coal-fired steam locomotives to run on oil. In March 1946 the Great Western decided to convert ten coal burning locomotives for use with oil fuel and the provision of oil fuel storage tanks at Llanelly and Severn Tunnel Junction (TNA RAIL 250/62: 46). Four months later the Board authorised the conversion of 34 coal burning locomotives and the installation of oil fuel storage tanks at Laira (Plymouth), Bath Road (Bristol), Newton Abbot, Canton (Cardiff), Swindon and Old Oak Common, at a total cost of £77,000 (*ibid*: 82). Plans of a proposed locomotive oil fuelling plant on the site of the former coal stacking ground at the northern end of the Old Oak Common locomotive depot were issued at the end of September (WSHC 2515/403/2185, 26/09/1946; 2525/410/1187, received 08/10/1946; Figure 27). These plans showed that the plant originally comprised two vertical heavy fuel oil tanks (Figure 2: Building 53), each with a capacity of 176,000 gallons, 34'6" in diameter and 30'2" tall (though the foundations were capable of supporting larger tanks should they have been required), a boiler house (surmounted by a 400 gallon water tank), which drove the steam pumps accommodated in the pump house (Figure 2: Building 6), together with ten unloading stations for fuel oil.

- 6.7.54 The introduction of oil-fired locomotives was one of a number of measures taken by the Great Western in order to reduce its dependence upon coal during the pre-and early post-war period. In the summer of 1946 the Board authorised the expenditure of £99,000 to acquire a prototype gas-turbine electric locomotive from the Swiss manufacturer Brown Boveri (TNA RAIL 250/62: 72, 94). The new locomotive (no. 18000), which was not delivered until after the railway companies were nationalised at the beginning of 1948, was designed to run on heavy fuel oil, which was readily available at the Old Oak Common oil storage depot. Although only two such locomotives were eventually introduced, plans for the conversion of the plant to a dedicated gas turbine locomotive fuelling facility were duly issued by the British Railways Western Region Swindon drawing office in March 1949 (WSHC Drawing No. 127624, March 1949; Figure 28). It was proposed to replace the westernmost vertical oil storage tank with a pair of 30' x 9' horizontal tanks from Didcot locomotive depot, which were to be used to store the heavy oil for the gas turbine locomotives. In the event, it appears that only a single horizontal tank was fitted, although this was subsequently retained for the use of these locomotives when the plant was partially converted into a fuelling facility for diesel locomotives (WSHC 2515/403/2196, Drawing No. 152798, 19/09/1950; WSHC 2515/406/1388, Swindon, 1952).
- 6.7.55 During the final months of its existence the Great Western Board authorised the expenditure of substantial sums upon the locomotive depot. The post-War repair programme accounted for some of this spending, including £3,200 set aside for the repair of the engine shed roof at the end of October 1947 (TNA RAIL 250/62: 210). Money was also spent upon the acquisition of new machinery, such as the new air compressors authorised at the end of March (*ibid*: 149; WSHC 2515/406/1450, Swindon, December 1948). A decision in October 1946 to authorise the expenditure of £6,000 to replace No. 4 engine turntable with a model to be supplied by Cowans Sheldon Ltd was an indication that despite the frequent repair and refurbishment of the turntables over the preceding decades, the four Ransomes 65' engine turntables were approaching the end of their useful lives (*ibid*: 106). It is not altogether clear whether the replacement of No. 4 turntable took place before nationalisation; however a drawing issued by the British Railways Western Region drawing office at Swindon in September 1949 indicates that the remaining turntables were also considered to be in need of replacement by that date.

It was proposed to replace the north-west and north-east turntables (Figure 2: Building 41) with turntables of identical diameter while the south-west (Figure 2: Building 28) turntable was to be replaced by a turntable 70' in diameter (WSHC Drawing No. 128308, 23/09/1949)⁵. On 26th June 1951 British Railways placed orders with Cowans Sheldon Ltd for two 65' articulated engine turntables (Order Nos. 9707 and 9708) and one 70' articulated engine turntable (Order No. 9709). Cowans Sheldon supplied engineering drawings of the two electrically-driven 65' models in April 1952, with those of the electrically-driven 70' example following eight months later (WSHC 2515/406/0908, 18/04/1952; WSHC 2515/406/1414, 31/12/1952). A drawing issued later that the decade suggests that all three had been replaced by 1958 (WSHC 2515/403/2195, 14/03/1958). While the 65' turntables were all removed when the locomotive depot was converted into a diesel MPD in the mid-1960s the 70' example was retained and has survived to the present (Figure 29).

6.7.56 The British Railways Modernisation Programme and the Diesel Motive Power Depot, 1955-2009

- 6.7.57 By the mid-1950s the era of post-war austerity had come to an end, and in 1955 the British Transport Commission (BTC) unveiled a 15-year plan to modernise and re-equip British Railways (TNA AN 8/4; TNA 8/9). The primary goal of the programme was to eliminate steam traction via the introduction of diesel and electric multiple units (EMUs and DMUs) for local and suburban passenger traffic and diesel-electric and diesel hydraulic locomotives for freight and mainline passenger services.
- 6.7.58 The BTC anticipated that steam traction would have been largely eliminated from all local and suburban passenger services and on a number of mainline routes in the Western Region by 1961/2 (TNA AN 199/184 BTC WAB Memorandum, 24/05/1957). The scheme envisaged that Pullman deluxe DMUs (known as 'Blue Pullmans' thanks to their distinctive liveries) would be operating between Paddington and Bristol and Paddington and Birmingham and Wolverhampton by that date, necessitating the conversion of facilities at Old Oak Common to maintain the new diesel stock.
- 6.7.59 BTC guidelines regarding the design and specification of DMU depots specified that DMUs were to be serviced in a separate section of the motive power depot (MPD) from steam locomotives (TNA AN 8/18: 1). With the locomotive depot still in use, the pre-war carriage repair depot was selected for conversion. Although the carriage lifting shop

⁵ It is likely that the fourth (south-east) turntable had already been replaced by this date. Drawing No. 128308 indicated that the south-west and north-west turntables were numbered 1 and 2 respectively, suggesting that the remaining two had originally been numbered nos. 3 and 4. However the north-east turntable was labelled no. 10, suggesting that it may have been replaced some years earlier. This may account for the high expenditure upon unspecified turntable 'repairs' in 1919. The south-east turntable was labelled no. 61, suggesting that it had been replaced more recently (i.e. after the replacement of No. 4 turntable was authorised at the end of October 1946). A drawing of the Engine Shed dated 1958 indicated that following the replacement of the south-west, north-west and north-east turntables in 1952-3, they were numbered 505, 74 and 78 respectively, with no. 61 having been retained in the south-east corner (WSHC 2515/403/2195, 14/03/1958).

contained dedicated workshop facilities, the larger carriage paint shop⁶ was considered better suited to the overhaul, repair and servicing of diesel power units, and plans for the conversion were issued in the autumn of 1959 (WSHC 2525/410/0690, 01/10/1959; Figure 31). The shed was converted during the course of the following year, and the new Blue Pullman DMUs entered service in September 1960 (Leigh, 1993: 64). Following the withdrawal of the Blue Pullmans from mainline service in 1973 the shed was closed. Subsequently a three road servicing shed for the High-Speed Trains (HST) that replaced the Blue Pullmans was built on the site of the former sidings in 1976 and extended ten years later (Walters, 1993: 142).

- 6.7.60 The British Railways modernisation programme also established a timetable for the conversion of selected steam locomotive depots into diesel MPDs. While many steam depots were surplus to future requirements and were therefore earmarked for closure, the association between Paddington and Old Oak Common guaranteed the survival of the latter into the new diesel era as a depot for the new diesel-hydraulic locomotives of the 'Warship' 'Western' and 'Hymek' classes that entered Western Region mainline service at the end of the 1950s (TNA AN 90/87, February 1958; Leigh, 1993: 70-74). The introduction of the diesels would render whole areas of the existing depot such as the coal stage redundant, while the new diesel servicing regime meant that extensive covered accommodation at the engine shed was also surplus to requirements (TNA AN 8/17, 1957: 1; TNA AN 91/13, 1965: 2).
- 6.7.61 Preliminary plans for the conversion of the depot were issued at the beginning of the 1960s (Figure 32). Because it was necessary to retain a reduced number of steam locomotives at Old Oak Common during the conversion process, during the two years from 1963 the depot accommodated both diesel and steam locomotives. Demolition of the engine shed began in March 1964, although it was not until the following March that the last steam locomotive left the depot (Lyons, 1978: 55; TNA AN 91/13, 1967: 2).
- 6.7.62 The new diesel depot was opened by the Chairman of the British Railways Board on 20th October 1965. The depot offered facilities for the full maintenance of 70 mainline and 25 shunting locomotives, with daily servicing to 65 locomotives (TNA AN 91/12, 1965). Servicing took place at the new servicing shed (Figure 2: Building 19), a single-storey structure with three through roads, which could accommodate two mainline locomotives simultaneously (TNA AN 91/13, 1967: 2). The new shed had a 6½" thick concrete floor slab and was built on top of the turntable ring of the former south-east engine shed turntable, with three servicing pits cut into the turntable foundations (WSHC 2515/409/0488, 20/05/1964, see Figure 33). A new sand drying house was built on the north elevation of this structure.
- 6.7.63 The lifting shop (Figure 2: Building 15a) and coppersmiths' shop (Figure 2: Building 15b) were redesignated as the maintenance shop and were equipped with pits to access the underparts of locomotives, electrically operated synchronised lifting jacks and a new

⁶ The Carriage Paint Shop had been used during the mid-1950s for the secure stabling of five carriages of the Royal Train (TNA AN 10/27, 31/05/1955).

load cell for locomotive weighing (TNA AN 91/13, 1967: 2). The remaining space was used thereafter as a workshop and for the storage of major components. The former carpenters' shop (Figure 2: Building 15c) was subdivided and converted into a boiler house compressor room and bulk lubricating oil store, whilst the stores building was subdivided between offices, storage space and a new filter cleaning plant (WSHC 2525/410/2172, 20/12/1966).

- 6.7.64 A number of new buildings were added during the course of the conversion, including an underframe cleaning plant (Figure 2: Building 4), which was equipped with its own steam generating plant (Figure 2: Building 5). A plan of the new diesel MPD, surveyed just over a year after opening is reproduced here as Figure 34. Despite numerous repairs and refurbishments that took place over the next forty years, the majority of these buildings continued to be used until the depot was eventually closed at the end of the first decade of the 21st century.

7 BUILDING DESCRIPTIONS AND SIGNIFICANCE

7.1 Introduction

7.1.1 Each building was described in turn to identify its location, construction and a brief summary of its development and age. The assessment of the significance of each NLBH asset is presented at the end of each description. This information was used to inform recommendations for the appropriate levels of future archaeological recording (drawn, photographic and written) discussed in Chapter 10. The numbering convention used (e.g. **1. Shunters Cabin**) corresponds with that used on Figures 2 and 37.

7.2 1. Shunter's Cabin

7.2.1 The Shunter's Cabin was located at the eastern tip of the site on the north side of the sidings and against the northern boundary of the site. The building was single storey and rectangular in plan aligned northwest-southeast. It was largely constructed of red brick laid in an English bond with the north wall built of concrete block and the flat roof constructed of reinforced concrete (Plate 4). The original entrance was baffled with an outer doorway in the west elevation, a small lobby and then a second doorway into the western of two rooms.

7.2.2 Four openings (a doorway and three windows) had been inserted into the south elevation subsequent to its original construction. The east elevation had a blocked hatch that was protected by a 'blast' wall. The structure was built as an air raid shelter c.1939/40, presumably to provide protection for staff working in the locomotive yard signal box and in the open yard. After the end of the war it was converted into a mess room. Historic plans indicate that in contrast to the other air raid shelters situated along the north and west perimeter of the depot, the structure was a surface shelter, albeit protected against blast by the canal embankment (see Figure 25). Although many surface air raid shelters for railway use have been demolished since the end of the Second World War (e.g. an example at the former King's Cross Goods Yard, demolished in 2008) many other examples survive both regionally and nationally; therefore it is considered that this building is of **local** significance.

7.3 3. 7. 8. Carriage Washing Plant, Treatment Plant, Water Tower

7.3.1 At the south and eastern side of the site there were three structures associated with the cleaning of carriages (Plates 5 and 6). The Water Treatment Plant (7) was a modern small rectangular metal panelled room with a cylindrical water tank at its eastern end. A pair of double doors gave access to the structure from the west side and this elevation also had a shower fitted to the exterior for the cleaning of personnel. The interior had several cylindrical tanks one of which had a notice attached that identified the contents as 'Mild Alkali Detergent Train/Tube Exterior Cleaner' supplied by Bingham Traincare.

7.3.2 The tall water tower (8) to the west of the water treatment plant supplied the water and the Carriage Washing Plant (3) further to the east allowed the train to pass between a series of static and rotating brushes whilst being sprayed with water to clean the carriages. This machinery was relatively modern dating to the last decade of the 20th century or the first decade of the 21st. This building is therefore considered to be of **negligible** significance.

7.4 4. Underframe Cleaning Shed

7.4.1 The Underframe Cleaning Shed was a large rectangular building with a single track running through the building (Plates 7 and 8). It was found to the east of the main group of buildings and was aligned east-west. The lower part of the walls was built of brick with

the upper part and the roof structure constructed from a steel frame and covered with corrugated metal panels.

- 7.4.2 Access was via doorways in the east and west ends with steel roller shutters covering the two large train openings at either end. The interior of the shed had an inspection pit running the length of the building between the tracks. A steel gantry on either side of the track provided a walkway at train roof height. These were fitted with pipework that were connected to 'Scotkleen' pressure washers so hoses could be attached at various points along the gantry. Either side of the track there were wide metal grills in the floor that presumably allowed water to flow to drains beneath. The Underframe Cleaning Plant was built c.1965 in this location when the locomotive depot was converted to diesel use (see Figure 34). The original building appears to have been re-clad at some point subsequently, possibly during the 1980s. As a surviving (albeit apparently much-altered) element of the 1965 diesel MPD, this building is considered to be of **local** significance.

7.5 5. Steam Raising Plant

- 7.5.1 This building was situated to the west of the Underframe Cleaning Shed (Building 4) with track close by on the north and south sides (Plate 9). It was a single-storey rectangular building aligned east-west and faced with red brick laid in a stretcher bond over an inner construction of concrete blocks. The building had a flat roof with bitumen roofing felt overlapping the timber fascia boards that extended across the top of all four elevations. There were metal framed, opaque glass windows in both the north and south elevations with concrete sills. The shorter east and west elevations both had doors. The eastern was an original opening with a pair of timber louvre doors, but the western was a recent insertion of a steel roller shutter. The original entrance was in the south elevation where a pair of angled doors gave access to rooms to east and west.
- 7.5.2 Although it was not possible to gain access to this building, it appeared to be separated into three internal rooms, the largest of which was at the western end, with a small area only accessible from outside via the louvre doors at the east end. This tripartite design was the original arrangement, as shown on Figure 34. Documentary evidence indicates that the structure was originally built c.1965 to generate steam for the adjacent Underframe Cleaning Shed. The modification of the western elevation with a new entrance and cement render implies a change of use in the recent past. As a relatively intact element of the 1965 diesel MPD, this building is considered to be of **local** significance.

7.6 6. 53. Diesel/Oil Tank and Pump House

- 7.6.1 These two structures were found at the northern edge of the site to the north-west of the Factory (Building 15). The Diesel/oil tank was a tall cylindrical structure sitting on a low octagonal red brick base with a staircase curving round on the southern side of the tank. The tank was surrounded by a low yellow stock brick wall capped by a course of concrete coping stones creating a bund (Plate 10). This wall would appear to be later than the construction of the tank base and the pump house, which were both built from the same type of brick. The construction of the bund wall may even have been responsible for the truncation of the pump house as archaeological evidence shows that it would once have extended further to the west.
- 7.6.2 The building that remains was square in plan with a flat concrete roof and original timber framed windows in the west elevation. There was a door in the south elevation and blocked door in the north elevation. The truncated section of the west elevation had been infilled with a light coloured brick. To the east of the building there was pumping equipment and pipes extending eastward. Pipes also connected the pump house to the tank and the tank to the Factory building.

- 7.6.3 Documentary evidence indicates that the pump house and tank were originally built in 1946/7 as part of a heavy fuel oil storage depot, which was used by a small number of Great Western coal-fired locomotives converted to run on oil during the coal shortage that followed the end of the Second World War. The Great Western planned to establish similar depots at Llanelly, Severn Tunnel Junction, Laira (Plymouth), Bath Road (Bristol), Newton Abbot, Canton (Cardiff) and Swindon. While Plymouth Laira remains in use, all of the other depots have been closed and it is considered highly unlikely that their oil fuelling facilities from this period have survived.
- 7.6.4 The depot was subsequently remodelled in 1949 as a fuelling plant for the experimental gas-turbine electric locomotives Nos. 18000 and 18100. Only two locomotives of this type ever operated on British Railways. The horizontal heavy fuel oil storage tank used by these locomotives has been subsequently removed. The plant continued to be used as a diesel fuel depot following the withdrawal of the gas-turbine locomotives at the end of the 1950s.
- 7.6.5 The depot represents a rare survival from the period of austerity that followed the end of the Second World War. Its documented association both with that period and with the short-lived gas-turbine locomotive experiment that followed suggests that it should be considered to be of **regional** to **national** significance.

7.7 9. Metal Store

- 7.7.1 The Metal Store was located in the centre of the site, to the east of the main group of buildings and directly to the east of the Water Softening Plant. The single-storey structure was rectangular in plan and aligned east-west. It was of a simple steel frame construction with timber ceiling members spanning the structure north south and forming the roof structure. The walls and roof were clad with corrugated iron panels with the roof panels having a very slight fall to south (Plate 11). The only access to the building was via a large pair of sliding doors in the centre of the north elevation and was used for storage. This structure is modern in date. This building is of **negligible** significance.

7.8 11. 18. Offices/Portable Buildings/Portacabins

- 7.8.1 A group of temporary offices and portacabins stood in the centre of the site within the footprint of Churchward's original Engine Shed (Plate 12). A sign identifying the buildings as Churchward House, property of EWS Railways Ltd was affixed to the western elevation. The complex was used as offices for Engineers and Technical/Clerical Support staff.
- 7.8.2 The buildings were single-storey with a flat roof and had been provided with concrete steps to entrances and exits. This would suggest they were intended for near-permanent use in this position. These structures were erected during the last decade of the 20th century. This building is considered to be of **negligible** significance.

7.9 12. 13. Water Softening Plant, Water Tower

- 7.9.1 The Water Softening Plant (12) and Water Tower (13) were located to the east of the main group of buildings and just to the east of electricity substation B2 (26). The rectangular water tank was supported by a steel frame made by Earl of Dudley Steel. This water tower was located just to the west of the brick built Water Softening Plant which it fed via underground pipes (Plate 13).
- 7.9.2 The Water Softening Plant was an unusual shaped building. Rectangular in plan and aligned north south the building had three flat roofs stepping up in height to south. This highest part of the building contained a large water tank. The entrance was via a doorway in the north elevation and in the centre of the south elevation there was a

recessed vertical panel containing a window at ground floor level and also a window at first floor level. Both structures are shown on Figure 34 and were built during the mid-1960s, when the steam locomotive depot was converted into a diesel depot. As a survival of this period of transition, this building is therefore considered to be of **local** significance.

7.10 15a. 15b. 15c. The Factory

7.10.1 The Factory was located in the central northern part of the site and was positioned at the north-east corner of the original 1904-6 Engine Shed building. The structure was built of red brick with a black brick projecting plinth and had segmental arched openings with metal framed windows. All of the elevations except those that would have joined onto the Engine Shed in the south-west corner and the eastern side where ten railway tracks entered the building were decorated with brickwork detailing. This took the form of each gable being divided into thirds with recessed panels and a stepped projecting detail at the eaves (Plates 14 and 15).

7.10.2 The internal space was divided between three distinct areas. The main space (15a) was the maintenance shed and the eastern side of this was serviced by an overhead beam crane that could travel the north-south width of the room across all of the tracks (Plate 18). This had a maker's name of S.H. Heywood & Co Ltd and a stated maximum load of 50 tons. This crane was installed at the end of the 1920s and replaced an earlier crane (of 30-ton loading capacity) manufactured by Vaughan & Sons (see 6.7.19 and 6.7.30 above).

7.10.3 The other two spaces were a Boiler House (15c) and a Lifting Bay (15b). Both of these were double pitched roof and aligned east west. The timber and cast iron roof trusses were the same style throughout the building and as an unusual design should be recorded both with a photographic and drawn record (see Figures 10 and 11). The Boiler House was divided into two halves and had undergone several alterations from its original form as evidenced by several blocked windows and inserted doorways (Plate 16). Formerly used as the Carpenters' Shop, the space was subdivided and converted during the mid-1960s. The Lifting Shop was a larger but simpler space and was less altered. It retained eight large jacks mounted on rails, in pairs on either side of a track with an inspection pit to lift a locomotive (Plate 17). Each of these had a maximum stated load of 25 tons. The jacks are likely to have been the electrically-operated synchronised lifting jacks installed in the mid-1960s (see 6.7.62 above). As a survival of Churchward's original locomotive depot this building is considered to be of **regional** significance.

7.11 16a. 16b. Stores/Offices

7.11.1 The Stores buildings although described as two buildings were designed and built as one structure as part of Churchward's original locomotive depot. The building was located in the centre of the main group of buildings, just to the south of the Factory building (15). Like the latter building, the Stores were built of red brick with a black brick projecting plinth and segmental arched metal framed windows (Plate 19). The decorative exterior style of the brickwork with recessed panels and stepped projecting eaves was also exactly the same suggesting the two structures were contemporary.

7.11.2 The south elevation was uncharacteristically plain owing to the removal during the mid-1960s of a 'lean-to' structure containing the head foreman's office and driver's lobby that had been added in 1942 (see 6.7.40 above). The interior of the building was mirrored about a central east-west axis. INTERNAL: Against the north and south walls were a row of ground floor offices. Historic plans of the depot suggest that these offices were built in association with the conversion of the depot to diesel use in the mid-1960s (compare

Figures 27 and 34). Between these was a central open space with a central circular column supporting the roof structure (Plate 21).

- 7.11.3 The roof structure of two east-west aligned double pitched roofs had a series of interesting and unusual timber roof trusses, with metal caps to the feet of the trusses and connectors at the apex and the base of the queen posts. These were of the same design as those seen in the Factory and in historical photographs of the (since demolished) Engine Shed (see Figures 10 and 11). As survivals of Churchward's original locomotive depot these buildings are considered to be of **regional** significance.

7.12 17a. 17b. Amenity Buildings

- 7.12.1 The Amenity Buildings (17a and b) were built in two very different styles and clearly dated from two different periods. The buildings were to be found on the south side of the main group of buildings in the centre of the site, immediately to the south of the Stores buildings (16a and 16b).

- 7.12.2 The two buildings are rectangular and aligned east-west, with the New Amenity Building (17b) built against the east gable end wall of the Amenity building (17a). The latter is built of red brick with a projecting black brick plinth. Along both north and south elevations there were twelve segmental arched windows with black brick sills (Plate 22). The west gable end houses the main entrance and has a series of small windows to the north and a large segmental arched window to the south. These probably show that the interior rooms were a toilet and office respectively. The building had a central corridor along the length of the building with rooms on either side. Architectural features indicate that this building was previously a canteen with welfare facilities. Historical and cartographic evidence indicates that this building was originally built to accommodate offices during the original 1904-6 phase of construction, before being converted into a canteen during the Second World War (see 6.7.47 above). As a survival of Churchward's original locomotive depot this building is considered to be of **regional** significance.

- 7.12.3 The New Amenity Building was a two-storey building with a flat roof and staircase at its eastern end. Built with a concrete rendered steel frame and infilling brickwork the ground floor had a narrow window at head height along its length (Plate 23). The first floor projected over the ground floor north and south elevations and was glazed along its length. The internal layout on both floors consisted of large open plan rooms with a central row of Y-shaped concrete pillars. The building was very typical of post-war designs and documentary evidence confirms that it was built in the mid-1960s when the depot was converted to diesel use (see Figure 32). As a survival of this period of transition, this building is therefore considered to be of **local** significance.

7.13 19. Diesel Refuelling Maintenance Shed

- 7.13.1 The Diesel Refuelling Maintenance Shed was located in the south eastern corner of what had been the site of the Engine Shed, between the Turntable (28) to the west and the Stores Building (16a and 16b) to the east. Its location indicates that it was built after the demolition of the Engine Shed.

- 7.13.2 The single-storey building was rectangular, aligned east-west with a double pitched roof and gables at the east and west ends (Plate 24). It had three railway tracks running through the building east-west, with steel roller shutters covering the openings (Plate 25). The building was constructed from twelve pairs of vertical steel I-beams supporting the steel roof trusses, with the bays between infilled with concrete block on the inside and a skin of beige coloured brick on the exterior. A narrow window ran the length of the top of both north and south walls. Several rooms had been built on the north side of the

shed for offices, welfare and workshops and all were part of the original design of the building. The only exception to this was the later addition of a concrete block built room (a tool store) at the eastern end of the north elevation.

- 7.13.3 In the centre of the shed there were four evenly spaced diesel refuelling pumps. Whilst some of the rooms on the north side of the shed had undergone some minor alterations with the removal of partition walls, the building was largely as-built. The design and fabric of the building suggest that it was built soon after the demolition of the Engine Shed in the 1960s. Documentary evidence indicates that the shed was built in 1964 as the diesel servicing shed, which became the centrepiece of the new diesel depot when it opened in March 1965 (see 6.7.61 above and Figures 33 and 34). As a survival of the mid-1960s transition period, this building is considered to be of **local** significance.

7.14 20. Mess Room (Sand Furnace)

- 7.14.1 This building was built of red brick, rectangular in plan and aligned east-west. It had a double pitched roof with glass panels on both sides of the apex running the length of the building. The gable end walls had a projecting stepped brick detail at the eaves in imitation of original 1905 buildings (Plate 26). The core of the building is 1904-6 in date and was built against the south wall of the large Engine Shed. The structure had been extended several times and had a single storey extension at its western end. The north wall of the building incorporated the original south wall of the Engine Shed and the western extension of the building meant that windows in the north wall that had once illuminated the Engine Shed were now enclosed within this building (Plate 27).

- 7.14.2 Examination of the north facing elevation of the north wall showed that this had once been an interior elevation as the windows were opened from this side and it did not have the recessed panels, chamfered plinth and rain shedding sloping window sills seen on the other side of this wall. The south elevation of the building had a series of seven equally spaced windows each set in recessed brickwork panels. Although this at first glance appeared to be a unified single phase façade, examination of the brick types, mortar and bedding patterns showed where the original sand furnace structure had been extended.

- 7.14.3 Documentary evidence indicates that this building was originally erected in 1904-6 and was subsequently extended and converted into a messroom with a new kitchen and seating for 170 diners during the late 1930s (see 6.7.39 above and Figure 23).

- 7.14.4 As a survival of Churchward's original locomotive depot this building is considered to be of **regional** significance. It is of particular interest owing to the survival of the fabric of the now-demolished Engine Shed in its north wall.

7.15 21. Boiler House (Pullman Shed)

- 7.15.1 The Boiler House (21) was found to the north of the Pullman Shed (22) and just to the west of the Mess Room (20). It was a rectangular building aligned east-west with a flat roof and a tall chimney rising from the north elevation (Plate 28). The building was constructed from brick built columns supporting the steel beams of the roof with concrete blockwork infilled the bays between. The exterior elevation was executed in brick. The south elevation had four wide openings covered by steel roller shutters each with a narrow window above. The western end of the south elevation also had a wide floor to ceiling opening covered by a steel roller shutter.

- 7.15.2 The interior of the building was one large open room and appeared to be purpose built to house three large boilers. These were supplied by B & E Boilers Ltd of Bracknell. This building did not comprise part of the mid-1960s phase of works and was probably not

built until the late 1970s/early 1980s (compare Figures 34 and 35; also see Walters, 1993). This building is considered to be of **negligible** significance.

7.16 22. Pullman Shed

- 7.16.1 The Pullman Shed (formerly the Carriage Paint Shop) was a long rectangular building located on the western side of the site. It was aligned east west and was abutted to the south by the Carriage Lifting Shop (23). The building was constructed from a steel frame with brick infilled bays, most of which had a tall metal framed window (Plates 29 and 30). The western gable had windows on the ground and first floor and recessed three recessed panels reminiscent of earlier 1905 buildings (Plate 31). Each pair of vertical steel I-beams supported a single span L-section steel roof truss (Plate 32). The roof had a longitudinal glass section on both slopes running the length of the building, making the shed a very well lit space. Suspended below the roof were large extractor fans.
- 7.16.2 Three railway tracks entered the building at the eastern end and two continued almost until the west end. The southernmost track was terminated two thirds of the way along the shed as a brick built single storey flat roofed building had been erected along the south side of the shed. Documentary evidence suggests that this structure was probably built in the late 1950s in association with the conversion of the shed into a maintenance shop for blue Pullman DMUs (see Figure 31).
- 7.16.3 At the western end of the shed there was a two-storey block of single depth rooms (Plate 33). The upper floor had clearly originally been offices of status as the tongue and groove panelled rooms had moulded cornice and architrave details of some style. The rooms below were more functional and latterly used as store and mess rooms. Documentary evidence indicates that the ground floor office was converted into a reinforced dormitory/shelter during the Second World War (Figure 26). This structure represents one of only two surviving structures on the site built during the Second World War to provide protection for staff against enemy air raids. The Carriage Lifting Shed itself was built in 1939/40 as part of a government-backed railway works programme to which all of the Big Four railway companies subscribed in the mid-1930s. As such, this building is considered to be of **regional** significance.

7.17 23. Carriage Lifting Shop

- 7.17.1 The Carriage Lifting Shop was located on the west side of the depot and abutted the Pullman Shed to the north. It was a long rectangular building and constructed in the style as the Pullman Shed, with a steel frame and brick infilling panels (Plate 34). The vertical steel beams of the frame were embossed with the name of the maker, Dorman Longs & Co Ltd, Middlesbrough.
- 7.17.2 The side walls of the building were higher than the Pullman Shed as they had to accommodate the running gear for two cranes that spanned the north-south width of the shed and could move along its entire length (Plate 35). A plate on this crane stated that it was made by Wharton Cranes of Stockport in September 1938 and it had a maximum carriage lift capacity of 20 tons, with an auxiliary hoist capacity of 10 tons.
- 7.17.3 Three railway tracks entered the building from the east end, two of which stopped short of the west end of the building. Here there was a large area of wooden herringbone flooring with several inset metal plates and fixings. Documentary evidence indicates that this was a workshop area paved with teak blocks recycled from the centres of old carriage wheels (Figure 22). Documentary evidence suggests that the Carriage Lifting Shop and the Carriage Paint Shop/ Pullman Shed were built as part of the same phase of works in 1939/40, although a number of minor construction details suggest that the Carriage Lifting Shed may have been built against the neighbouring Carriage Paint

Shop/ Pullman Shed. Both sheds were built in 1939/40 as part of a government-backed railway works programme to which all of the Big Four railway companies subscribed in the mid-1930s. As such, this building is considered to be of **regional** significance.

7.18 24.52. Sump/Oil Interceptor, Oil Tank

7.18.1 The Sump/Oil Interceptor and Oil Tank were found in the centre of the site, just to the east of the original 1904-6 buildings (16b). The sump/oil interceptor equipment was surrounded on three sides by railings with decorative ball finials on the posts (Plate 36). The oil tank was a horizontal cylinder on a red brick base and was surrounded by a concrete block bund. The oil tank was later than the sump/oil interceptor which may date to the first phase of development in the early 20th century. Cartographic evidence indicated that the Sump/Oil Interceptor was built at some point before 1943, when it was surveyed on a plan of the depot (Figure 25). As potential survivals of Churchward's original locomotive depot the railings that surround the Sump/Oil Interceptor are considered to be of **regional** significance.

7.19 26. Substation B2

7.19.1 The brick built electricity substation B2 was located just to the south of the water tower (13) to the east of the original 1904-6 Stores buildings (16aandb) (Plate 36). It was single storey L-shaped building with a flat roof and timber fascia board running around the entire building. The southern wing of the structure was a later addition designed to match the style of the original northern part of the building.

7.19.2 The northern part probably dates from the first phase of the development of the site in 1904-6. It was built from two types of brick, black engineering for the chamfered plinth and red for the walls, exactly the same as contemporary first phase structures. A very heavy metal door was the only entrance to the original part of the building in its west elevation. This was stamped with 'Ratner London'. Documentary evidence suggests that this building (described as an 'electricity distribution centre' on a plan of the depot surveyed in 1943 - Figure 25) was extended in the 1930s (see 7.7.38 above).

7.19.3 A pair of timber double doors was found in the west elevation of the later southern extension. The lower part of the red brick walls of this addition were constructed of black bricks but did not project from the elevation to form a plinth. This structure was first depicted on a plan of the newly-converted diesel depot, surveyed in 1966 (Figure 34). The bricks in both parts of the building were laid in stretcher bond. As a (much-altered) survival of Churchward's original locomotive depot the railings the substation is considered to be of **regional** significance.

7.20 28. Turntable

7.20.1 The turntable was located just to the north of the Mess Room (20) and would originally have been found in the south-west corner of the original 1904-6 Engine Shed building. The turntable had a measured diameter of 70' and was therefore a replacement of one of the original 65' examples fitted in 1905/6. Documentary evidence indicates that the turntable was ordered from Cowans Sheldon Ltd of Carlisle in 1952 and a date plaque affixed to the hand turning gear control panel indicates that it was built by Cowans Sheldon in 1953. The original overhead electricity collector gear appears to have survived in-situ at the centre of the turntable (see Figure 29).

7.20.2 With a number of railway tracks around the turntable exposed to the elements after the demolition of the Engine Shed a new system of lighting was erected and its introduction may have coincided with the erection of a timber-built operator's booth on the turntable itself (Plate 37). The cylinder of the turntable itself was constructed from brick and the

platform was at least partially constructed from thick timber beams. The hand turning gear mechanism was situated on the opposite side of the table to the operator's booth. As the sole surviving element of a programme launched at the end of the 1940s to upgrade the Engine Shed (since demolished like the majority of its contemporaries), this turntable is considered to be of **regional** significance.

7.21 30. Toilet Block

7.21.1 This brick built rectangular toilet block was located immediately to the west of the original 1904-6 'Stores' building (16). This location would have been inside the eastern side of the large Engine Shed building and so must have been constructed after its demolition. The structure had a flat roof with a timber fascia board and was divided between a large room at the northern end of the building and several smaller rooms at the southern end (Plate 38). At the time of survey access was not possible to this building.

7.21.2 Access was via two doorways in the east wall of the building and signage stated that the southern rooms were latterly used as a laundry, ladies toilet and drivers'/shunters' mess room. There were windows in both the east and west elevations and the northern room appeared to have been used as an office. The building is of late-20th century date and was not depicted on a plan of the new diesel depot surveyed in 1966 (Figure 34). This building is therefore considered to be of **negligible** significance.

7.22 34, 54. Fuel Oil Tanks, Diesel Tank Pump House

7.22.1 The Fuel Oil Tanks (34) and Pump House (54) were located at the eastern end of the north elevation of the Pullman Shed (Plates 26 and 29). The Fuel Oil Tanks consisted of two tall cylindrical steel tanks seated side by side within a concrete block wall that acted as a bund. The western tank had a vertical ladder fixed to its west side giving access to the top of both tanks, which were provided with handrails. The pumping equipment was housed within a small steel panelled shed adjacent to the base of the tanks. Both structures probably date to the end of the 20th century and are therefore considered to be of **negligible** significance.

7.23 36. Substation B3

7.23.1 Electricity substation B3 was located at the western end of the south elevation of the Carriage Lifting Shop (Building 23). The substation consisted of two single-storey buildings, one brick-built and the other of pre-fabricated metal with a small fenced-off area containing a transformer between the buildings and a second on the south side of the brick structure (Plate 34). The brick building was built against the outer wall of the Lifting Shop from a beige coloured brick laid in English bond and was very similar to those used in the Carriage Lifting Shop. The structure had a concrete roof with a very shallow slope shedding rain water to the south and appeared to have been extended on its southern side.

7.23.2 Documentary evidence suggests that the brick substation was originally built when the Carriage Lifting Shop was built in the late 1930s (see Figure 21). The metal pre-fabricated structure was erected much more recently than this brick building, probably in the last decade of the 20th century. The brick building is considered to be of **local** significance, while the metal pre-fabricated structure is considered to be of **negligible** significance.

7.24 38. Substation B5

7.24.1 Electricity substation B5 was located in the far south-western corner of the site. This consisted of two small single-storey structures built of red brick laid in a stretcher bond (Plate 39). The southern building was the slightly longer of the two buildings and both

were aligned in an approximately northeast-southwest direction parallel with the concrete boundary retaining wall. Both buildings had a flat roof with a timber fascia board on all four elevations, were without windows and were accessed by a pair of timber double doors.

- 7.24.2 Between and in front (east) of the two buildings was a metal fence which restricted access to two large transformers. Just to the north of this group was a small, grey single-storey pre-fabricated metal structure with a very shallow sloping roof and a pair of metal double doors in its south elevation. Warning signs on the doors of this building indicated that its purpose was also to house equipment associated with high voltage electricity. The fabric and design of the structures suggest that they were constructed in the latter decades of the 20th century, the brick structures apparently built slightly earlier than its metal counterpart. The brick structures do not appear to have been part of the mid-1960s conversion programme (see Figure 34), therefore each element of this group is considered to have been of **negligible** significance.

7.25 39. Mess Room

- 7.25.1 This brick-built structure was a small single-storey rectangular building which had a double pitched roof and was aligned east-west (Plate 40). Built against the west gable end wall was a small brick outbuilding with a sloping corrugated iron roof; fitted timber shelves showed it had been used as a storeroom. The building was located at the very eastern tip of the Depot site, close to the junction with the Great Western Mainline.
- 7.25.2 The bricks were laid in a Flemish bond with burnt headers particularly noticeable in the west gable end. Occasional bricks were stamped 'HAMBLET'S LTD'. In the south wall there was a segmental arched window, while the entrance doorway was in the east wall. The interior of the building was divided into two rooms by a north-south aligned brick wall. The smaller room at the eastern end was separated from the entrance by a timber tongue and groove partition fitted with coat hooks and the room had a water heater fixed to the far wall. The doors to this and the main room were both original and constructed from timber in a traditional four-panelled design.
- 7.25.3 The slate tiled roof structure was also original with narrow timber boards over rafters supported by several collar beams. The main room was originally open to this roof structure, but a more modern ceiling with timber joists had been inserted, the smaller room retained its original ceiling. The main room had a small, interestingly stepped chimney breast with a brick infilled fireplace. The design of the chimney breast was reminiscent of an example in the Stores building. The design and fabric of the building indicate that it was built in the early 20th century, most probably during the original construction phase of the Old Oak Common depot in 1904-6.
- 7.25.4 Cartographic evidence confirmed that the building was in existence by 1916 (Figure 13), and it is possible that it may have been associated with the former locomotive yard signal box (since demolished), which stood a short distance to the south (see Figures 25 and 28). Two undated plans of the oil gas main arrangements (WSHC 2515 410 0359 and 2515 410 0425(2)) of the yard identified the hut as 'P.W H', although the meaning of this acronym was unspecified. As a probable survival of Churchward's original locomotive depot this building is considered to be of **regional** significance.

8 SALVAGE ASSESSMENT

8.1 General

8.1.1 Two PCA historic buildings archaeologists (Malcolm Gould and Paul McGarrity) visited the Old Oak Common Worksite on 20th and 21st September 2010 in order to identify structural elements and other articles of interest that might merit salvage, storage and/or reuse following the recording and demolition of the built heritage assets. The assessment criteria were derived from the site-specific Method Statement (Matthews, 2010) and from results of the significance assessment presented in the preceding chapter of this report. Consultations with specialist industrial archaeologists and historians (Malcolm Tucker and Michael Bussell) also informed the conclusions and recommendations of this assessment. The assessment recommends that an effort be made to salvage elements A to K (inclusive) below. Elements L to P (inclusive) include substantial items of plant and machinery such as the three surviving overhead gantry cranes, which may prove impracticable to salvage and store in their entirety. Therefore this assessment concludes that these merit further investigation during the NLBH recording process in order to ascertain whether it is practicable to retain any components that may usefully illustrate their form and function. Finally elements Q to S (inclusive) represent a small sample of miscellaneous fittings that it may be desirable to retain for illustrative purposes, storage space permitting. The numbering convention used (e.g. Building 15a The Factory: Lifting Shop) corresponds with that used on Figures 2, 37 and 38.

8.2 Elements Recommended for Salvage, Storage or Reuse

The Factory: Lifting Shop, Building 15a

A. Composite material truss structure, 4th truss from south-west end of former Lifting Shop

8.2.1 The roof trusses of the Factory building are composite structures comprised of timber, cast iron, cast steel and possible wrought iron elements (TNA RAIL 252: 1340)⁷. The use of roof trusses formed of composite materials was popularised in the late 1830s by the French engineer Camille Polonceau. Each composite truss of the Factory comprises two timber (pitch pine) rafters, joined at the apex by a cast iron ridge piece which forms the head of the principal (see Figure 10 for the typical arrangement of the Churchward era roof principals in the Engine Shed and Factory). The principal members are braced by two pairs of timber struts (thereby forming a 'double struts' roof), comprising vertical pitch pine queen posts and angled outside braces, while the structure is held together

⁷ Among the tasks to be undertaken by the contractors for the construction of the Engine Shed complex was the following: "No. 154. Labour only making and erecting principals with pitch pine rafters, iron tie rods, cast iron shoes and apieces and cast steel rings, bolted in position at a height of 21' above rail level, 60' span" [also 61'6" span, 50' span, and 54' span at a height of 31' above rail level, the latter presumably relating to the Engine Shed] (TNA RAIL 252/1340: 20).

under tension by five steel tie bars (Plate 41). Two cast steel junction/tensioning rings form the joints at the points at which the braces and bars intersect. Each junction ring contains sockets for the feet of the timber struts, and holes for three steel tie bars, which are bolted to the junction ring by means of nuts on the inner face of each ring (Plate 42). A paper presented by J.H. Baker to the Swindon Engineering Society in 1906 explained that the use of round bars, and the method by which they were attached to the junction ring were of particular utility as they allowed for “any slight discrepancy that may occur in the span”, at the same time as obviating the costs that would be incurred through the use of flat bars, which would have required additional forging, machining and welding to ensure a satisfactory fit (Baker, 1906: 161-2). Each junction ring also had a hole at the bottom to accommodate a longitudinal steel tie bar, which connected each truss to its neighbours.

- 8.2.2 Set on top of the trusses are twelve timber purlins, six each side, and a central ridge beam. The roof itself is made up of four alternating sections of timber rafters, skylight, rafters and sky light. This pattern is repeated along both sides of the roof. The west end of the truss is set directly into the brickwork and the east end is set upon a cast iron column⁸. The column is second of six from the south end of the factory building.
- 8.2.3 By the turn of the 20th century the use of composite roof trusses had become relatively widespread. However it has been suggested that the elegant designs used by Churchward at the Old Oak Common locomotive depot represented “a new level of sophistication” in the typology of composite trusses (Tucker, M. 2010. ‘Old Oak Common Railway Depot-roofs’ [email] Message to Thompson, G. Sent: Monday 09 August 2010, 12:31). In particular the decision to forge the junction rings from cast steel represents an early and innovative use of this material in this context.
- 8.2.4 It is considered that the composite trusses used in the Factory complex are of regional historical significance, and it is recommended that at least one is salvaged in advance of the demolition of the building and stored in order that it may be placed on permanent display at the present or an alternative location following the completion of the Crossrail works at Old Oak Common.

The Factory: Former Smiths’ Shop, Building 15b

B. Composite material truss structure, 1st truss from west end of former Smiths’ Shop

- 8.2.5 This composite truss was built to the same design and with the same materials as truss A, albeit to slightly different dimensions (Plate 43). Above the truss are located fourteen purlins, seven each side, and a ridge beam. The roof itself is constructed from timber rafters running along a north-south alignment; with a roof light either side of the apex for the length of the roof. As a surviving element of Churchward’s original design of 1904-6, the truss is of the same level of significance as truss A and as such should also be

⁸ The majority of structural columns supplied by the Great Western to the Old Oak Common works were cast iron, though a smaller quantity of taller (31’9¾”) steel columns were also provided, presumably for use in the construction of the Engine Shed (*ibid*: 36).

considered as a worthwhile candidate for salvage, preservation and display following the completion of the Crossrail works at Old Oak Common.

The Factory: Former Carpenters' and Coppersmiths' Shop, Building 15c

C. & D. Composite material truss structure, 1st truss from west end of former Carpenters' and Coppersmiths' Shop

- 8.2.6 In accordance with its dual function Building 15c has a double roof, each half of which is formed from trusses built to the same design and dimensions. This building is part of Churchward's original locomotive depot of 1904-6. These trusses were built to a different design to that of the larger trusses in Buildings 15a and 15b, although use was made of composite materials and fixings. The principal rafters are timber (pitch pine) with a timber collar beam (Plate 44). The main beams are fixed at the apex to a kite-shaped timber block. A steel rod runs from the base of the kite shaped timber block through the centre of the timber collar beam and is tied-in to two steel cross braces which run below the collar beam. There are six timber purlins, three per side, and a timber ridge beam running across the top of the trusses. The most noteworthy difference between the trusses of the north and south roofs is that the second purlin from the south on the south truss has been fitted with a series of small pulley wheels of unknown function (Plate 45).
- 8.2.7 Although lacking the innovative cast steel junction rings characteristic of trusses A and C, it is considered that the composite trusses of Building 15c are also of regional historical significance, and it is recommended that at least one is salvaged in advance of the demolition of the building in order that it may be placed on permanent display following the completion of the Crossrail works at Old Oak Common.

Stores and Offices, Buildings 16a & 16b

E. Probable cast iron column and load bearing steel work in centre of Stores/Offices

- 8.2.8 Walkerdine's contract specified that all of the structural ironwork and steelwork used in the construction of the 1904-6 Old Oak Common depot was to be supplied by the Great Western for erection on site by the building contractors (TNA RAIL 252/1340: 34). The column is stamped with the mark, 'GWR W'HAMPTON DECr 1903', suggesting that it was manufactured at the company's foundry in Wolverhampton (Plate 46). This central round column and two brick buttresses support a steel frame which runs between the roofs of buildings 16a and 16b (Plates 47 and 48). Each roof has five trusses, of which four are attached to this central steel frame (the fifth is supported directly by the central column). Because the column provides tangible evidence of the Great Western's decision to supply its own structural and steelwork it is recommended that it is salvaged and stored as a representative sample of the structural ironwork used during the construction of Churchward's locomotive depot.

F. Composite material truss structure, 1st truss from west end of Stores/Offices

- 8.2.9 The trusses in these buildings are built to the same design as those found in the contemporaneous Lifting Shop (Building 15a). The roof comprises eighteen purlins, nine each side, and one ridge beam run across the top of the trusses along an east-west alignment (Plate 49). It is recommended that the above truss be considered as a candidate for salvage, should it prove impracticable to preserve a comparable truss of the same design from Building 15a.

G. Cast iron pulley wheels, between 2nd and 3rd truss from east end of Stores

- 8.2.10 Between the 2nd and 3rd truss from east wall are two steel I-beams. These beams are set on an east-west orientation just outside of the timber queen posts. A third I-beam rests upon these two steels, stretching across the span of the roof. Attached to the north

end of this third steel is a six-spoke cast iron pulley wheel (Plate 50), while there are two further examples set side-by-side at the south end. Because the Stores were purpose-built as such it is likely that the pulleys were used for lifting stores items, although they do not appear in the original contractor's specification of 1904⁹. However the design of the pulley wheels seems to point to an early date for installation, possibly as part of the original development. It is recommended that one or more of these wheels be considered as a candidate for salvage.

Carriage Lifting Shop, Building 23

H. Late 1930s teak herringbone pattern floor at the west end of Carriage Lifting Shop

- 8.2.11 An area of teak flooring at the west end of the Carriage Lifting Shop was laid during the initial construction phase of the shed in the late 1930s. A contemporary contract drawing of the layout of the workshop area with which this floor was associated indicates that the floor covering was made up of rounded wedges cut from the centres of redundant iron-bound wooden carriage wheels, arranged in a herringbone-style pattern (Plate 51 and Figure 22). As one of a handful of original internal elements that survive from the 1930s carriage workshop, it is recommended that an area of this unusual floor is lifted and retained for analysis and preservation.

Sump/Oil Interceptor, Building 24

I. Cast Iron railing, Sump/Oil Interceptor

- 8.2.12 Cast iron railings arranged around three sides (north, east and south) of a concrete-lined oil sump. At the west end of the railings there are fittings for gates, but these have been removed. Each of the six posts around which the railings are arranged, is surmounted by a cast iron ball finial (Plate 52). Stylistically these cast iron railings appear to date from the early 20th century, and possibly represent part of Churchward's original locomotive depot. It is proposed that these railings are lifted in advance of demolition and retained for reuse on-site or elsewhere.

Sub Station B2, Building 26

J. Metal door west end of Substation B2

- 8.2.13 The design of this probable steel door imitates four panel timber doors of a design used in the early 20th century buildings elsewhere on the site (Plate 53). Although it was not part of Walkerdine's original contract, Building 26 was built by Messrs Pattinson & Sons in 1905 and it is likely that this door is an original fitting. The door bears the makers stamp, 'Ratner London' (Plate 54). The Ratner Safe Company was formed in 1890 and was incorporated as a limited company in 1896. Based in Moorgate Street in the City of London, the company manufactured safes, strong room doors and locks ('History of Ratner', online at: <http://www.historyoflocks.com/rat001.html>; Post Office London Directory, 1910: 485). The use of a specialised door such as this one suggests that the

⁹ That is unless they are the 'small brass pullies' [sic] listed amongst the articles to be supplied and fitted under the heading of Brasswork, though this appears unlikely (TNA RAIL 252/1340: 34)

security of the electrical switchgear, in addition to the safety of the depot staff, were important considerations from the outset. The door represents an interesting and unusual survival from the earliest phase of the Old Oak Common depot, and it is recommended that it is retained after demolition for display or eventual reuse.

Oil/Diesel delivery area, Building 32 (associated with Diesel/Oil Tank and Pump House, Buildings 6 and 53)

K. Pumping equipment, Building 32- Oil/Diesel delivery area

- 8.2.14 The diesel oil fuelling depot was originally established shortly after the Second World War as a locomotive oil fuelling plant for coal-fired locomotives converted to run on oil. In 1949 this depot was converted into a fuelling facility for two experimental gas turbine locomotives briefly operated by Western Region. Several elements installed during the latter conversion survive to the present. While the two pump units at the east end of the pump house (Building 6) do not appear on the original drawings and may be a later addition (Plate 55), the heavy oil unloading pipe, its seven stop valves and the diesel oil unloading jib depicted on the 1949 drawings are all still present (Plate 56). The stop valves are stamped with the maker's mark, 'Crane of Ipswich', while the two pump units have the makers mark, 'Newbury England- Plenty'. The Heavy Oil storage tanks and staff cabin shown on the original drawings have both been removed. Taken together, these elements of the 1949 gas turbine locomotive fuelling depot represent a unique survival of a significant albeit unsuccessful, experiment in locomotive propulsion and are considered to be of regional, possibly national significance. PCA recommends that efforts be made to preserve representative elements of this structure. At the very least the distinctive diesel oil unloading jib (Plate 57 and Figure 28) should be salvaged and re-erected elsewhere as a record of this important, but short-lived experiment.

8.3 Elements that may be considered for possible salvage or storage

The Factory: Lifting Shop, Building 15a

L. 50-ton gantry crane, south-east end of former Lifting Shop, the Factory

- 8.3.1 The overhead gantry crane currently located in the 'Factory' complex is a replacement of a smaller, earlier electrically-driven crane installed when the Lifting Shop was built in 1904-6. The present crane was manufactured and installed by S.H. Heywood & Co in 1928, and is also electrically operated (Plate 58). While the earlier crane was rated as having a maximum load capacity of 30 tons, the present Heywood crane is rated to lift a maximum load of 50 tons. An original manufacturer's drawing of the crane is reproduced here as Figure 17.
- 8.3.2 The rails for the gantry crane at the eastern side of the building are set on top of steel I-beams which are in turn supported by twelve steel columns (Plate 59). The rails at the western side of the building are set on top of I-beam steels which are flat along the top but bowed along the bottom edge towards the centre of the beam. These steel beams are supported by six steel columns and are part of Churchward's original design (see TNA RAIL 252/1340: 36 for details of the steel girders and columns; also see Figure 9).
- 8.3.3 The main body of the crane comprises two large bowed steels upon which are set the two lifting gears, one main lifting rig and one smaller auxiliary rig (which is rated as having a load capacity of 20 tons). Both of the lifting rigs are incorporated in the same trolley. The lifting trolley is set on rails atop the two bowed steels; this allowed east to west movement of the cranes rigs (Plate 60). Timber gangways/inspection platforms run along the north and south sides of the main bowed steels. The control box for the crane is located in an under-slung steel framed cradle at the western end of the crane's main body. The cradle has a timber floor and access to this platform is via metal ladders

attached to the south wall and to the northern most central column or via a rope ladder which is suspended from the crane's cradle. Four electric lights hang from the bottom of the inspection platform; these appear to be later additions. The northernmost set of wheels is toothed, whereas the south wheels are double flanged.

- 8.3.4 This long-serving crane represents a rare survival from the period that bridged the Churchward era of the 1900s and the Government Works Schemes of the 1930s. In contrast to the Water Softening Plant and other nearby structures of the period, which were demolished in advance of the conversion of the depot into a diesel MPD in the mid-1960s, the Heywood crane has survived the upheavals of the last eighty years intact and in-use. Although it is likely that most if not all, of the Great Western's former locomotive lifting shops would have had overhead cranes of a similar configuration to this example, with the exception of Old Oak Common all of these have long since been demolished. It is recommended that during the built heritage recording phase of this project further study of this crane is undertaken, with a view to ascertaining whether any representative elements are salvageable for storage or subsequent display.

Amenities Block, Building 17a

M. Timber Trusses, Amenities Block

- 8.3.5 The second floor trusses of the Amenities block are of timber construction with a collar beam and queen posts (Plate 61). Breeze block partitions have been built between the queen posts creating a central room and two small anterooms down either side. The apex of the truss is held together with a cast iron/steel connector. While these trusses are built to a fairly unremarkable design, they are associated with the same phase of development as the composite trusses used elsewhere in the depot, and as such represent an interesting contrast to the latter. Should suitable storage space become available, consideration should be given to the salvage of one representative example of these trusses for comparative purposes.

Mess Room (Former Sand Furnace), Building 20

N. Original window and south external wall of demolished engine shed, second window from west end of Mess Room

- 8.3.6 The main element of this structure was built between 1904 and 1906 against the wall of the now demolished Engine Shed. The chamfered brickwork on the internal window sill and plinth of the north wall (Plate 62) indicate that prior to the erection of the rest of Building 20 (c.1937) this wall had previously been an external wall and as such is a surviving element of Churchward's original design. Two of the windows in this north wall appear to be contemporary with the original Engine Shed. The windows have twenty four panes of glass arranged in four rows of six. The middle two panes in the 1st and 3rd row from the bottom are set into top hung; bottom opening panels. The latches for these opening panels are situated on the outside of Building 20, further evidence that they once formed part of the Engine Shed demolished in the mid-1960s. The framework and the fittings are metal and all but a few of the clear glass panes appear to be more modern replacements.
- 8.3.7 The original specification for the construction of the Locomotive Depot issued by the Great Western in 1904 described windows of this pattern as follows "W[rought] I[ron] segment headed sashes (to be supplied and fixed by the Contractor), 10' 6" by 6' high, measured square, with eight lugs for building in, each sash having No. 24 panes and constructed of 1½" by ¾" bars and 1¾" by ½" frame" (TNA RAIL 252/1340: 38). Each window was also supplied with "opening lights... comprising two panes each, hinged at top with and including two 2" butts and fitted with quadrant opener, cords &c" (*ibid*: 39).

Although the design is of no more than local significance, as one of a handful of surviving salvageable elements of Churchward's original Engine Shed it is suggested that consideration be given to the removal and subsequent preservation of this window.

Carriage Lifting Shop, Building 23

O. & P. Two gantry cranes at east and west end of Carriage Lifting Shop

- 8.3.8 The rails for both of these cranes are set on steel girders supported by twenty two steel columns, eleven each side of the building, running east to west.
- 8.3.9 Three plates on the front of the crane read as follows: 'Wharton Stockport England'; 'M.E. 4334 Maximum load for carriage lifting beam 20 tons. Aux hoist 10 tons. Swindon September 1938'; 'Working load 20 tons'.
- 8.3.10 The main body of each crane comprises two large steel frame beams upon which the main and auxiliary lifting rig sits. The lifting carriage is set upon two rails running the length of the steel cross beams. Each of the steel frame running beams has associated timber inspection walkways. The control box is situated in an under-slung steel frame cradle. Access is via a steel ladder attached to the east and west walls (Plate 63).
- 8.3.11 The cranes were installed as part of the development of the Carriage Repair Depot, which was completed in April 1940. It is recommended that these cranes be compared with the slightly earlier example located in Building 15a during the built heritage recording phase of this project, in order to advance understanding of their design and to ascertain whether any representative elements may be salvageable for storage or subsequent display.

8.4 Miscellaneous articles elements that may be considered for possible salvage or storage

Steam Raising Plant, Building 5

Q. Weigh scale, Steam Raising Plant

- 8.4.1 A set of metal scales (rated to 220lbs) set upon a timber trolley with a metal hand rail (Plate 64). The maker's mark on the back plate reads: 'H Pooley & Son LTD contractors BR (W) 11347'. The face of the scales indicates that they were built in Birmingham, while the serial number is S-584164. The firm was founded during the 18th century in Liverpool, where it remained until it moved to Birmingham in the 1890s. In 1913 the firm became part of the Avery organisation, although it continued to manufacture goods under its own name ('English Weights and Measures', online at: <http://home.clara.net/brianp/namespace.html>). The firm was responsible for supplying and maintaining the weights and scales of many railway companies and continued to do so until after nationalisation, as this example attests. As an illustration of day-to-day activity at the depot in the second half of the 20th century consideration should be given to the storage of this item, as it helps to illustrate an aspect of the day to day workings of the site.

Carriage Lifting Shop, Building 23

R. Three original urinals, middle of south wall of Carriage Lifting Shop

- 8.4.2 A small lavatory situated in the centre of the south wall contains three ceramic urinals. The urinals are set against the south wall of this room (Plate 65) with scars of a sink on the north wall. The three compartments of the urinal are separated from one another by two substantial elegant ceramic partitions, while an enamel plaque on the pipe work above all three urinals indicates that they were manufactured by Stitson White & Co Ltd

of Westminster, a firm of plumbers and sanitary ware manufacturers. These urinals may be considered to be a potential candidate for salvage and even eventual reuse.

Locomotive Shunting Yard

S. No. 49- points lever, shunting yard

- 8.4.3 An embossed base plate of the lever reads, 'Self reversing lever with still handle, No. 3545 17 BNV, Henry Williams LTD Darlington' (Plate 66). This mechanism may represent a survival from the 1904-06 phase of development on the site. The profile of the rail to which this mechanism is attached is shorter and wider than later rails present in the shunting yard. The term 'still lever' refers to the fact the lever of the mechanism does not move when the points are trailed. The spring in the mechanism helps to keep the rail in place and prevents the rail from being set at half cock. A disconnected example was discovered in the bushes directly to the north in an area of overgrown siding. Consideration may be given to the possibility of preserving representative elements (such as the lever and base plate) of one or other of them.

9 ARCHAEOLOGICAL POTENTIAL AND SIGNIFICANCE

9.1 General

9.1.1 The sole archaeological investigation to have been undertaken within the boundaries of the study area was the Watching Brief carried out in accordance with the WSI. The results of this investigation are presented in full in Appendix 4 to this report. The GLHER records a handful of antiquarian observations, historical events and Listed Building descriptions; these are described in Appendix 1 to this report.

9.2 Prehistoric

9.2.1 No evidence has been discovered of Palaeolithic, Mesolithic or Neolithic activity within the study area. It is unlikely that anything more than scattered finds from these periods in prehistory might survive within the development site. Given the likely extent of 20th century truncation it is considered that the archaeological potential of the period is **negligible**. Any early prehistoric material encountered would be of **regional** significance.

9.2.2 London Clays were generally unsuited to Bronze and Iron Age cultivation and settlement, and no evidence of activity dating to either period has been identified in the study area. Given the likely extent of 20th century truncation the archaeological potential of the period is considered to be **negligible**. Any late prehistoric material encountered would be of **regional** significance.

9.3 Roman

9.3.1 It is likely that the site was heavily wooded during the 1st to 5th centuries AD. It is unlikely that the exploitation of the woodland resource during this period would have left much, if any trace in the archaeological record. No evidence has been identified to suggest that the area was either settled or cultivated during the period; and given that the site was extensively truncated during the first half of the 20th century it is considered that the archaeological potential of the period is **negligible**. Any Roman material encountered would be of **local** significance.

9.4 Saxon/ Early Medieval

9.4.1 Despite the Anglo-Saxon place name, no evidence has been identified for settlement in Acton before the 12th century, whereas East Acton may have 13th century origins. The area probably remained wooded throughout the period, suggesting that the archaeological potential for Saxon material is likely to be low; however given the likely extent of 20th century truncation the archaeological potential of the period is considered **negligible**. Any early medieval material encountered would be of **local** significance.

9.5 Medieval

9.5.1 During the late medieval period Old Oak Common was known as Old Holt Wood, part of the common lands of the manor of Sutton Court. By the end of the period the clearance of trees had reduced the area to scrub and undergrowth, upon which livestock grazed. The dramatic remodelling of the terrain undertaken by the Great Western Railway in the early 20th century is likely to have removed even the most stubborn trace of any activity predating the modern period; therefore the archaeological potential of the period is **negligible**. Any medieval material encountered would be of **local** significance.

9.6 Post-Medieval

9.6.1 Old Oak Common was enclosed in the early 1860s, following which part of the present site became the short-lived 'People's Garden'. In the late 1890s the Great Western

Railway proposed to build a new engine shed, carriage sheds and sidings on the site to alleviate congestion on the line between Paddington and Acton. Construction of the nearby Acton to Northolt line began in 1900, during which material was excavated from the Common, presumably for use elsewhere on the line. Given the known extent of groundworks carried out on site during the first and fourth decades of the 20th century, it is unlikely that any traces of the period will have survived in the archaeological record. Any surviving evidence of the excavations for the Acton to Northolt line would be indistinguishable from those carried out four years later in preparation for the construction of the Old Oak Common depot. Therefore the potential for late 19th century material is considered to be **low to negligible**. Any post-medieval material encountered would be of **local** significance.

9.7 Modern

- 9.7.1 The development of the Old Oak Common locomotive depot took place in several distinct stages during the course of the 20th century. The first phase comprised the construction of Churchward's locomotive depot, which was built between 1904 and 1906. Subsequently small-scale development continued to the north of the engine shed during the 1910s and 1920s. In the second half of the 1930s the GWR built a new carriage repair depot and extensive sidings to the south of the engine shed. During the Second World War air raid shelters were built around the perimeter of the depot, while ash shelters were erected near the coal stage. Accommodation was also provided for US Army troops during the build-up to D-Day. Following the 1955 British Railways Modernisation Programme the locomotive depot was converted into a diesel motive power depot (MPD) between 1963 and 1965. During the latter phase of works the engine shed was demolished and three of the four engine turntables removed. At about the same time the redundant ancillary buildings to the north of the former shed (water softener, refuse destructor and air raid shelters) and to the east (the coal stage, embanked approach and ash shelters) were also demolished or removed.
- 9.7.2 A recent Archaeological Watching Brief has indicated that elements of the foundations of at least one of the three removed turntables survives, while buried walls of early 20th century origin in the vicinity of the modern water softening plant appear to represent the remains of arches upon which tracks were raised east of the former coal stage. A 1960s plan showing the relationship between the diesel refuelling maintenance shed (Building 19) and the former south-east turntable confirms that the foundations of the latter survive beneath the floor of the former. Given this evidence, it is considered that the archaeological potential for buried archaeological remains dating to the first half of the 20th century is **very high**. The potential for ephemeral mid-20th century structures such as the ash shelters and the elusive US Army billets is considered to be **moderate**.
- 9.7.3 Archaeological evidence of the demolished structures of Churchward's 1904-6 depot, including the turntable bases, the engine shed walls, messroom, sand furnace, coal stage and elevated road is considered to be of **regional** significance. Similarly archaeological evidence of the traverser base, which was built in front of the lifting shop in 1905, is considered to be of **regional** significance. Archaeological evidence of other demolished 20th century structures (boiler washing plant and pump room, refuse destructor, water softener and air raid shelters) is considered to be of **local** significance.

10 IMPACT ON THE BURIED ARCHAEOLOGICAL DEPOSITS

10.1 Previous Land Use

- 10.1.1 Investigation of historical land use, documentary research and the map regression exercise suggest that the site was woodland and common wood pasture until the beginning of the post-medieval period, after which it remained in use for common grazing until the late 19th century. Used briefly as an open-air beer garden in the 1870s and 1880s it was probably being used to graze pigs when it was acquired by the Great Western Railway at the end of the 1890s. The earliest large-scale excavations took place c.1900 in association with the construction of the Acton to Northolt branch line, though the site was comprehensively remodelled in 1904 when it was prepared in advance of the construction of the Great Western Old Oak Common locomotive and carriage depots.
- 10.1.2 The main phases of 20th century development are considered likely to have had a **significant** impact upon any existing archaeological deposits in all areas of the site. Documentary evidence and the results of the Archaeological Watching Brief have confirmed that the site is underlain by extensive deposits of 'made ground'.

10.2 Impact of Proposed Development

- 10.2.1 The proposed redevelopment entails the demolition of all existing buildings and the remodelling of the entire Old Oak Common depot site in order to provide depot and stabling facilities for Crossrail. These facilities will include track remodelling to provide new stabling sidings, construction of a new train care facility building, accommodation for maintenance staff, a maintenance storage building, new access roads and turning area, parking spaces and train crew accommodation. Other new facilities will include a paint shed, a biohazard pit, a wheel lathe facility and associated siding, two train washers and lighting gantries. A new traction substation will be built. Concrete pile foundations will be necessary for the construction of the new depot structures. Piling is likely to have a **significant** but localized impact on any buried archaeological material; however any pile probing would have a more widespread impact upon any below-ground deposits.
- 10.2.2 The precise nature and location of services for the proposed development are presently unknown, although it is assumed that pit probing and their installation will have some impact upon below-ground deposits.

10.3 Ground Soil Contamination

- 10.3.1 Pre-Construct Archaeology has not been informed of any known contaminants at the site.

11 CONCLUSION

11.1 Historical and Archaeological Summary

- 11.1.1 This report comprises a Detailed Desk-Based Assessment (DDBA) of those NLBH elements of the Old Oak Common Depot, Acton NW10 identified by the preliminary Desk-Based Assessment (undertaken as part of the Environmental Statement) and by the site walkover conducted during the preparation of the WSI (Crossrail 2009a).
- 11.1.2 It is likely that the site was woodland until the beginning of the post-medieval period, after which it was used for common grazing until the end of the 1890s, when it was acquired by the Great Western Railway (GWR). The site was partially excavated by the Great Western c.1900 in association with the construction of the Acton to Northolt branch line. Subsequently the site was remodelled in 1904 in advance of the construction of the Great Western Old Oak Common locomotive and carriage depots. This report concludes that the potential for the presence of archaeological evidence of activity predating c.1900 within the present site boundaries is **negligible to low**. Any prehistoric material encountered would be of **regional** significance, whilst archaeological evidence of subsequent periods would be of **local** significance. There is a **very high** potential for modern archaeological material. Archaeological evidence of the demolished elements of the 1904-6 locomotive depot is considered to be of **regional significance**, while evidence of other demolished 20th century structures is of **local significance**.
- 11.1.3 Following the construction of the locomotive and carriage depots in 1904-6, a number of new ancillary structures were built to the north of the engine shed between 1910 and the end of the 1920s, including a locomotive boiler washing plant and a refuse destructor. In the second half of the 1930s the Great Western launched a major enlargement programme, adding a new carriage repair depot and extensive sidings to the south of the engine shed. During the Second World War a number of air raid shelters were built around the perimeter of the locomotive depot, while offices in the carriage paint shop were reinforced to provide sleeping accommodation for company employees. Accommodation was also provided at the depot for US Army troops during the build-up to D-Day. During the coal shortage of 1946 the Great Western built a heavy oil fuel depot in the locomotive yard in order to refuel the handful of coal-fired locomotives converted to run on oil. The depot was converted at the end of the decade by the recently nationalised British Railways into a fuelling plant for gas-turbine locomotives, only two of which ever saw service on the national railway network. Following the withdrawal of these at the end of the 1950s the depot was adapted for fuelling diesel locomotives. The locomotive depot was upgraded during the early 1950s, when one of the four 65' locomotive turntables was replaced with the 70' example that survives to the present.
- 11.1.4 In 1955 the British Transport Commission (BTC) unveiled a 15-year plan for the modernisation of British Railways, the ultimate goal of which was the elimination of steam traction. In 1959 the former carriage paint shop was converted into a servicing shed for 'Blue Pullman' Diesel Multiple Units (DMUs), while the depot was converted into a diesel Motive Power Depot (MPD) between 1963 and 1965, when the engine shed was demolished and the remaining 1904-6 buildings converted into maintenance facilities and stores for diesel locomotives. A diesel servicing shed was built on the site of one of the former locomotive turntables, although the 70' model installed in 1953 was retained.

11.2 Further Archaeological Investigations and Documentary Research

- 11.2.1 A recent Archaeological Watching Brief (Appendix 4 to this report) indicated that elements of the foundations of at least one of the three removed turntables survives, while buried walls of early 20th century origin in the vicinity of the modern water softening plant appear to represent the remains of the elevated (rail) road to the east of the former coal stage. A 1960s plan showing the relationship between the diesel refuelling maintenance shed (Building 19) and the former south-east turntable confirms that the foundations of the latter survive beneath the floor of the former. Given this evidence, it is considered that the archaeological potential for buried archaeological remains dating to the first half of the 20th century is **very high**. The potential for ephemeral mid-20th century structures such as the ash shelters and the elusive US Army billets is considered to be **moderate**.
- 11.2.2 Archaeological evidence of the demolished structures of Churchward's 1904-6 depot, including the turntable bases, the engine shed walls, messroom, sand furnace, coal stage and elevated road is considered to be of **regional** significance. Similarly archaeological evidence of the traverser base, which was built in front of the lifting shop in 1905, is considered to be of **regional** significance. Archaeological evidence of other demolished 20th century structures (boiler washing plant and pump room, refuse destructor, water softener and air raid shelters) is considered to be of **local** significance. It is proposed that an Archaeological Watching Brief is carried out during the course of forthcoming site preparation works and demolitions, in order to record those structures built during the early phases of development that have been demolished during the intervening century.
- 11.2.3 The documentary research undertaken during the course of this assessment has revealed a number of areas where further research may be undertaken. These include additional detailed research aimed at identifying how often, and for what reasons the locomotive turntables in the engine shed were replaced, in one case apparently on more than one occasion. The outcomes of such research would better inform our understanding of the ways in which these once common devices operated, given the present-day interest in preservation of those that survive. Two possibly interconnected areas of research associated with the history of the depot during the Second World War stand out; the first in relation to the provisions made on site troops of the US Army from March 1944. The location, nature and extent of this accommodation should be ascertained, as should the names of the unit(s) involved, and the purpose and duration of their time at Old Oak Common. Though beyond the scope of this report, it ought to be relatively straightforward to obtain the answers to these questions from primary documentary sources. The presence or otherwise of Italian prisoners-of-war at the depot during and/or after the Second World War may be confirmed from primary records kept by the military authorities responsible for their incarceration. The final promising area of future research concerns the operation of the heavy fuel oil fuelling plant, and its association with the only two gas-turbine locomotive locomotives to have operated on the British Railways network. Though beyond the scope of this investigation, it should be possible to reconstruct in detail the history of this short-lived but significant experiment from primary sources.

11.3 NLBH Assessment: Recommendations for Recording

- 11.3.1 The Old Oak Common depot was built by the Great Western Railway during the first decade of the 20th century in order to replace the company's outdated and cramped locomotive maintenance facilities at Westbourne Park. Under the stewardship of the

company's Locomotive Superintendent George Jackson Churchward, the builders of the depot used a combination of tried-and-tested construction techniques and up-to-date materials to create a depot capable of accommodating the company's latest and largest locomotives. Old Oak Common represents the last remaining 'factory' repair facility on the former Great Western network.

11.3.2 The significance of the NLBH elements of the site is outlined in Chapter 7 of this report.

11.4 Recommended Levels of Recording

11.4.1 English Heritage has issued a set of guidelines on the recording of historic buildings for the purposes of historical understanding (English Heritage 2006). This analysis and interpretation of evidence embodied in the fabric of extant buildings and contained within associated documentary sources underpins our appreciation and stewardship of individual buildings and of the historic built environment as a whole. Most recording will broadly correspond to four main levels of record, ranging from the simplest level, comprising brief notes, photographs of the building's exterior and sketch plans (Level 1) to Level 4, which contains a full historical and architectural analysis, supported by a comprehensive drawn and photographic record.

11.4.2 It is recommended that those original buildings from 1904-6 are recorded to a **Level 3** (Figure 37). These buildings are considered to be of **regional** significance. They include the following buildings:

- 15a The Factory
- 15b Lifting Bay
- 15c Boiler House
- 16a Stores
- 16b Stores/Offices
- 17a Amenity Building
- 20 Mess Room (previously Sand Furnace)
- 26 Sub Station B2
- 39 Mess Room

11.4.3 It is also recommended that the former locomotive oil fuelling depot/gas turbine locomotive fuelling depot is recorded to English Heritage **Level 3**. This facility is considered to be of **regional** to **national** significance and comprised the following NLBH elements:

- 6 Diesel/Oil Pumphouse
- 53 Site of Diesel Oil/Tank

11.4.4 Level 3 is an analytical record which will comprise a systematic account of the buildings' origins, development and use. It will also include all drawn and photographic records that may be required to illustrate the building's appearance and structure and to support an historical analysis. Use may be made of historic measured drawings (where available) as a base for plans, sections and elevations of existing buildings (as part of the Level 3 drawn record). The bibliography of this report contains a list of salient drawings held by the Wiltshire & Swindon History Centre, scans of which are held by Crossrail. Digital photographs taken for the purposes of informing this assessment are not currently considered to be a suitable recording media for a Level 3 photographic record by the

Greater London Archaeological Advisory Service (GLAAS). It will be necessary to record the buildings externally and internally (when feasible) in 35mm and medium format black and white film, and colour slide film. External elevations, internal spaces and important architectural details are to be photographed. A photographic survey of the surrounding area will also need to be undertaken, in order to establish relationships between the buildings and to place them within a wider context.

- 11.4.5 In this instance the drawn record should include scale plans, showing the form and location of any structural features of historic significance, such as blocked doors, windows and fireplaces, masonry joints, ceiling beams and other changes in floor and ceiling levels, and also any evidence of fixtures of significance including former machinery. Also included should be cross sections illustrating the vertical relationships within the buildings and the form of the roof trusses and measured elevations that illustrate the building's design, development and function. With reference to the 'Factory' building, a north-south cross section should illustrate the structure of the Lifting Bay and Boiler House (15b and c) and a south facing east-west cross section of the 'Factory' (15a) should show structural details and the large gantry mounted lifting mechanism. North-south cross sections for the Stores buildings (16a and b) and Amenity building (17a) would be appropriate. The Mess Room (20) should have both a north-south cross section to show the structure of the building and a north facing east-west cross section to record the architectural details of the north wall that was once the exterior elevation of the Engine Shed.
- 11.4.6 The photographic record should in general terms record the external and internal appearance of each building and more detailed evidence on which an analysis of historic development is based. It should also include general views of each building in their wider setting and any machinery or other plant or evidence of its former existence to illustrate function.
- 11.4.7 The written account should underpin all the other elements of the record by providing locational information, together with context, description, analysis and interpretation. This should summarise the buildings form, function, date and sequence of development and be illustrated by historic map evidence and an evaluation of previous records of the building and documentary sources.
- 11.4.8 It is recommended that the surviving NLBH elements constructed between the mid-1930s and the early 1950s should be recorded to **Level 2**. These buildings are considered to be predominantly of **regional** significance, although the former surface air raid shelter (Shunter's Cabin) is of **local** significance.

- 1 Shunter's Cabin
- 22 Pullman Shed
- 23 Carriage Lifting Shop
- 24 Sump/Oil Interceptor (probably predates the mid-1930s)
- 28 Turntable
- 36 Sub Station B3 (brick-built element)

- 11.4.9 Of particular interest in this group of buildings are the Pullman Shed and the Carriage Lifting Shop, both survivors the mid-1930s programme to build a new carriage repair depot. At the western end of the Pullman Shed is a suite of ground and first floor rooms

modified during the Second World War, while elements of the original workshop area survive at the western end of the Carriage Lifting Shop.

- 11.4.10 Level 2 is largely a descriptive record with plans, photographs and written descriptions recording the form, fabric and phasing of the building and whilst not as comprehensive as a Level 3 record, it may be tailored to the scope of a wider project. Use may be made of historic measured drawings (where available) as a base for plans, sections and elevations of existing buildings (as part of the Level 2 drawn record). The bibliography of this report contains a list of salient drawings held by the Wiltshire & Swindon History Centre, scans of which are held by Crossrail. Digital photographs taken for the purposes of informing this assessment are not currently considered to be a suitable recording media for a Level 2 photographic record by the Greater London Archaeological Advisory Service (GLAAS). It will be necessary to record the buildings externally and internally (when feasible) in 35mm and medium format black and white film, and colour slide film. External elevations, internal spaces and important architectural details are to be photographed.
- 11.4.11 The drawn record should include scale plans, showing the form and location of any structural features of historic significance, such as blocked doors, windows and fireplaces, masonry joints, ceiling beams and other changes in floor and ceiling levels, and also any evidence of fixtures of significance including former machinery. With reference to those elements of interest in the Pullman Shed and Carriage Lifting Shop a north-south cross sectional elevation illustrating these features should be included.
- 11.4.12 Like a Level 3 photographic record, a Level 2 photographic record should record the external appearance and overall appearance of principal rooms and circulation areas of each building. It should also include general views of each building in their wider setting and any machinery or other plant or evidence of its former existence to illustrate function. The written description whilst not as comprehensive as a Level 3 should include details such as precise location and National Grid reference and summarise the buildings form, fabric, function, date and sequence of development. This should also be illustrated by historic map evidence and analysis of documentary sources.
- 11.4.13 It is recommended that those buildings dating from the conversion of the steam locomotive depot to a diesel MPD in the mid-1960s and those built subsequently are recorded to **Level 1**. Those buildings erected during the mid-1960s are considered to be of **local** significance, while those built during the decades that followed are considered to be of **negligible** significance. These include the following buildings:

- 3 Carriage Washing Plant
- 4 Underframe Cleaning Shed
- 5 Steam Raising Plant
- 7 Carriage Washer Treatment Plant
- 8 Water Tower
- 9 Metal Store
- 11 Portacabins/Offices
- 12 Water Softening Plant
- 13 Water Tower (Soft Water)
- 17b New Amenity Building

- 18 Portacabins
- 19 Diesel Refuelling Maintenance Shed
- 30 Toilet Block
- 34 Fuel Oil Tanks
- 36 Sub Station B3 (prefabricated metal element)
- 38 Sub Station B5
- 52 Bunded Oil Tank
- 54 Diesel/Oil Tank Pump House

11.4.14 Level 1 is essentially a basic visual record, supplemented by the minimum of information needed to identify the buildings location, age and type. This level of recording is typically carried out when the objective is to gather basic information about a large group of buildings for area assessments or historic landscape characterisation. In this instance, the range of building types, their function and location should be of use in recording the development of and use of the site. The written description of these structures contained within this report constitutes a sufficient written account for the purposes of recording to Level 1. Use may be made of historic measured drawings (where available) as a base for sketch plans, sections and elevations of existing buildings (as part of the Level 1 drawn record). The bibliography of this report contains a list of salient drawings held by the Wiltshire & Swindon History Centre, scans of which are held by Crossrail. Digital photographs taken for the purposes of informing this assessment are not currently considered to be a suitable recording media for a Level 1 photographic record by the Greater London Archaeological Advisory Service (GLAAS). It will be necessary to record the buildings externally and internally (when feasible) in 35mm and medium format black and white film, and colour slide film.

11.4.15 Level 1 surveys should generally be of exteriors only with measured plans giving the size and location of each building. Superficial interior inspections may be appropriate to identify significant features depending upon the complexity of the building. This should involve the measured annotation of existing plans to show the arrangement of internal rooms. This will be most relevant to the New Amenity Building (17b).

11.4.16 The Level 1 photographic record should include the external appearance and overall appearance of principle rooms and circulation areas of each building. It should also include general views of each building in their wider setting and any machinery or other plant or evidence of its former existence to illustrate function. The written description, whilst not as comprehensive or analytical as a Level 2, should include details such as location and summarise the buildings form, fabric, function, date and sequence of development. This should also be illustrated by historic map evidence and analysis of documentary sources.

11.5 Structural Elements: Recommendations for Salvage, Storage and Reuse

11.5.1 The salvage assessment concluded that efforts be made to preserve elements A to K described in Chapter 8 above. Elements L to P included a number of substantial items of plant and machinery such as the three surviving overhead gantry cranes, which may prove impracticable to salvage and store in their entirety. Therefore the assessment concluded that further investigation be carried out during the recording stage in order to ascertain whether it is practicable to retain any components that may usefully illustrate their form and function.

12 BIBLIOGRAPHY

Primary Sources

The National Archives

- TNA AN 7/188. British Railways Western Region: Motive Power Depots, n.d.
- TNA AN 8/4. Modernisation and Re-equipment of British Railways. First Report of Traffic Survey Group, March 1956.
- TNA AN 8/9. Modernisation and Re-equipment of British Railways. Report outlining the anticipated effect on the main locomotive, carriage and wagon works and carriage and wagon outdoor depots of the modernisation and re-equipment plan. Mechanical Engineering Committee, November 1956.
- TNA AN 8/16. Modernisation and Re-equipment of British Railways: Design of Motive Power Depots. Part I: *Planning a DMU Depot*. British Transport Commission 31/03/1956
- TNA AN 8/17. Modernisation and Re-equipment of British Railways: Design of Motive Power Depots. Part II: *Planning a Diesel Locomotive Depot*. British Transport Commission 01/02/1957
- TNA AN 10/27. Security of Royal Train Saloons Nos. 9006, 9007, 9001 & 9002 at Old Oak Common, 1955.
- TNA AN 13/168. British Railways, Old Oak Common Staff Hostel, 1948-1953
- TNA AN 90/87. British Railways Western Region: Publications, 1956-1960.
- TNA AN 91/12. Opening ceremony of the new Western Region diesel Depot Old Oak Common, 02/10/1965
- TNA AN 91/13. Souvenir Programme: British Railways Western Region Old Oak Common Diesel Depot, Open Day Saturday 15/07/1967
- TNA AN 199/184. British Railways Board Work & Equipment Registry: Capital Investment, 1956 to 1964
- TNA FO 939/94. 9 Bomb Disposal Camp, Richmond Park Camp, London SW14. Prisoner-of-War Camp File, 1947
- TNA FO 939/116. 32 Working Camp Scrubs Lane, London W12, Prisoner-of-War Camp File, 1946-1947
- TNA MT 6/1551/10. Board of Trade Old Oak Common Inspection, 17/01/1907
- TNA MT 6/2163/02. Board of Trade Old Oak Common Inspection, 01/02/1913
- TNA MT 52/105. Mr Frank Pick's Report on the Inland Waterways: Organisation for War Purposes, 1941-1946
- TNA RAIL 250/46. GWR Minutes of the Board of Directors No. 43, 1901-03
- TNA RAIL 250/47. GWR Minutes of the Board of Directors No. 44, 1903-05
- TNA RAIL 250/48. GWR Minutes of the Board of Directors No. 45, 1905-07
- TNA RAIL 250/57. GWR Minutes of the Board of Directors No. 54, 1933-1938
- TNA RAIL 250/58. GWR Minutes of the Board of Directors No. 55, 1938-1941
- TNA RAIL 250/59. GWR Minutes of the Board of Directors No. 56, 1941-1943



- TNA RAIL 250/60. GWR Minutes of the Board of Directors No. 57, 1943-1945
- TNA RAIL 250/62. GWR Minutes of the Board of Directors No. 58, 1945-1947
- TNA RAIL 250/268. GWR Locomotive, Carriage & Stores Committee Minutes No. 1, 1892-94
- TNA RAIL 250/269. GWR Locomotive, Carriage & Stores Committee Minutes No. 2, 1894-98
- TNA RAIL 250/270. GWR Locomotive, Carriage & Stores Committee Minutes No. 3, 1898-1902
- TNA RAIL 250/271. GWR Locomotive, Carriage & Stores Committee Minutes No. 4, 1902-1904
- TNA RAIL 250/275. GWR Locomotive, Carriage & Stores Committee Minutes No. 8, 1917-1922
- TNA RAIL 250/334. GWR Traffic Committee Minutes No. 1, 1890-91
- TNA RAIL 250/335. GWR Traffic Committee Minutes No. 2, 1891-93
- TNA RAIL 250/339. GWR Traffic Committee Minutes No. 6, 1897-99
- TNA RAIL 250/340. GWR Traffic Committee Minutes No. 7, 1899-1900
- TNA RAIL 252/196. 'Extension of the Electric Sub-Station & building of an Electric Train Lighting Maintenance Depot at Old Oak Common, W. Walkerdine & the GWR, Award', 04/02/1916
- TNA RAIL 252/1235. GWR Acton & Wycombe Railway: Acton to Northolt Loop to Castle Hill, Mr J. Fairbank Sureties to the GWR, 21/11/1899.
- TNA RAIL 252/1340. 'New Engine Shed & other works at Old Oak Common Acton', Specification, Schedule of Quantities & Contract, 04/01/1904
- TNA RAIL 252/1451. 'New Engine Shed & other works at Old Oak Common, Mr W. Walkerdine & the GWR Agreement', 10/11/1906
- TNA RAIL 252/1462. 'New Carriage Shed & other works at Old Oak Common, Acton. Thomas Rowbotham & the GWR Award', 19/03/1907
- TNA RAIL 252/1687. 'Extension of the Carriage Shed at Old Oak Common, Acton, Messrs. Caffin & Co. & the GWR, Contract', 30/12/1911
- TNA RAIL 252/1750. Award of W.Y. Armstrong to Caffin & Co. for construction of bridge and retaining walls at Old Oak Common, 07/1913.
- TNA RAIL 253/309. Old Oak Common Division, Damage Caused by Enemy Action, 1940
- TNA RAIL 1172/2343. Railways Staff Conference: Employment of Italian Prisoners-of-War, 1941-1944

Census Returns

- TNA RG 10/1323/15. 1871 Census Acton Enumeration District No. 8
- TNA RG 11/1353. 1881 Census Acton Enumeration District No. 1
- TNA RG 12/1035. 1891 Census Acton Enumeration District No. 1
- TNA RG 13/1201/17, 1901 Census, Acton Enumeration District No. 1

Wiltshire & Swindon History Centre

- WSHC 2515/409/0869. GWR Sand Furnace Engine Shed Old Oak Common. Swindon, September 1902



- WSHC 2515/409/0868(1). GWR Sand Furnace Engine Shed Old Oak Common. Swindon, October 1902
- WSHC 2515/406/1279. GWR Sand Furnace, Engine Shed Old Oak Common. Swindon, October 1902
- WSHC 2515/409/1867(1). GWR Dry Sand Bin for Sand Furnace, drawing 21400. February 1903
- WSHC 2515/409/1867(2). Overlay to drawing 21400, GWR Dry Sand Bin for Sand Furnace, February 1903
- WSHC 2515/406/2713. GWR Dry Sand Bin for Sand Furnace, Engine Shed Old Oak Common. Swindon, June 1903
- WSHC 2515/409/0519. GWR Sections & Elevations Engine Shed Old Oak Common, c.1903
- WSHC 2515/409/0692. Details of 50' Roof Principals, Engine Shed. Swindon, February 1903
- WSHC 2515/406/3348. GWR Detail of Offices, Lifting Shop, ES Old Oak Common. Swindon, March 1903
- WSHC 2515/406/1806. GWR Detail of Roof & Partition to General Offices Engine Shed. Swindon April, 1903
- WSHC 2515/406/3272. GWR Elevated Road & WCS Coal Stage Old Oak Common. Swindon March, 1903
- WSHC 2515/403/0350. Side Platform & Channel Ring 65' Turntable, Old Oak Common, Ransomes & Rapier. Received 11/04/1905
- WSHC 2515/403/0351. GWR Alteration to Turning Bar and Stop Lever, Ransomes & Rapier 65' Turntable Old Oak Common. Swindon, March 1906
- WSHC 2515/409/338. GWR New Carriage Shed at Old Oak Common. n/d. c.1905
- WSHC 2515/406/1551. GWR Arrangement of Electric Lighting Carriage Shed Old Oak Common. Swindon April, 1906
- WSHC 2525/410/0062. GWR Old Oak Common Locomotive Yard Proposed Engine Pits, 10/10/1906
- WSHC 2515/409/1172. GWR 88' Outside Pit (Chair Road) Engine Shed Old Oak Common. Swindon, December 1906
- WSHC 2515/409/1180. GWR 226'6" Outside Pit (Chair Road) Engine Shed Old Oak Common. Swindon, May 1907
- WSHC 2515/409/0866. GWR Old Oak Common 400' & 500' Outside Pits Coal Stage OLD OAK COMMON. Swindon, December 1907
- WSHC 2515/409/0075. GWR Boiler House Economical Boiler Washing Plant Old Oak Common Swindon December 1910
- WSHC 2515/409/0135. GWR Arrangement of House Economical Boiler Washing Plant Old Oak Common Swindon December 1910
- WSHC 2515/409/0138. GWR Alterations & Additions to Stores & Messroom, Carriage Shed Old Oak Common. Swindon, June 1911
- WSHC 'Refuse Destructor 1927'. GWR Old Oak Common Proposed Refuse Destructor, Plan & Sections. The New Atlas Destructor Co. Ltd, 03/02/1927



- WSHC 2515/409/0772. GWR Building for Refuse Destructor, Old Oak Common. Swindon, May 1927
- WSHC 2515/409/0774 (1). GWR Old Oak Common General Sections of Plant, 01/07/1927
- WSHC 2515/409/0803. GWR Old Oak Common Elevations of Furnace & Boiler, 18/07/1927
- WSHC 2515/409/0804. GWR Old Oak Common Refuse Destructor Building, 16/05/1927 [blueprint]
- WSHC 2515/409/0862. GWR Old Oak Common General Plan of Plant, New Destructor Co. Ltd, 20/06/1927
- WSHC 2515/409/0863. GWR Old Oak Common Boiler Setting & Flues, New Destructor Co. Ltd, 05/07/1927
- WSHC 2515/409/0864. GWR Old Oak Common New Chimney, New Destructor Co. Ltd, 12/04/1928
- WSHC 2515/406/1715. GWR General Arrangement of Pumping Plant Old Oak Common. Swindon November 1927
- WSHC 2525/410/0632. Untitled, 30/03/1927, also stamped 19/01/1931
- WSHC 2515/406/0730. GWR Water Softening Plant Old Oak Common Engine Shed. Swindon, January, 1929
- WSHC 2515/406/2621. Wiring diagram for 50 Tons 4 Motor E.O .T Crane, received 23/10/1929
- WSHC 2515/406/3394. Arrangement of LT Gear for 50-Tons 4 Motor Crane, S.H. Heywood & Co. Ltd Reddish. Order no. 1872, date 26/09/1928
- WSHC 2515/404/1756. GWR 13'6"X13'6"X4'9" Cast Iron Water Tank & Supports, Old Oak Common. Tank from Cogan. Swindon, February, 1930
- WSHC 2525/410/1196. GWR Old Oak Common Proposed Rearrangement of Layout & Additional Accommodation, received 18/06/1931
- WSHC 2515/403/0352. GWR Arrangement of Locking Gear 65' Turntable Inside Type Old Oak Common. Swindon March 1933
- WSHC 2515/403/0353. GWR Arrangement of Locking Gear 65' Detail Turntable Inside Type Old Oak Common. Swindon March 1933
- WSHC 2515/403/0354. GWR Locking Brackets & Race Rail 65' Turntable Inside Type Old Oak Common. Swindon March 1933
- WSHC 2515/406/3516. GWR Alterations to House & Replacement of Tanks, Economical Boiler Washing Plant Old Oak Common. Swindon, April 1935
- WSHC 2515/403/2191. GWR Proposed Position of Ground Wheel Lathe and Shelter Old Oak Common. Swindon, October 1936
- WSHC 2515/409/0808. GWR Old Oak Common Proposed New Messrooms in Old Sand Furnace House & New Cloakrooms in Old Messrooms, Engine Shed. Swindon, July 1937
- WSHC 2515/406/1370. GWR proposed new Messrooms in old Sand Furnace House and new Cloakrooms in old Messrooms, Engine Shed Old Oak Common. Swindon August, 1937
- WSHC 2515/403/2183. GWR Old Oak Common Compressed Air Mains, October 1938
- WSHC 2515/403/0356. GWR Proposed Curb for Articulated 70' Turntable Old Oak Common. Swindon May 1935



- WSHC 2515/403/0358. Cowans Sheldon & Co. Ltd. Carlisle. Turning Gear for Articulated Engine Turntable. Received 11/03/1937
- WSHC 2515/403/0357. Cowans Sheldon & Co. Ltd. Carlisle. Details of Centre Pivot &c for 70' Articulated Engine Turntable, 17/04/1935, received 11/03/1937
- WSHC 2515/403/0359. Cowans Sheldon & Co. Ltd. Carlisle. Engine Turntable, Non/Balanced Type. Received 24/03/1937
- WSHC 2515/409/0218. GWR Old Oak Common Proposed Layout of Carriage Lifting & Carriage Paint Shops, 01/09/1937
- WSHC 2515/406/2904. GWR Electric Lift for Carriage Repairs, Carriage Lifting Shop Old Oak Common, January 1938
- WSHC 2515/404/1654. GWR Diagram of Carriage Lifting & Carriage Paint Shops Old Oak Common. Swindon, August 1938
- 2515/403/0360 GWR Old Oak Common New Carriage Lifting & Painting Shops. Drawing No. 1 [Plans, Elevations & Sections], received 26/09/1938
- WSHC 2515/403/0361 GWR Old Oak Common New Carriage Lifting & Painting Shops. Drawing No. 4, Details of Offices, Stores &c', received 26/09/1938
- WSHC 2515/403/0362. GWR Old Oak Common New Carriage Lifting & Painting Shops. Drawing No. 1 (amended) n.d.
- WSHC 2515/403/2742. Heavy Duty Railway Carriage Wheel Turning & Grinding Lathe Arrangement, Craven Bros (Manchester) Ltd, received 26/09/1938
- WSHC 2515/403/2743. Wheel Lathe with 4'0" Diameter Faceplate, Craven Bros (Manchester) Ltd, received 26/09/1938
- WSHC 2515/404/0939. Old Oak Common Wheel Lathe Panel Wiring & Schematic Diagram, 07/10/1974
- WSHC 2515/406/0900. GWR Arrangement of Machinery, Carriage Lifting Shop Old Oak Common. Swindon, October 1938
- WSHC 2515/403/0363. GWR Old Oak Common Extension of Electricity Sub-Station, Swindon May 1939
- WSHC 2515/403/0361(A). GWR Old Oak Common New Carriage Lifting & Painting Shops. Drawing No. 4, Details of Offices, Stores &c'. As above, but includes overlay: 'Proposed Sleeping Accommodation for Company's Staff (96 Bunks)', received 21/11/1940
- WSHC 2515/409/0805 (1). GWR Old Oak Common Engine Shed Foreman's Office & Lobby for Drivers & Shed Staff, received 28/09/1942
- WSHC 2515/409/0805 (2). GWR Old Oak Common Engine Shed Foreman's Office & Lobby for Drivers & Shed Staff. Swindon, July 1940
- WSHC 2525/410/0708. GWR Old Oak Common Locomotive Shed Fire Arrangements, Revised November 1941
- WSHC 2525/410/0672. GWR Old Oak Common Locomotive Yard, Survey September 1943
- WSHC 2525/410/0720. GWR Old Oak Common Locomotive Yard Proposed New Engine Shed, Coaling Plant &c Scheme no. 1, 08/12/1943
- GWR Old Oak Common Locomotive Yard Proposed Additional Stabling Accommodation, received 08/05/1944



- WSHC 2515/403/2185. GWR Old Oak Common Locomotive Yard. Proposed Locomotive Oil Fuelling Plant, 26/09/1946. No. 123770A, superseded by No. 123770/B
- WSHC 2525/410/1187. GWR Old Oak Common Locomotive Yard Proposed Locomotive Oil Fuelling Plant, Drawing No. 123770B, received 08/10/1946
- WSHC 'Gas Turbine Refuelling Plant, 1949'. BR WR Proposed Fuelling Facilities for Gas Turbine Locomotives, Locomotive Oil Fuelling Depot Old Oak Common. Swindon, March 1949
- WSHC 2515/406/1450. BR WR Layout of Compressed Air Plant Locomotive Depot Old Oak Common. Swindon, December 1948
- WSHC 2515/406/0908. Cowans Sheldon & Co Ltd Carlisle. General Arrangement for 65' Articulated Engine Turntable, 18/04/1952
- WSHC 2515/406/1414. Cowans Sheldon & Co Ltd Carlisle. General Arrangement for 70' Articulated Engine Turntable, 31/12/1952
- WSHC 2515/403/2195. BR WR Old Oak Common Locomotive Yard Proposed New Traverser Table, received 14/03/1958
- WSHC 2515/403/2196. BR WR Old Oak Common. Proposed Additional Facilities for Servicing Diesel Locomotives, Drawing no. 152798, 19/09/1950
- WSHC 2515/406/1388. BR WR Arrangement of Fuelling Facilities for Diesel & Gas Turbine Locomotives Old Oak Common MPD. Swindon, 1952
- WSHC 2515/403/2194. BR WR Old Oak Common MPD Proposed Accommodation for Gas Turbine & Diesel Electric Locomotives, drawing no. 131763, 13/08/1952
- WSHC 2525/410/0764. BR WR Old Oak Common Proposed Facilities for Servicing Diesel Locomotives, Drawing No. 150380, n.d
- WSHC 2525/410/0690. BR WR Old Oak Common Proposed Conversion of Carriage Paint Shop for Diesel Pullman Maintenance, 01/10/1959
- WSHC 2525/410/1781. BR WR Old Oak Common Conversion to Diesel Depot ('Preliminary Drawing not to be worked to'), n.d, c.1962
- WSHC 2515/409/0488. BR WR Contract No. 3 Old Oak Common. Conversion to Diesel Depot: Floor Plan of Cleaning & Servicing Shed Showing Services, 20/05/1964
- WSHC 2525/410/2172. BR WR Old Oak Common Diesel Depot Water Supplies, 20/12/1966
- WSHC 2515 410 0359. BR WR Old Oak Common Carriage Shed HP Oil Gas Mains, n.d.
- WSHC 2515 410 0425(2). GWR Old Oak Common Carriage Shed HP Oil Gas Mains, n.d.

Secondary Sources

- Baker, J.H. 1906. 'Composite Roofs', in *Transactions of the Swindon Engineering Society* 1906-7 pp: 145-168
- Baker, T.F.T. & Elrington, C.R. (Eds). 1982. *A History of the County of Middlesex Volume 7*. Online at: <http://www.british-history.ac.uk/source.aspx?pubid=89>
- Crossrail Ltd. 2007. *Archaeology Procedure for Detailed Desk-Based Assessment*. Unpublished Report: Crossrail Ltd.



Crossrail Ltd. 2009a. *Old Oak Common Worksites Site-Specific Archaeological Written Scheme of Investigation*. Unpublished Report: Crossrail Ltd.

Crossrail Ltd. 2009b. *Archaeology Procedure for Non-Listed Built Heritage Recording, Version 2.0*. Unpublished Report: Crossrail Ltd.

Davis, M.J. Gdaniec, K.L.A. Brice, M. & White, L. 2004. *Mitigation of Construction Impact on Archaeological Remains*. London: English Heritage/ MoLAS.

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

English Heritage. 1998. *GLAAS Guidance Papers*

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

Hawkins, C. & Reeve, G. 1987. *Great Western Railway Engine Sheds: London Division*. Didcot: Wild Swan Publishing Ltd.

Institute of Field Archaeologists. 1993. *Standards and Guidance for Archaeological Desk-Based Assessments*.

Kynaston, D. 2007. *Austerity Britain, 1945-51*. London: Bloomsbury.

Leigh, C. 1993. *The Heyday of Old Oak Common and its Locomotives*. Shepperton: Ian Allan Publishing

Lyons, E.T. 1978. *An Historical Survey of Great Western Engine Sheds 1947* (third impression). Oxford: Oxford Publishing Co (with the cooperation of the Great Western Society Limited)

Lysons, D. 1795. *The Environs of London Volume II: County of Middlesex*. Online at: <http://www.british-history.ac.uk/source.aspx?pubid=328>

MacDermot, E.T. 1964. *History of the Great Western Railway, Volume II: 1863-1921*. Revised Edition. London: Ian Allan

Matthews, C. 2010. *Method Statement for Assessment of the Significance of the Fixtures and Fittings*. Unpublished Report: Pre-Construct Archaeology Ltd

MoLAS. 2000. *The archaeology of Greater London. An assessment of archaeological evidence for human presence in the area now covered by Greater London*. London: MoLAS Page, W. (Ed). 1911. *A History of the County of Middlesex Volume 2*. Online at: <http://www.british-history.ac.uk/source.aspx?pubid=84>

Thompson, G. 2009. *Archaeological Desk-Based Assessment of Park House, 1 Manor Park Road, Harlesden, London Borough of Brent, NW10*. Unpublished Report: Pre-Construct Archaeology Ltd



Tucker, M. 2010. *The 'Factory' Building (Formerly Locomotive Lifting Shop) at Old Oak Common Railway Depot – It's Significance*. Unpublished Report

Walters, L. 1993. *London: the Great Western Railway Lines*. Shepperton: Ian Allan Publishing

Street & Trade Directories

The Post Office Directory of Middlesex for 1874. London: Kelly & Co.

Kelly's Directory of Ealing, Acton, Hanwell, Gunnersbury and Chiswick for 1889-90. London: Kelly & Co.

Kelly's Directory of Ealing, Acton, Hanwell, Gunnersbury and Chiswick for 1893-94. London: Kelly & Co.

Kelly's Directory of Middlesex for 1899. London: Kelly & Co.

Kelly's Directory of Ealing, Acton, Hanwell, Brentford, Gunnersbury and Chiswick for 1907. London: Kelly's Directories Ltd.

Post Office London Directory for 1910, London: Kelly's Directories Ltd.

Kelly's Directory of Ealing, Acton, Hanwell, Brentford, Gunnersbury and Chiswick for 1911. London: Kelly's Directories Ltd.

Cartographic Resources

Rocque, J. 1746. *An exact Survey of the Cities of London and Westminster, the Borough of Southwark with the Country near ten miles round*.

Faulkner, T. 1813. *An Historical & Topographical Account of Fulham including the hamlet of Hammersmith*.

Greenwood, C & J. 1819-20. *An Actual Survey of London*

Roberts, A.J. 1853. *Map of the Parish of Hammersmith in the County of Middlesex*

Ordnance Survey. 1865-71. London Sheet 22. First Edition

Ordnance Survey. 1894-6. Middlesex Sheet 16.6. Second Edition

Ordnance Survey. 1914-16. Middlesex Sheet 16.6. Third Edition

Ordnance Survey. 1935. London Sheet 4.6. L.C.C. Revised Edition

Ordnance Survey. 1955. TQ2182, TQ2282

Ordnance Survey. 1991. TQ2282 SW, TQ2182SE



Institute of Geological Sciences. 2006. Geological Survey of Great Britain (England and Wales, 1: 50,000 Series), North London Sheet 256. Solid and Drift Geology. Southampton: Ordnance Survey.

Online Resources

Museum of London: London Archaeological Archive & Resource Centre (LAARC) Catalogue of Archaeological Sites, at: <http://www.museumoflondon.org.uk/laarc>



13 ACKNOWLEDGEMENTS

- 13.1 Pre-Construct Archaeology Limited would like to thank [REDACTED] of Capita Symonds Ltd and Crossrail Ltd for commissioning this report. Thanks are also due to [REDACTED] [REDACTED] and [REDACTED] for supplying a number of the hard-to-find and out-of-print secondary sources listed in the bibliography.
- 13.2 The author would like to thank Charlotte Matthews for project management and Malcolm Gould and Paul McGarrity for their on-site assessments. Thanks are also given to the staff of the Hammersmith & Fulham Archive Centre for their assistance during the course of the documentary research. This report was written by Guy Thompson, with contributions by Malcolm Gould (Building Descriptions) and Tomasz Mazurkiewicz (Watching Brief). The figures were prepared by Mark Roughley.



APPENDIX 1: HISTORICAL ENVIRONMENT RECORD

APPENDIX 1: SITES & MONUMENTS RECORD

Map Ref	NGR	MonUID	SMR Ref	Name	Monument Types	Date Range	Description
Medieval							
1	TQ 2190 8280	MLO14245	052258/00/00	Acton/ Willesden	MOAT/ MOATED SITE	Medieval - 1066 AD to 1539 AD	A moat similar to medieval one at Friars Place Farm mentioned as being near Willesden Junction. Filled up & partly or wholly destroyed by 1890
Post-Medieval							
2	TQ 2186 8245	MLO73024	054589/00/00	Grand Union Canal	FOOTBRIDGE	Post Medieval - 1540 AD to 1900 AD	*
3	TQ 2258 8227	MLO73089	054617/00/00	Grand Union Canal Paddington Arm	BRIDGE	Post Medieval - 1540 AD to 1900 AD	*
4	TQ 2265 8249	MLO4716	211862/00/00	St Marys RC Cemetery, Harrow Road	CEMETERY	Post Medieval - 1540 AD to 1900 AD	This 29 acre cemetery is adjacent to Kensal Green cemetery. The Gothic lodge and chapel built in 1860 to the design of Roman Catholic architect Samuel Nicholl, has been recently restored. The first burial took place in 1858 and in the next eight years 12,500 burials were recorded. Listed on the Cemetery, churchyard and Burial Ground at Risk Register; Condition: poor.
Modern							
5	TQ 2250 8210	MLO68330	300071/00/00	Wormwood Scrubs	ANTI AIRCRAFT BATTERY	Modern - 1940 AD? to 1945 AD?)	The site was a ZAA (Rocket AA artillery) site in the London IAZ GDA. The earliest date is 30 Jul 1942 and the latest is 9 Dec 1943.
6	TQ 2230 8180	MLO68272	300031/00/00	Wormwood Scrubs	ANTI AIRCRAFT BATTERY	Modern - 1940 AD? to 1946 AD?)	The site was an HAA (heavy anti aircraft artillery) site in the London IAZ GDA. The earliest recorded date is 31 Jan 1940 and the latest 15 Jan 1946. Equipment: 3.7in (static) AA guns in 1940; 4.5in AA guns and GL Mk II fire-control radar on 22 Jun 1942; 5.25in AA guns in Oct 1944. Nucleus status: BHQ (Nucleus Force Battery Headquarters, permanently gunned site). Manning: Regiment 84, Battery 262; Regiment 132 (mixed), Battery 450 on 30 July 1942.
Listed Buildings							
7	TQ 22664 82666	MLO84171	MLO84171	Mausoleum 10 yards to south of Chapel	MAUSOLEUM	19th Century - 1867 AD to 1899 AD	St Mary's R C Cemetery. Mausoleum 10 yards to south of chapel GV II Freestanding mausoleum. Late 19th century. Portland stone. Octagonal with low stone spire. Entrance to west, beneath gable with flamboyant- tracery. Similar gables to alternate sides. Openwork parapet with flamboyant tracery. Pinnacles. Crockets to spire. Bronze gates with knotted rope design.

Old Oak Common Worksites Archaeological Detailed Desk-Based Assessment: Non-Listed Built Heritage

Map Ref	NGR	MonUID	SMR Ref	Name	Monument Types	Date Range	Description
8	TQ 22650 82617	MLO84205	MLO84205	Mortuary Chapel of Conde de Bayona Marques de Misa	MAUSOLEUM	19th Century - 1867 AD to 1899 AD	Mortuary Chapel of Conde de Bayona Marques de Misa 15 yards S W of chapel including railed forecourt GV II Freestanding Mausoleum. Later 19th century. Gothic. Whitewashed stone. Tall pitched fishscale tiled roof. Pointed arched entrance with moulded jambs. Timber door with intersecting tracery. Two pointed windows to flanks. Stained glass to windows. Elaborate ironwork finials flanking gables. Railed forecourt with elaborate foliated wrought ironwork and simple tiled floor.
9	TQ 21608 83276	MLO79322	MLO79322	Church of All Souls	CHURCH	19th Century - 1890 AD	Church of All Souls II* 2. 1879. Architect E J Tarver. Brick church in Gothic style of elaborate design, the original part is octagonal; the nave was added by Tarver in 1890 and a new west front was added in 1978. The very elaborate roof to the octagonal part is illustrated in Pevsner; The Buildings of England: Middlesex.
10	TQ 22544 82893	MLO84077	MLO84077	Kenmont Primary School	BOARD SCHOOL	19th Century - 1883 AD	Kenmont Primary School - II London Board School. 1883. Designed for the School Board of London by E R Robson. To playground, grand asymmetrical composition in yellow stock brick with red brick dressings. Slate roof. 3 to 6 storeys. Projecting centre block, canted sides, of six storeys with attic storey and crenellated parapet. Low slate spire with timber cupola and weather vane. Left bay, three storeys. Windows to ground floor, upper storeys blank recesses. Low pitch gable. 3-storey right hand wing, slightly projecting. Two bays; two windows per bay except 2nd floor, where 3 windows per bay. Crenellated parapet. Segmental or square heads to windows, sashed, with glazing bars. Tall slab chimneys. Facade to Kenmont Gardens also of interest.
11	TQ 22602 82652	MLO84074	MLO84074	Vault of D Campbell's Family	MAUSOLEUM	Modern - 1904 AD	St Mary's R C Cemetery. Vault of D Campbell's family - II Freestanding mausoleum. 1904. C H B Quennell. Byzantine style. Portland stone and brick in polychrome bands. Entrance to east, apse to west. Cement dome, with thermal windows breaking into it on three sides. Stained glass to windows. Bronze openwork door. Gutterspouts to rear and front with carved animal heads.



APPENDIX 2. FIGURES



© Crown copyright 2006. All rights reserved. License number 36110309
 © Pre-Construct Archaeology Ltd 2010

Figure 1
 Site Location
 1:12,500 at A4

- 1 SHUNTERS CABIN
- 2 NETWORK RAIL CABIN MAINTENANCE
- 3 POLISH HOUSE
- 4 UNDERFRAME CLEANING SHED
- 5 STEAM RASING PLANT
- 6 DIESEL OIL PUMP HOUSE
- 7 CARRIAGE WASHER TREATMENT PLANT
- 8 WATER TOWER
- 9 PARTY METAL STORE
- 10 OFFICES
- 11 OFFICES/PORTA CABINS
- 12 WATER SOFTENING PLANT
- 13 WATER TOWER (SOFT WATER)
- 14 SUMP OIL INTERCEPTOR
- 15a THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15b THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15c THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15d THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15e THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15f THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15g THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15h THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15i THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15j THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15k THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15l THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15m THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15n THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15o THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15p THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15q THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15r THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15s THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15t THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15u THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15v THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15w THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15x THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15y THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 15z THE FACTORY AKA LIFTING SHOP OR MAINTENANCE SHED
- 16a STORES
- 16b STORES
- 16c STORES
- 16d STORES
- 16e STORES
- 16f STORES
- 16g STORES
- 16h STORES
- 16i STORES
- 16j STORES
- 16k STORES
- 16l STORES
- 16m STORES
- 16n STORES
- 16o STORES
- 16p STORES
- 16q STORES
- 16r STORES
- 16s STORES
- 16t STORES
- 16u STORES
- 16v STORES
- 16w STORES
- 16x STORES
- 16y STORES
- 16z STORES
- 17a AMENITY BUILDING PREVIOUSLY CANTEEN, DATES 1906
- 17b NEW AMENITY BUILDING
- 17c OFFICES/PORTA CABINS
- 17d OFFICES/PORTA CABINS
- 17e OFFICES/PORTA CABINS
- 17f OFFICES/PORTA CABINS
- 17g OFFICES/PORTA CABINS
- 17h OFFICES/PORTA CABINS
- 17i OFFICES/PORTA CABINS
- 17j OFFICES/PORTA CABINS
- 17k OFFICES/PORTA CABINS
- 17l OFFICES/PORTA CABINS
- 17m OFFICES/PORTA CABINS
- 17n OFFICES/PORTA CABINS
- 17o OFFICES/PORTA CABINS
- 17p OFFICES/PORTA CABINS
- 17q OFFICES/PORTA CABINS
- 17r OFFICES/PORTA CABINS
- 17s OFFICES/PORTA CABINS
- 17t OFFICES/PORTA CABINS
- 17u OFFICES/PORTA CABINS
- 17v OFFICES/PORTA CABINS
- 17w OFFICES/PORTA CABINS
- 17x OFFICES/PORTA CABINS
- 17y OFFICES/PORTA CABINS
- 17z OFFICES/PORTA CABINS

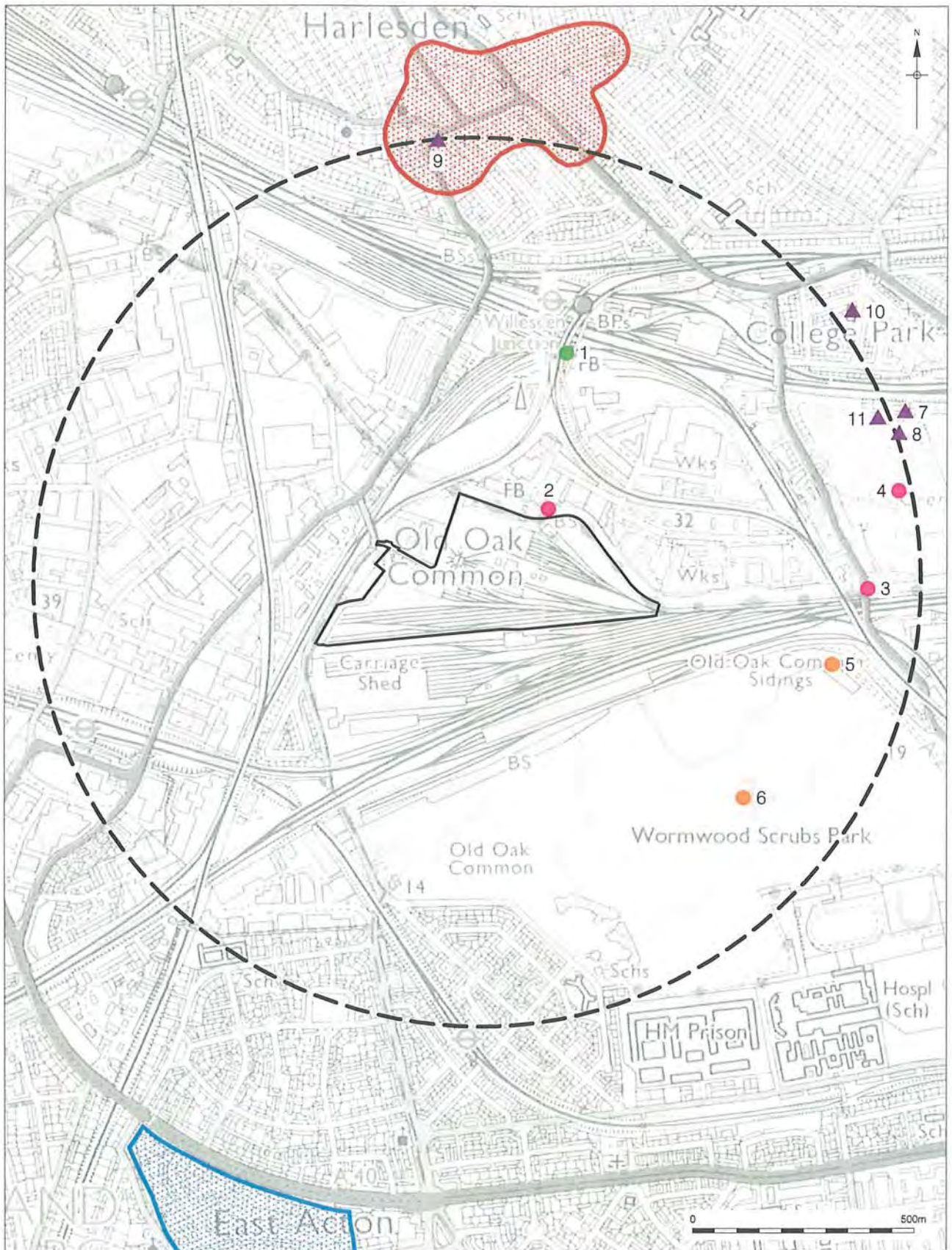
- 19 DIESEL REFUELLING MAINTENANCE SHED
- 20 MESS ROOM PREVIOUSLY SAND FURNACE
- 21 POLISH HOUSE
- 22 POLISH HOUSE
- 23 LIFTING SHOP AKA CARRIAGE SHED, CARRIAGE PAINTSHOP, ELECTRICAL SHOP
- 24 SUMP OIL INTERCEPTOR
- 25 ACCESS ROAD
- 26 SUB STATION B2
- 27 OUTLINE OF DEMOLISHED STEAM SHED
- 28 SUB STATION B1
- 29 BUNCHED OIL TANK
- 30 TOILET BLOCK
- 31 DIESEL OIL OVERHEAD DELIVERY LINE
- 32 DIESEL OIL DELIVERY AREA
- 33 ASH SHELTER
- 34 DIESEL OIL TANK
- 35 DIESEL OIL TANK
- 36 SUB STATION B3
- 37 SITE OF DEMOLISHED BOILER HOUSE
- 38 MESS ROOM
- 39 MESS ROOM
- 40 CORONATION SINGING

- 41 BURIED TURNABLE PITS
- 42 BURIED SITE OF TRANSVERSERT PIT
- 43 SITE OF DEMOLISHED WATER SOFTENER
- 44 SITE OF DEMOLISHED SAND FURNACE
- 45 SITE OF DEMOLISHED SAND FURNACE
- 46 SITE OF DEMOLISHED MESS ROOMS
- 47 SITE OF DEMOLISHED COALING BUILDING AND WATER TOWER
- 48 SITE OF DEMOLISHED COALING BUILDING LEADING TO COALING BUILDING
- 49 CONSERVATION AREA FORMERLY COAL STOCK PILE
- 50 CONSERVATION AREA FORMERLY COAL STOCK PILE
- 51 SITE OF EMBANKMENT LEADING TO FORMER BOILER HOUSE
- 52 BUNCHED OIL TANK
- 53 SITE OF DIESEL OIL TANK
- 54 DIESEL OIL TANK PUMP HOUSE
- 55 COVERED WALKWAY TO REAR OF STORES
- 56 COVERED WALKWAY
- 57 GAS METER HOUSE
- 58 PIPE BRIDGE
- 59 SITE OF DEMOLISHED AIR RAD SHELTERS
- 60 SITE OF DEMOLISHED AIR RAD SHELTERS
- 61 STORAGE SHELTER
- 62 BOUNDARY RETAINING WALL
- 63 BOILER WASHING PLANT HOUSE
- 64 BOILER PUMP HOUSE





Figure 3
Proposed Layout of Old Oak Common Depot
1:2,500 at A3



- Medieval
- Post-Medieval
- Modern
- ▲ Listed Buildings
- ▨ Brent APAs
- ▨ Ealing APAs
- - - 1km search radius

© Crown copyright 2006. All rights reserved. License number 36110309
 © Pre-Construct Archaeology Ltd 2010

Figure 4
 HER Locations
 1:12,500 at A4



Figure 5
John Rocque's plan of London and its Environs, 1741-45
1:8,000 at A4



Figure 6
Greenwood's Map, 1819-20
1:8,000 at A4

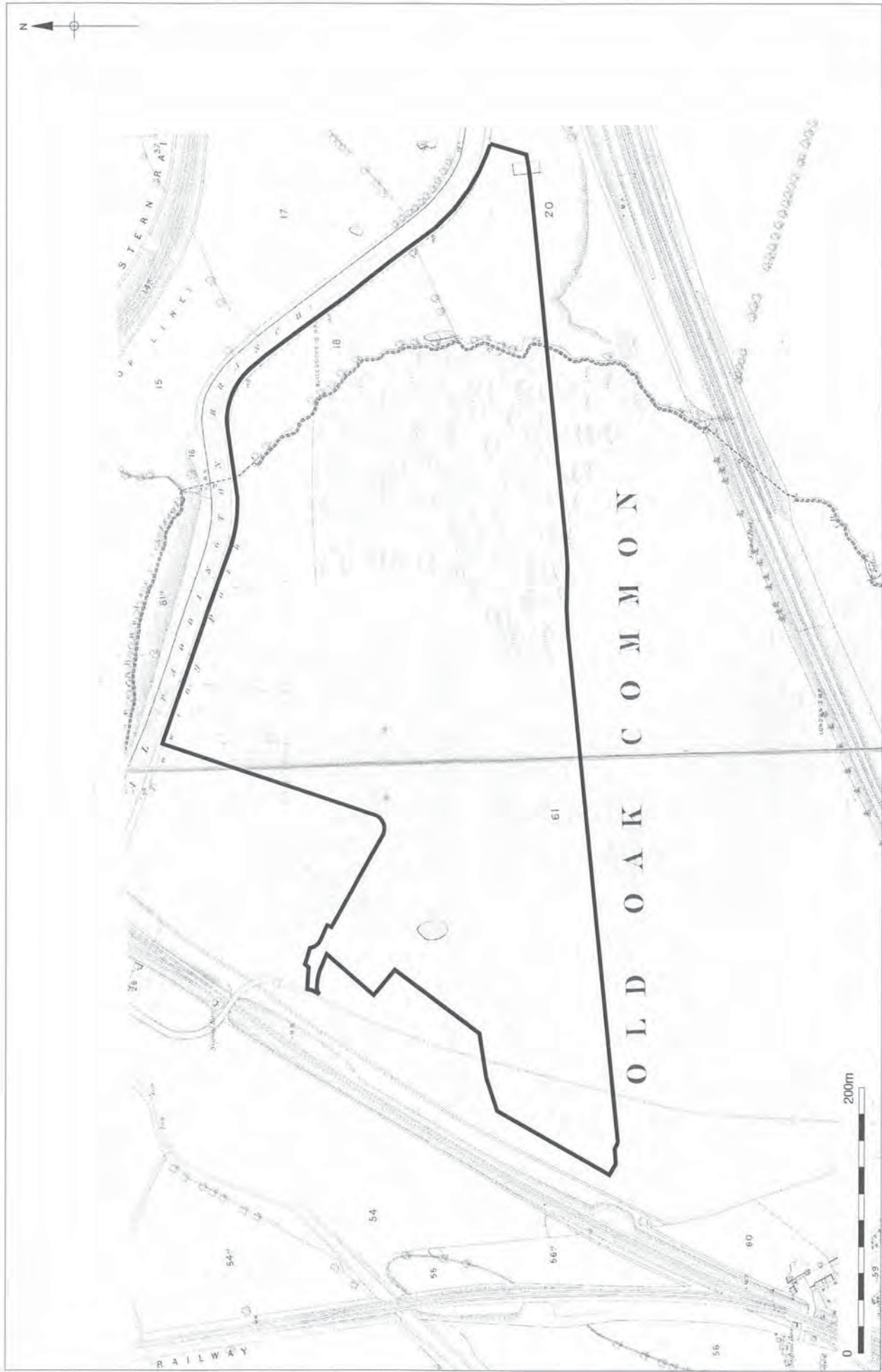


Figure 7
Ordnance Survey, First Edition, 1865-71
1:4,000 at A4

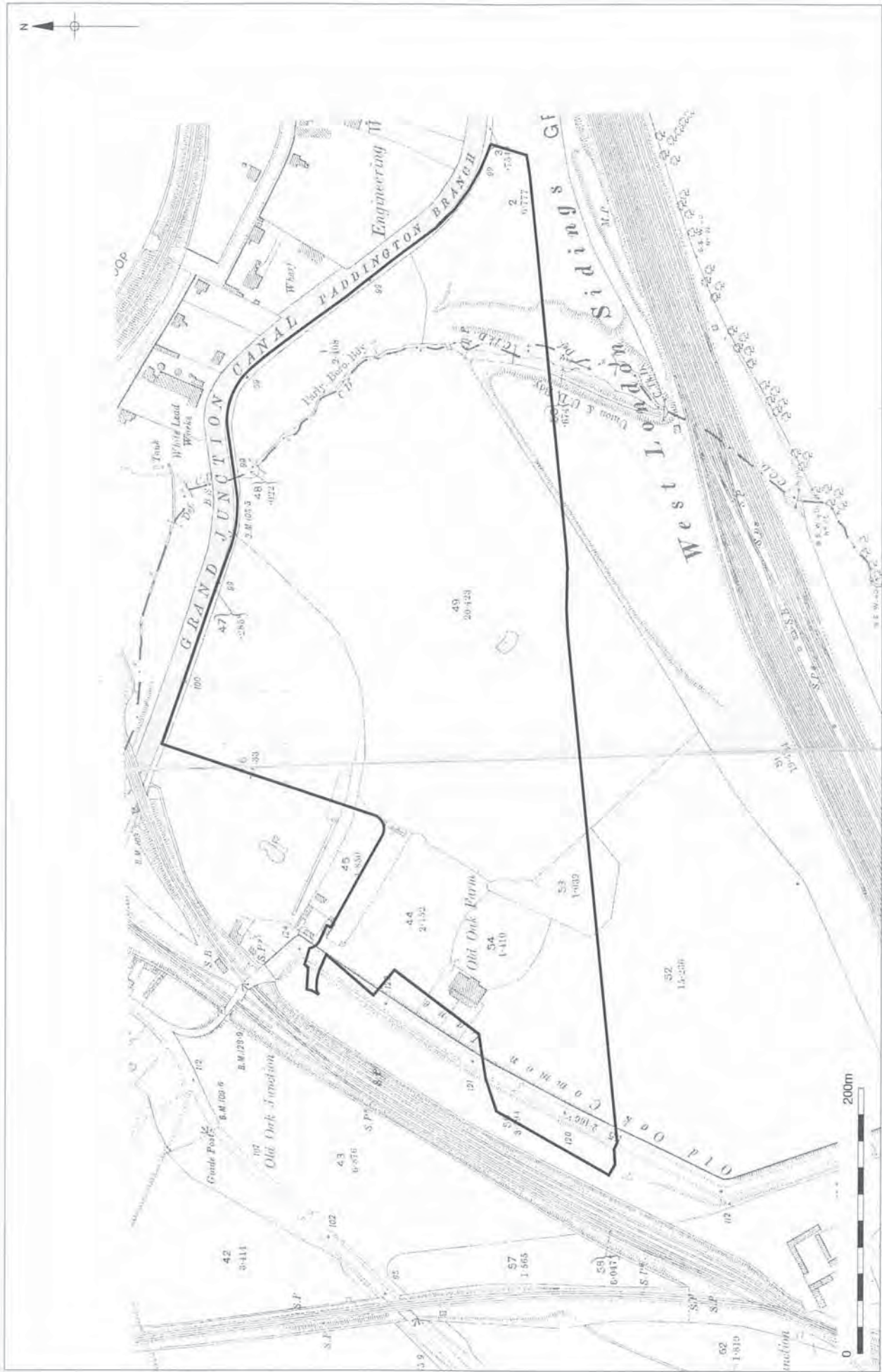


Figure 8
Ordnance Survey, Second Edition, 1894-96
1:4,000 at A4

CONTRACT DRAWING NO. 3

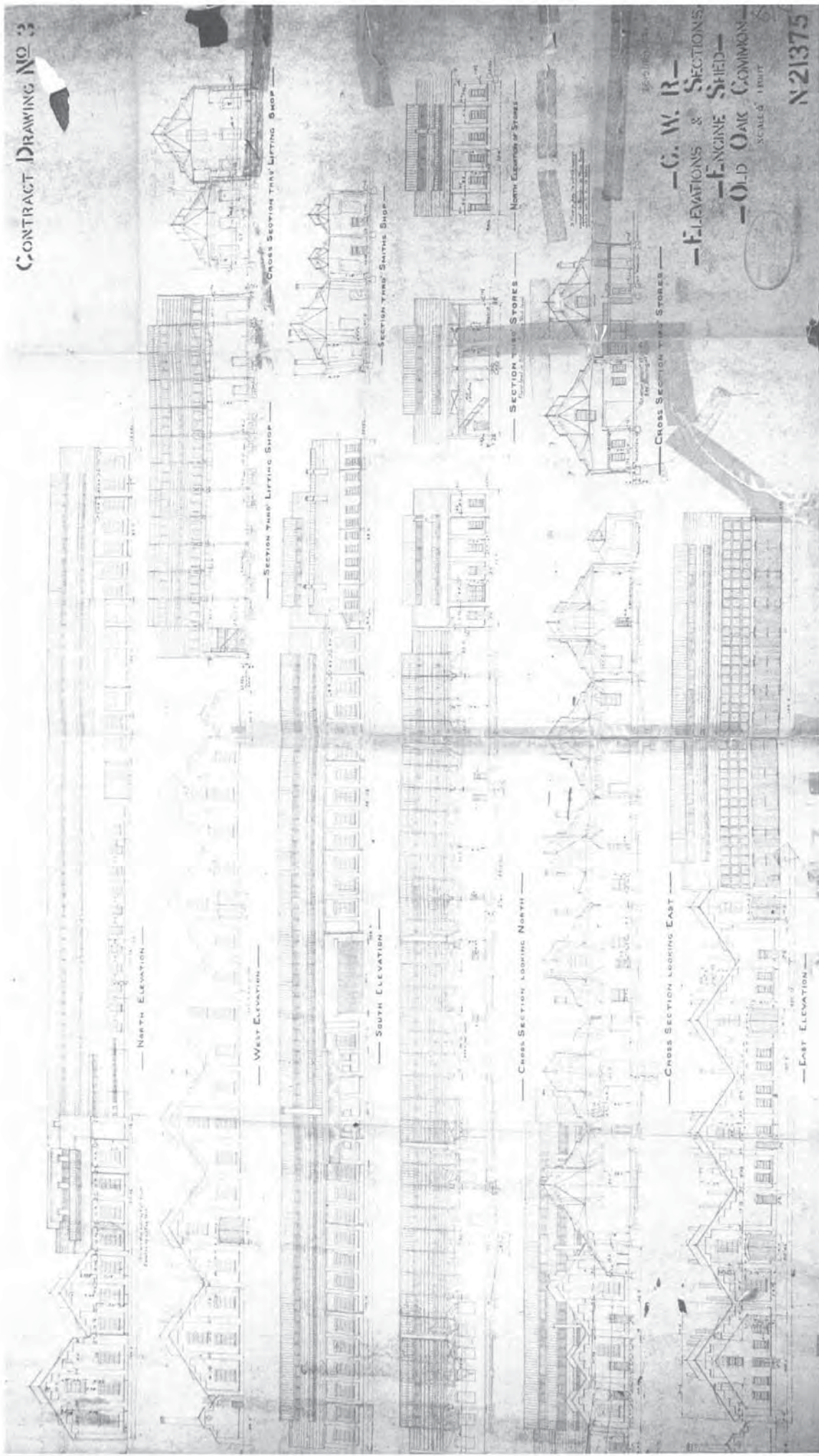


Figure 9
2515/409/0519 Sections and elevations of the Engine Shed, c.1903
not to scale

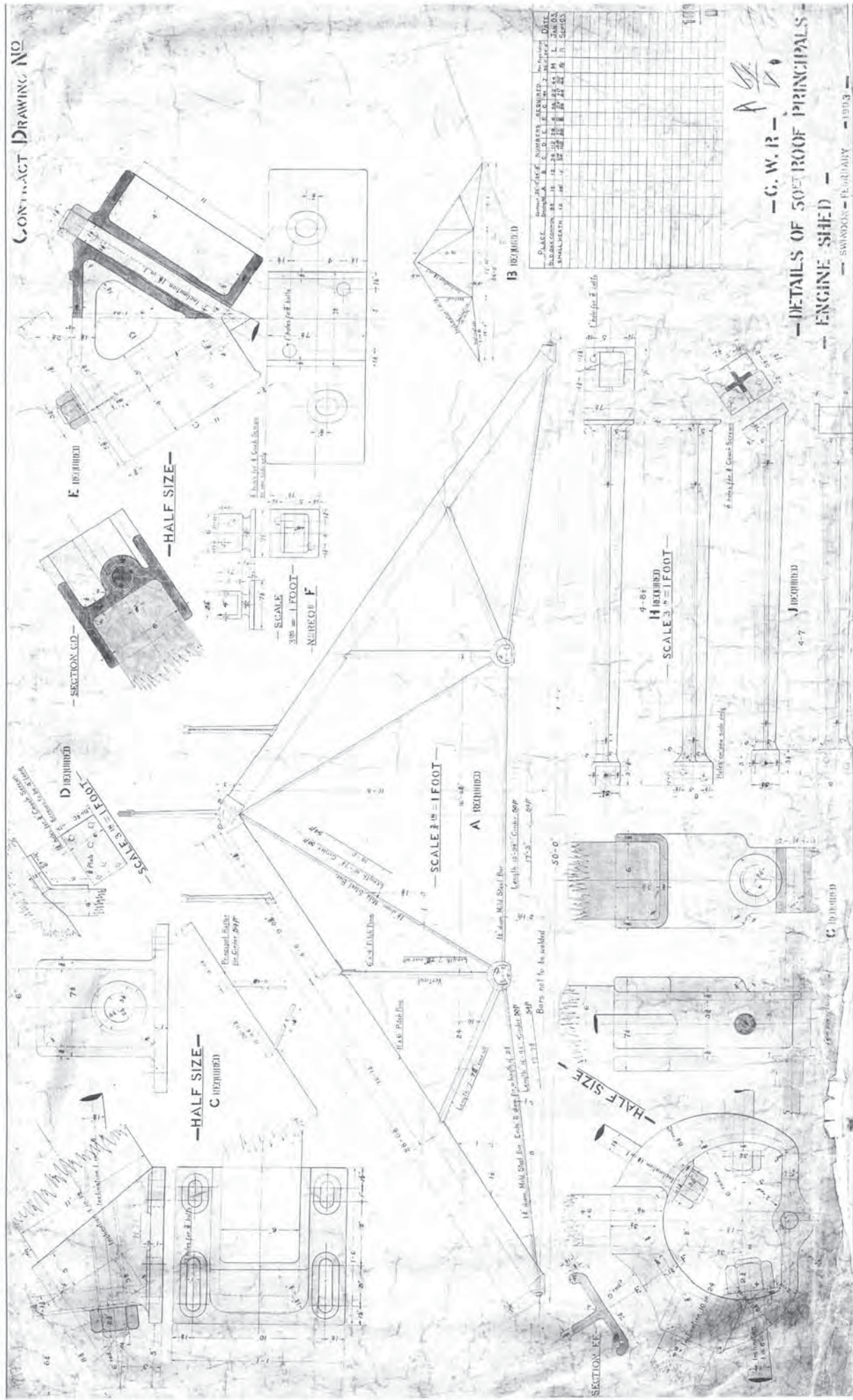
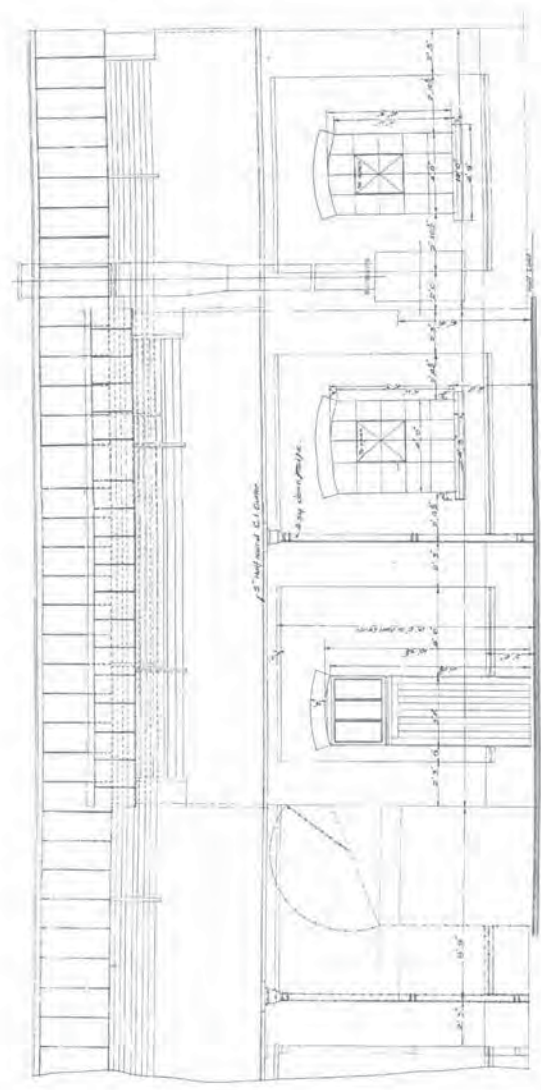


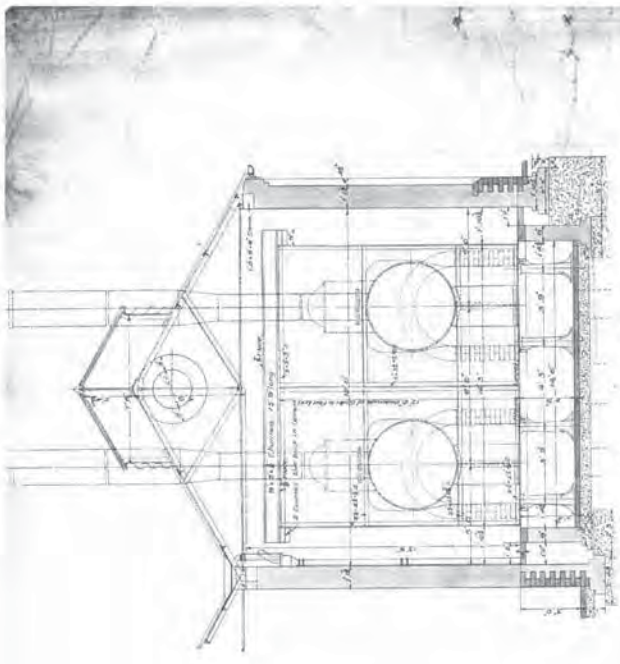
PLATE	NUMBER	REQUIRED	DATE
1	1	1	
2	2	1	
3	3	1	
4	4	1	
5	5	1	
6	6	1	
7	7	1	
8	8	1	
9	9	1	
10	10	1	
11	11	1	
12	12	1	
13	13	1	
14	14	1	
15	15	1	
16	16	1	
17	17	1	
18	18	1	
19	19	1	
20	20	1	
21	21	1	
22	22	1	
23	23	1	
24	24	1	
25	25	1	
26	26	1	
27	27	1	
28	28	1	
29	29	1	
30	30	1	
31	31	1	
32	32	1	
33	33	1	
34	34	1	
35	35	1	
36	36	1	
37	37	1	
38	38	1	
39	39	1	
40	40	1	
41	41	1	
42	42	1	
43	43	1	
44	44	1	
45	45	1	
46	46	1	
47	47	1	
48	48	1	
49	49	1	
50	50	1	

— G. W. R. —
 — DETAILS OF 50 FT ROOF PRINCIPALS —
 — ENGINE SHED —
 — SWANSEA — FEBRUARY — 1913 —

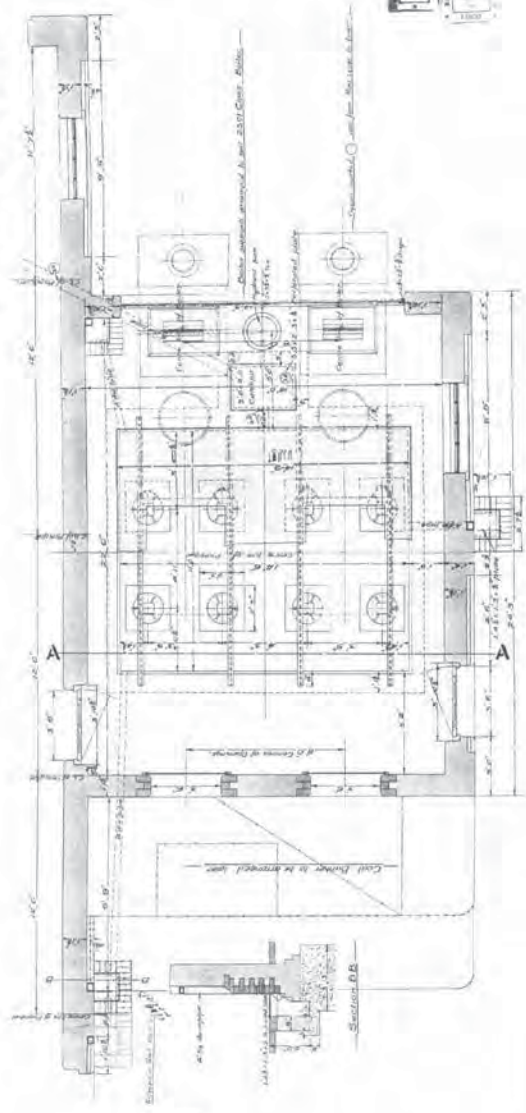
Figure 10
 2515/409/0692 Details of 50 Roof Principals, Engine Shed, February 1903
 not to scale



— SCALE $\frac{1}{4}'' = 1'$ FOOT —



— SECTION AA —



H 375
 No. 2 43142
 Not for sale
 See page 100
 1910

— C. W. R. —
 — BOILER HOUSE —
 — ECONOMICAL BOILER WASHING PLANT —
 — OLD OAK COMMON —
 — SWINDON — DECEMBER 1910 —
 — No. 43142 —

For General Arrangement see Drawing No. 43143

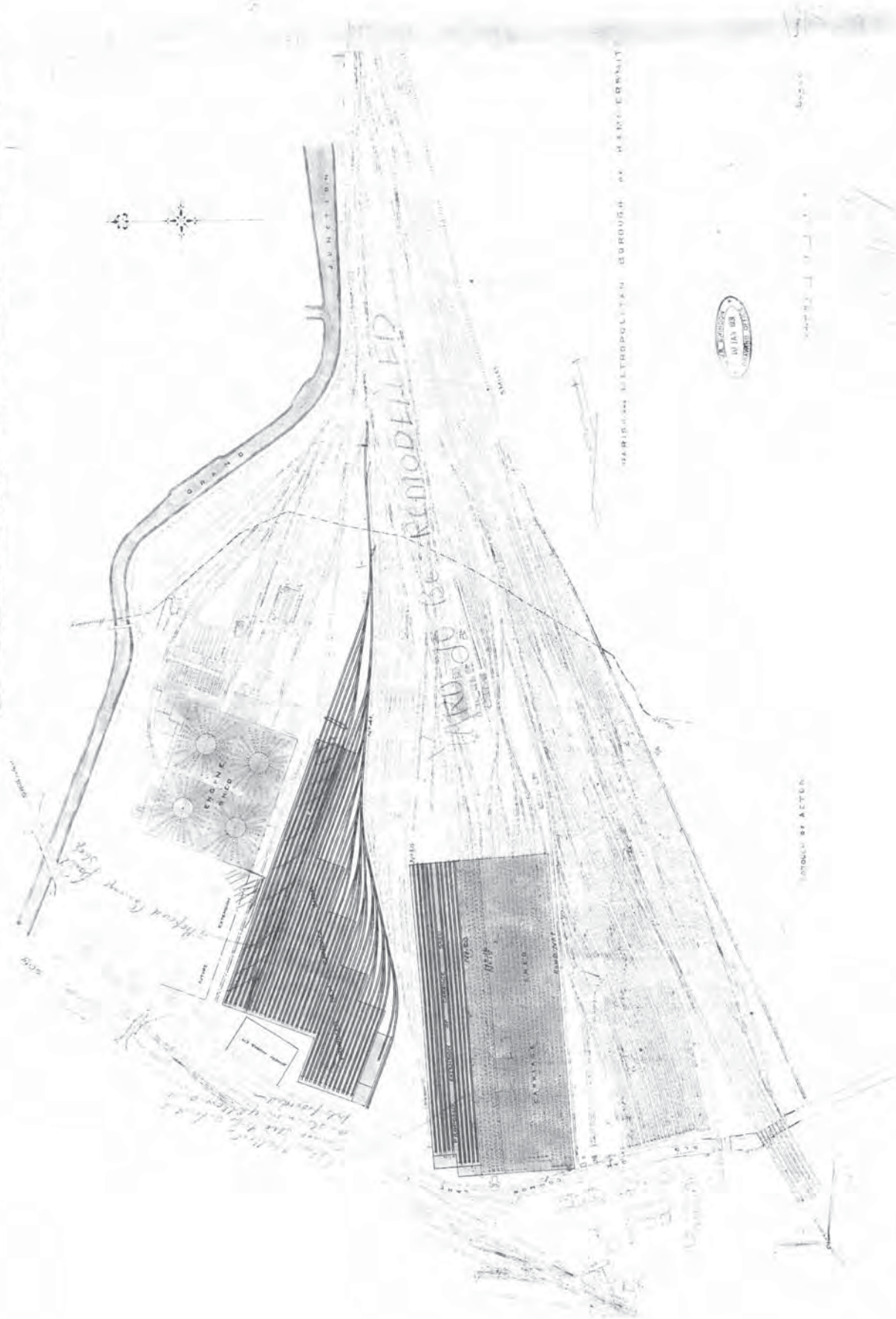
DRAWN BY
 CHECKED BY
 APPROVED BY
 1910

Figure 12
 2515/409/0075 Boiler House Economical Boiler Washing Plant, December 1910
 not to scale



Figure 13
 Ordnance Survey, Third Edition, 1914-16
 1:4,000 at A4

G. W. R. PADDINGTON TO OLD

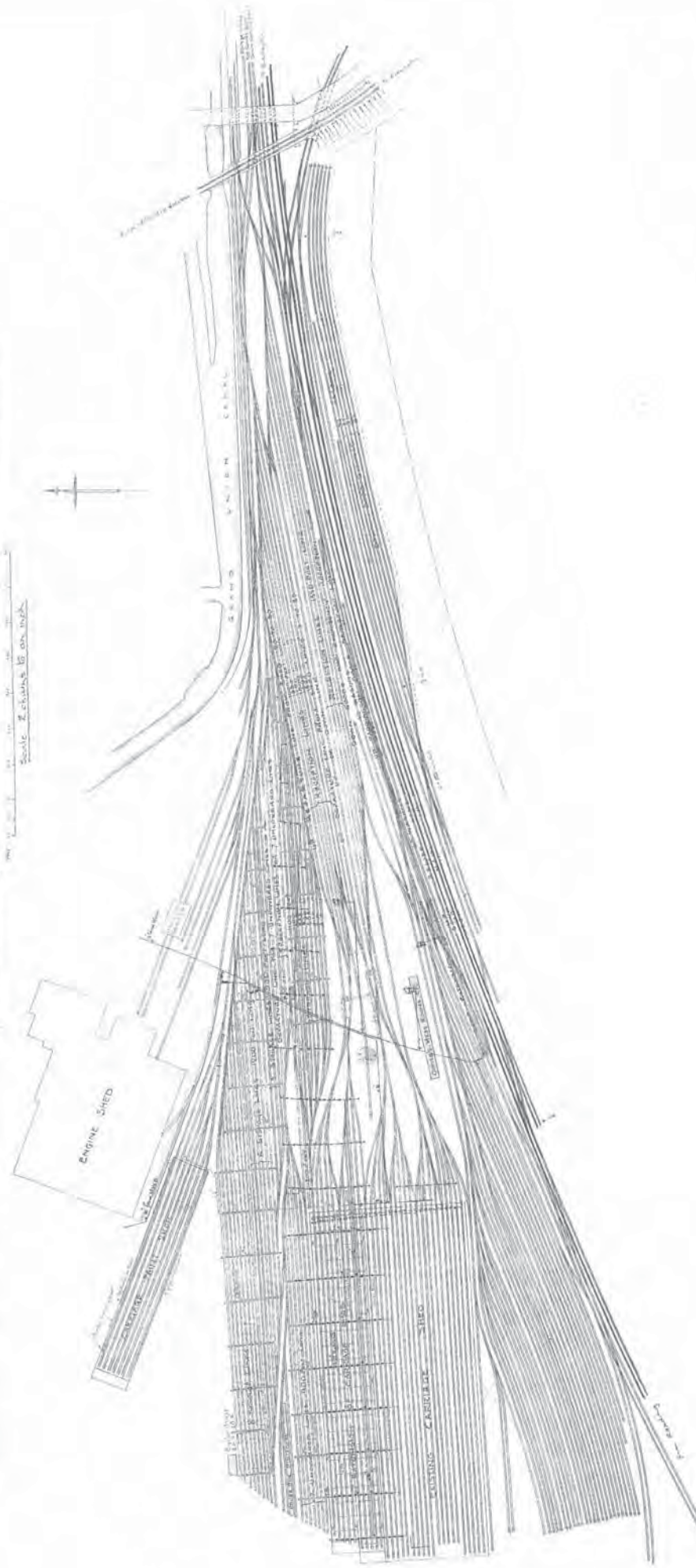


No 82725

Figure 18
2525/410/0632 Proposed New Carriage Shop, March 1927
not to scale

G.W.R. OLD OAK COMMON.

Proposed Re-arrangement of Layout and Additional Accommodation



Q (149) 100



No 95010

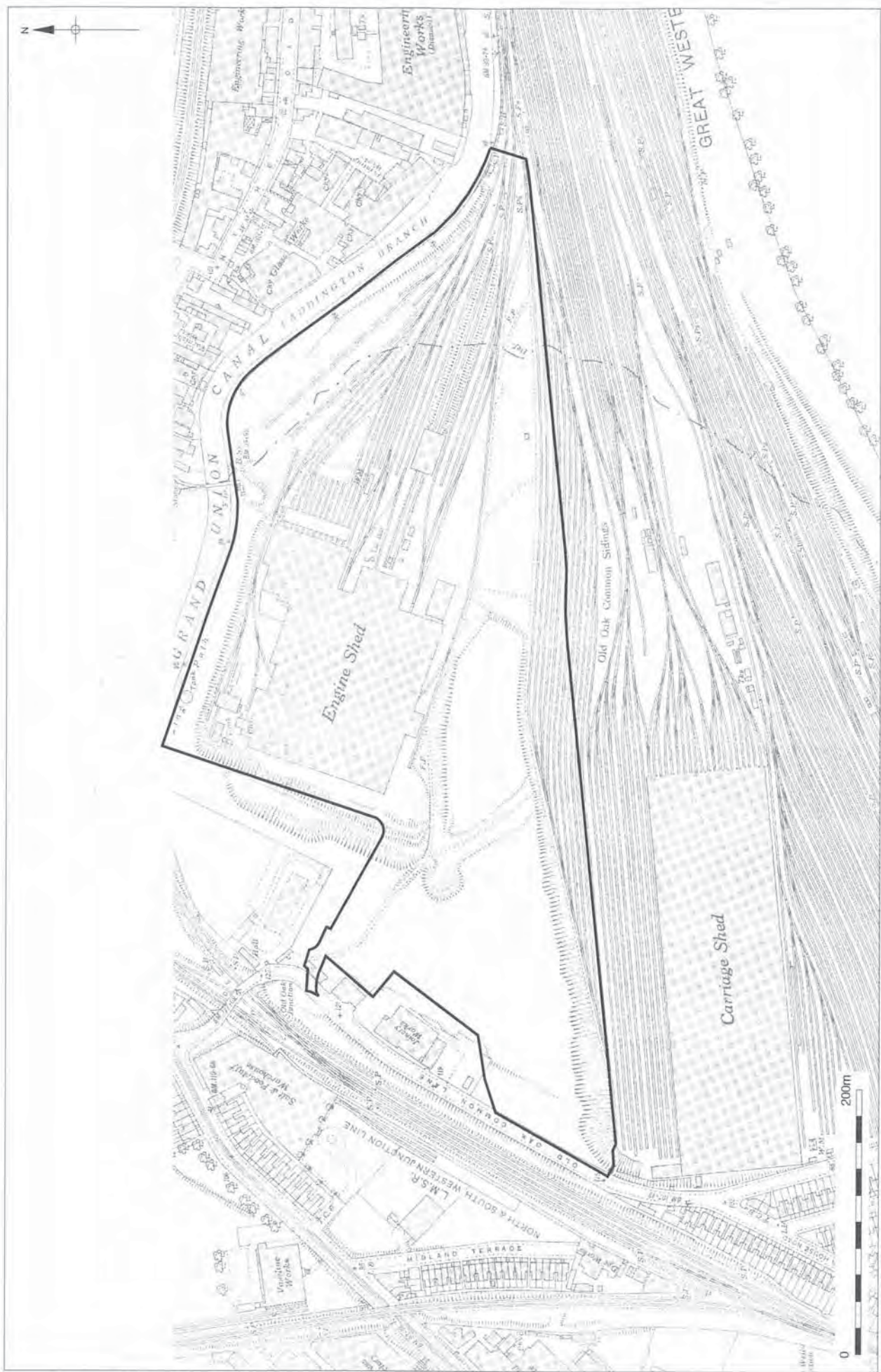


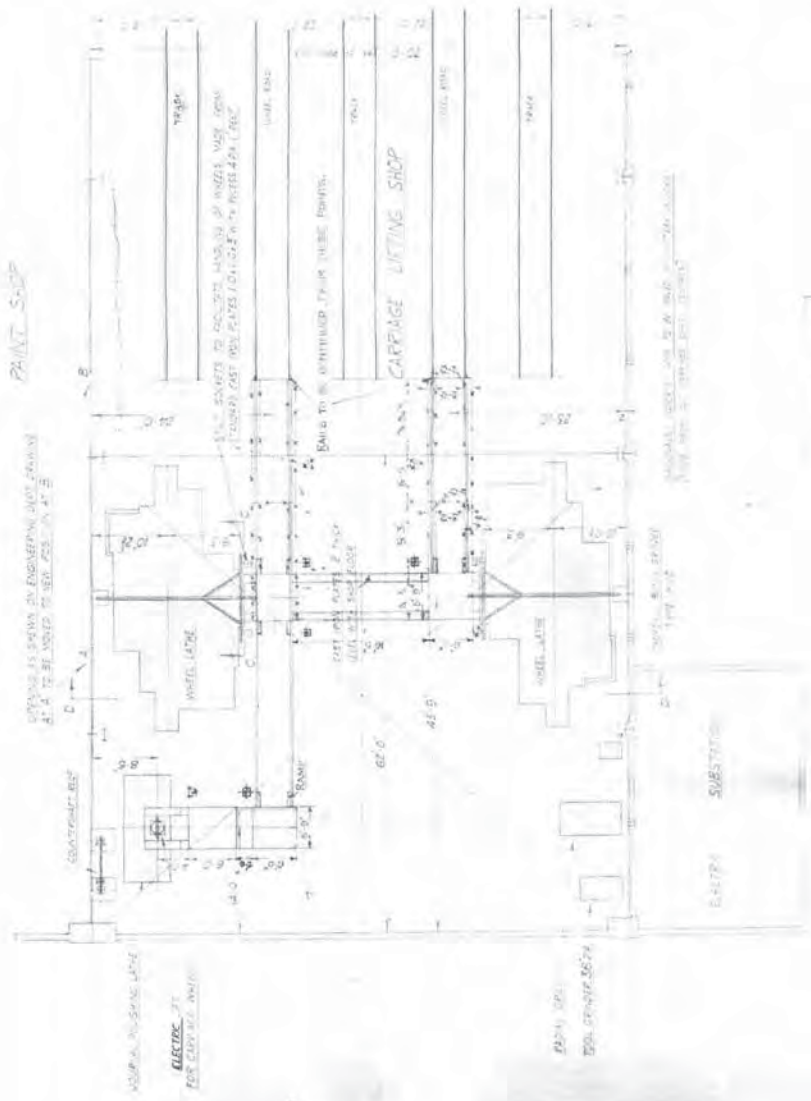
Figure 20
 Ordnance Survey, Revised Edition, 1935
 1:4,000 at A4

DRAWING LIST		SCALE
FOUNDATIONS FOR WHEEL LATHE	112780	1/4" = 1'-0"
14 TON RUNWAY FOR WHEEL LATHE	112780	1/4" = 1'-0"
BEAM FOR LIFTING CARRIAGE WHEELS	112780	1/4" = 1'-0"
COUNTERSUPPORT FOR JOURNAL POLISHING LATHE	112784	1/4" = 1'-0"
ELECTRICAL FOR CARRIAGE WHEELS JOURNAL POLISHING LATHE	112784	1/4" = 1'-0"
FOUNDATIONS FOR JOURNAL POLISHING LATHE	112780	1/4" = 1'-0"
APRIST FOR ELECTRIC LIFT FOR CARRIAGE WHEELS JOURNAL POLISHING LATHE	112785	1/4" = 1'-0"



SECTION B-B

SECTION C-C



PAINT SHOP

OPENING AS SHOWN IN ENGINEERING DRAWING
4'-0\"/>

1/2\"/>

BEAMS TO BE SPACED 7'-0\"/>

CAST IRON PLATES 1/4\"/>

CARRIAGE LIFTING SHOP

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

WHEEL LATHE

AS SHOWN IN BLUE: 24.1.39.

SCALE 1/4" = 1 FOOT

G W R
APRIST OF MACHINERY
CARRIAGE LIFTING SHOP
SWINDON
OCTOBER 1938
OLD OAK COMMON

4/288L

112771
REVISED
BY
DATE

— No 112271 —

Figure 22
2515/406/0900 Arrangement of Workshop at the Carriage Lifting Shop, October 1938
not to scale

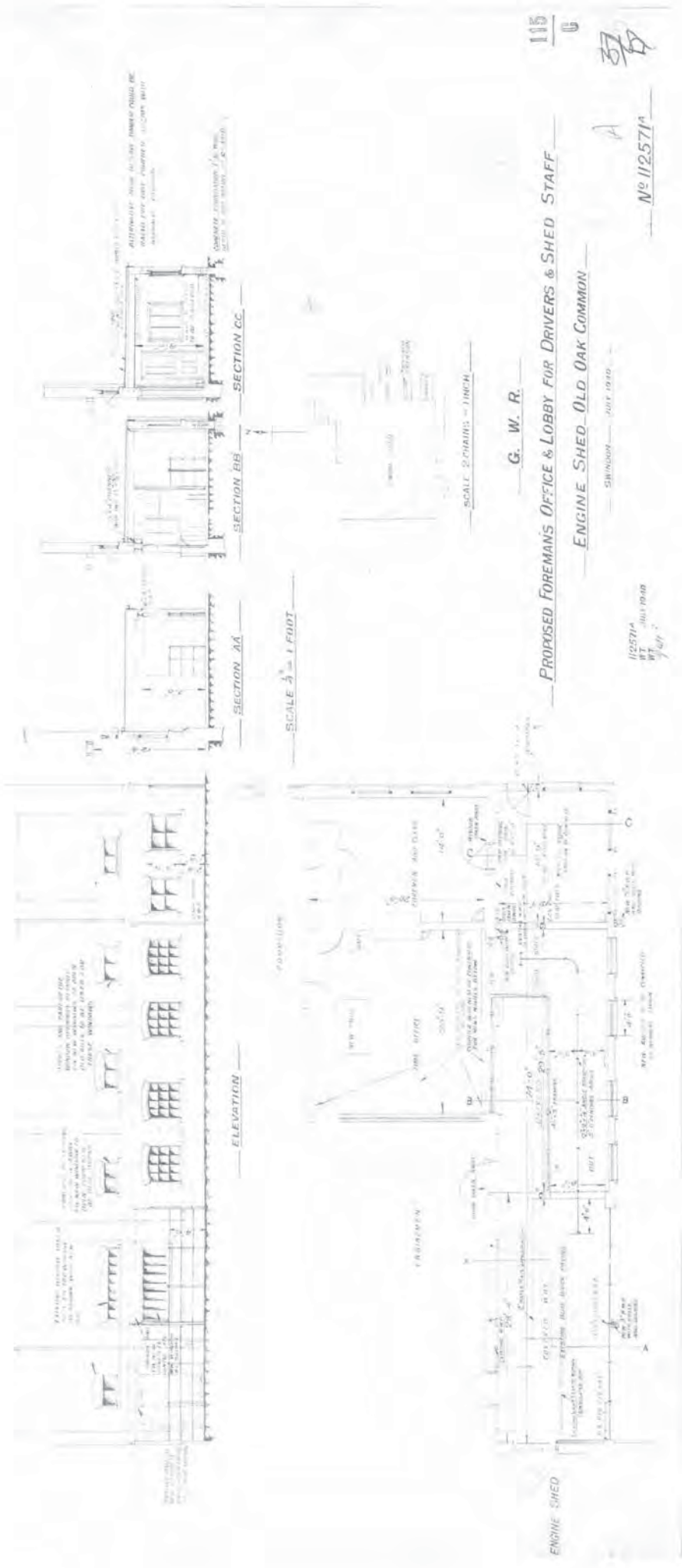
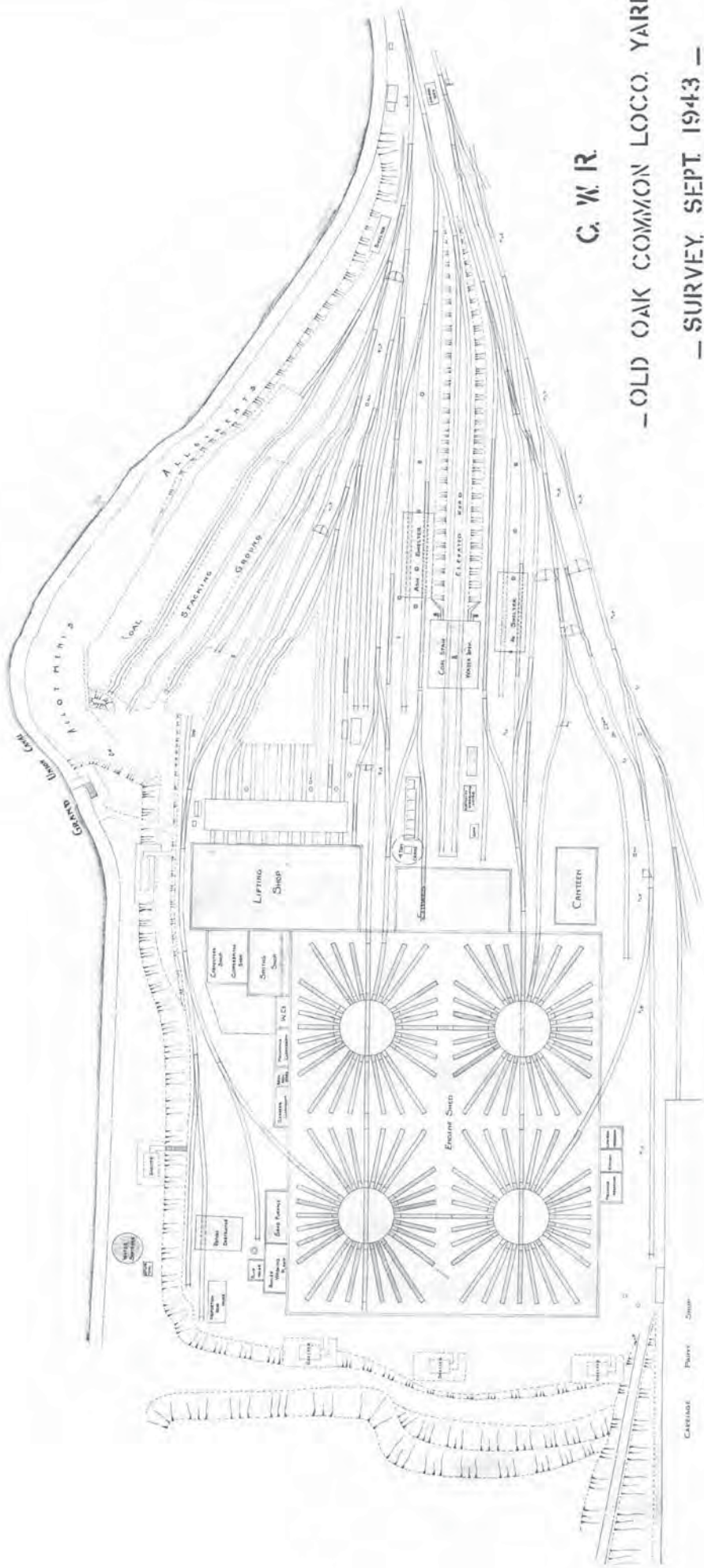


Figure 24
 2515/409/0805 (2) New Engine Shed Foreman's Office and Lobby for Drivers and Shed Staff, July 1940
 not to scale



C. W. R.

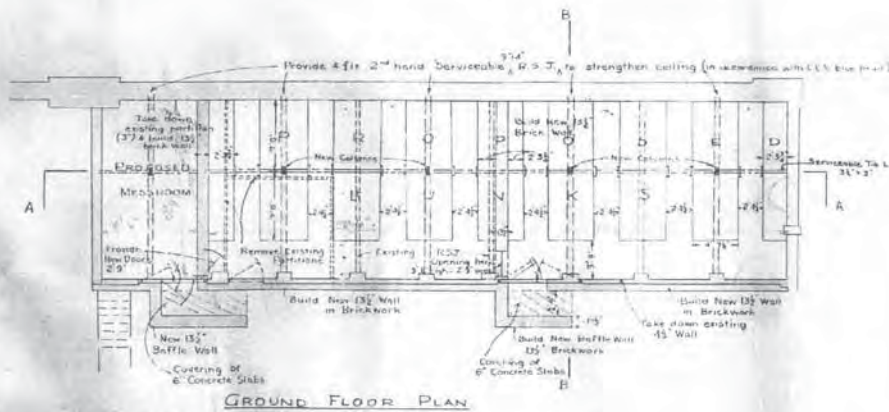
— OLD OAK COMMON LOCOMO. YARD

— SURVEY, SEPT. 1943 —

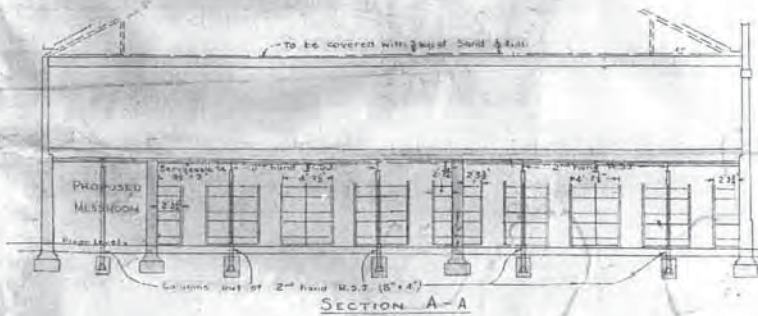
SCALE 40 FT = 1 INCH

OLD OAK COMMON - CARRIAGE LIFTING & PAINTING SHOPS
 PROPOSED SLEEPING ACCOMMODATION FOR COMPANY'S STAFF. (96 BUNKS)

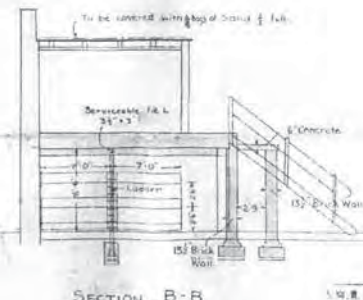
SCALE: 8 FEET TO AN INCH



GROUND FLOOR PLAN



SECTION A-A

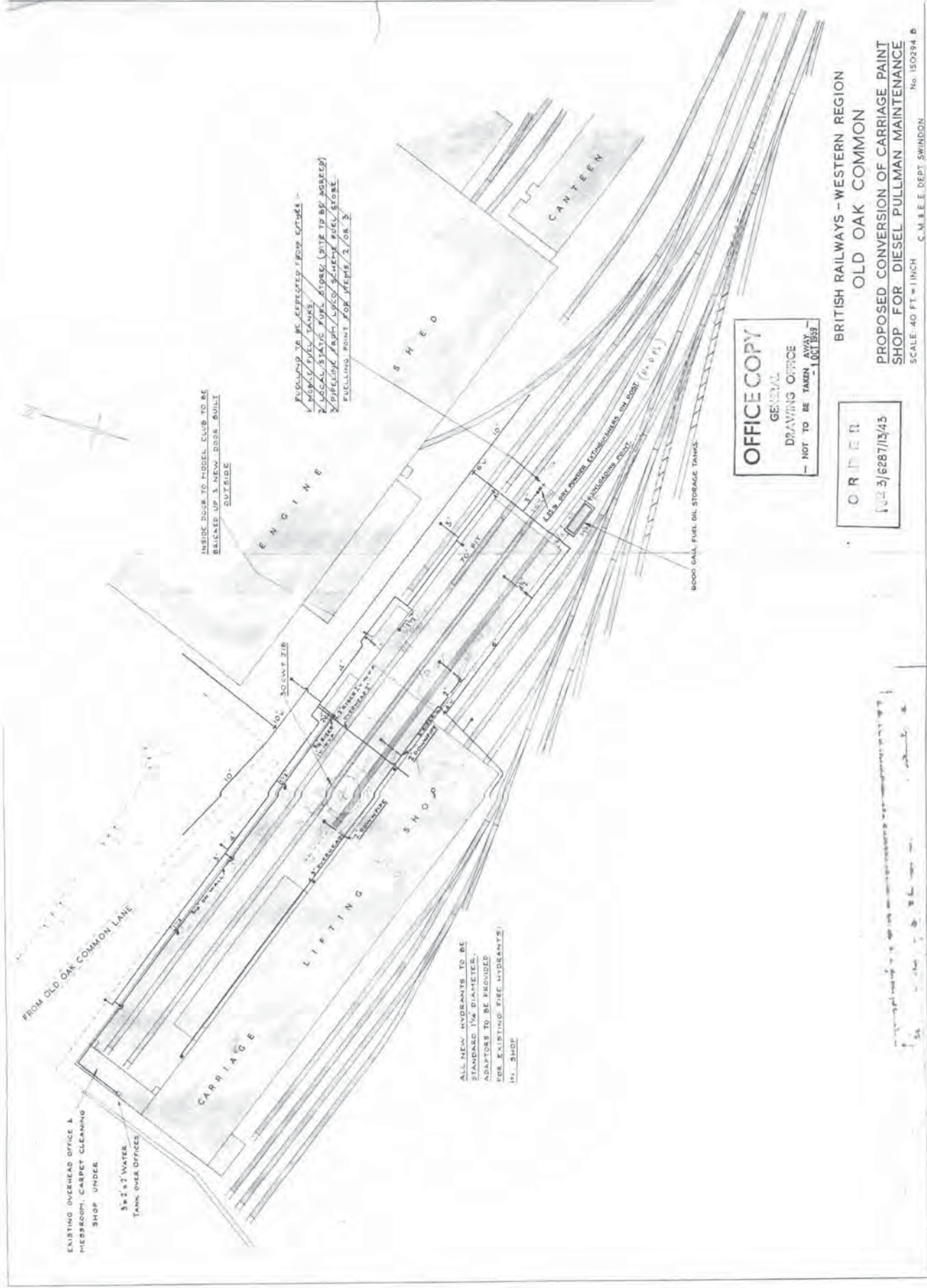


SECTION B-B

2 3027

OVERLAY TO DRG. NO. 112,175

A. W. R. LONDON DIVISION
 PADDINGTON, W.
 21 NOV 1940
 H. W. KIRKPATRICK
 No. 112,175
 Rev. Initials



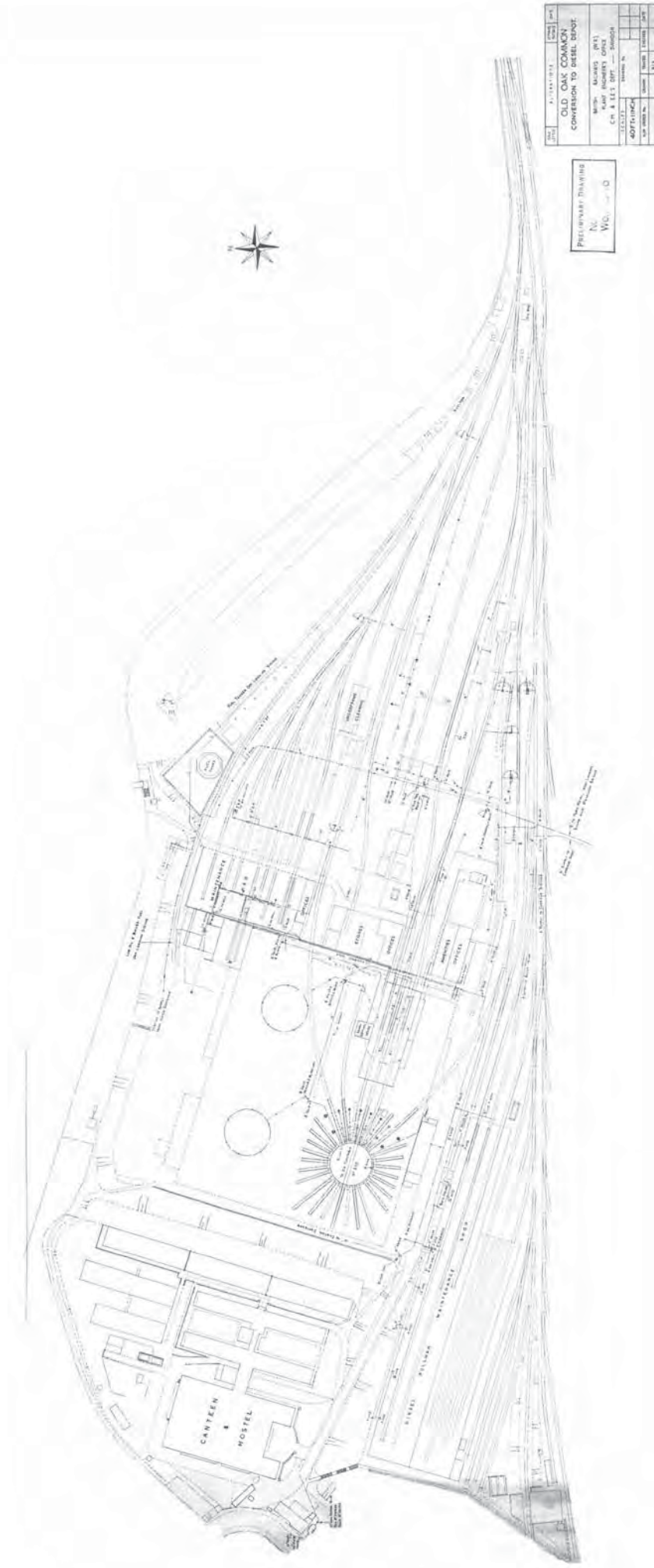
OFFICE COPY
 GENERAL
 DRAWING OFFICE
 NOT TO BE TAKEN AWAY
 - 1 OCT 1955

ORDER
 1003/6687/13/45

BRITISH RAILWAYS - WESTERN REGION
 OLD OAK COMMON
 PROPOSED CONVERSION OF CARRIAGE PAINT
 SHOP FOR DIESEL PULLMAN MAINTENANCE
 SCALE 40 FT = 1 INCH C.M.S.E.E. DEPT SWINDON No. 150294 B

Handwritten notes and signatures in the bottom right corner of the drawing area.

Figure 31
 2515/410/0690 Conversion of Carriage Paint Shop for Diesel Pullman Maintenance, October 1959
 not to scale



NO.	DATE	BY	SCALE
1	21/11/1961	W.C.	1/4" = 1'
OLD OAK COMMON CONVERSION TO DIESEL DEPOT.			
WORKS	MEASUREMENTS	PLAN	
C.P. & E.S. DEPT.	—	—	—
ADDITIONAL	WORKS	PLAN	
CONTR. NO.	DATE	BY	SCALE

Preliminary Drawing
 W.C. — 1/4" = 1'

Figure 32
 2515/410/1781 Preliminary Plan of Conversion to Diesel Depot, c.1962
 not to scale

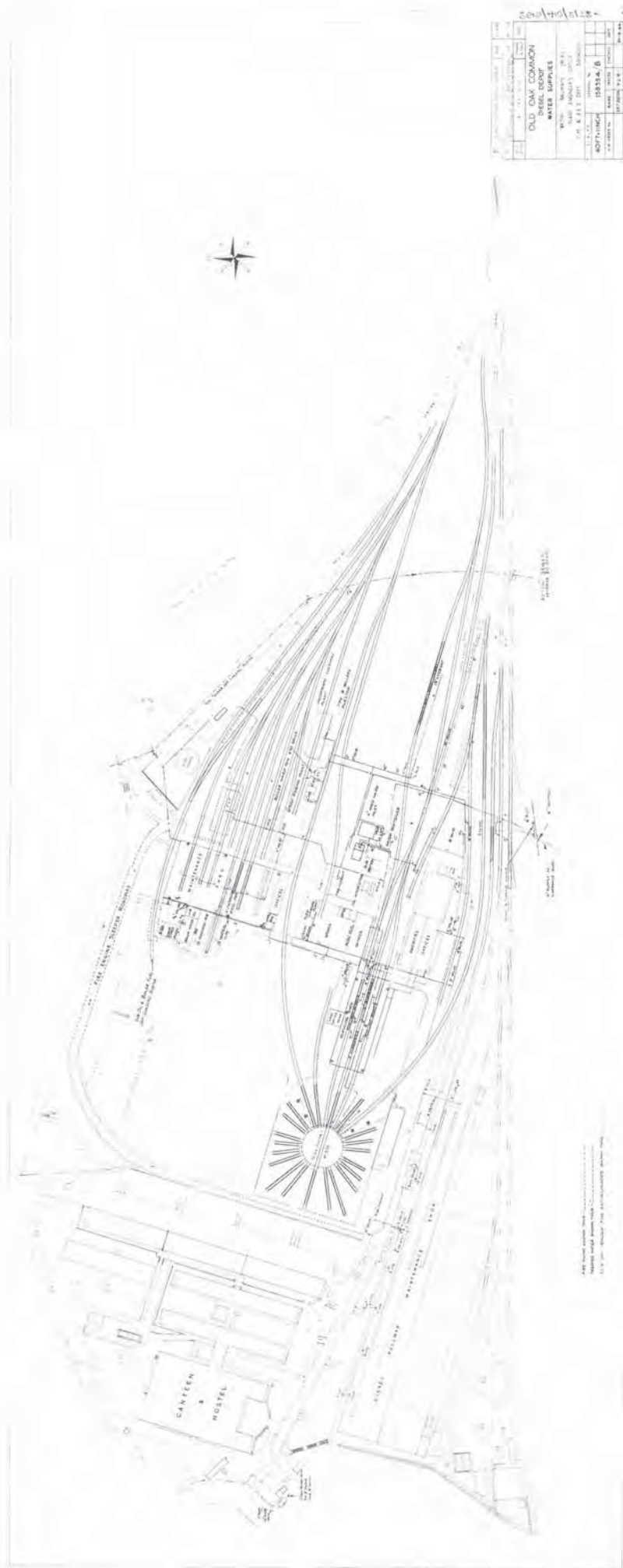
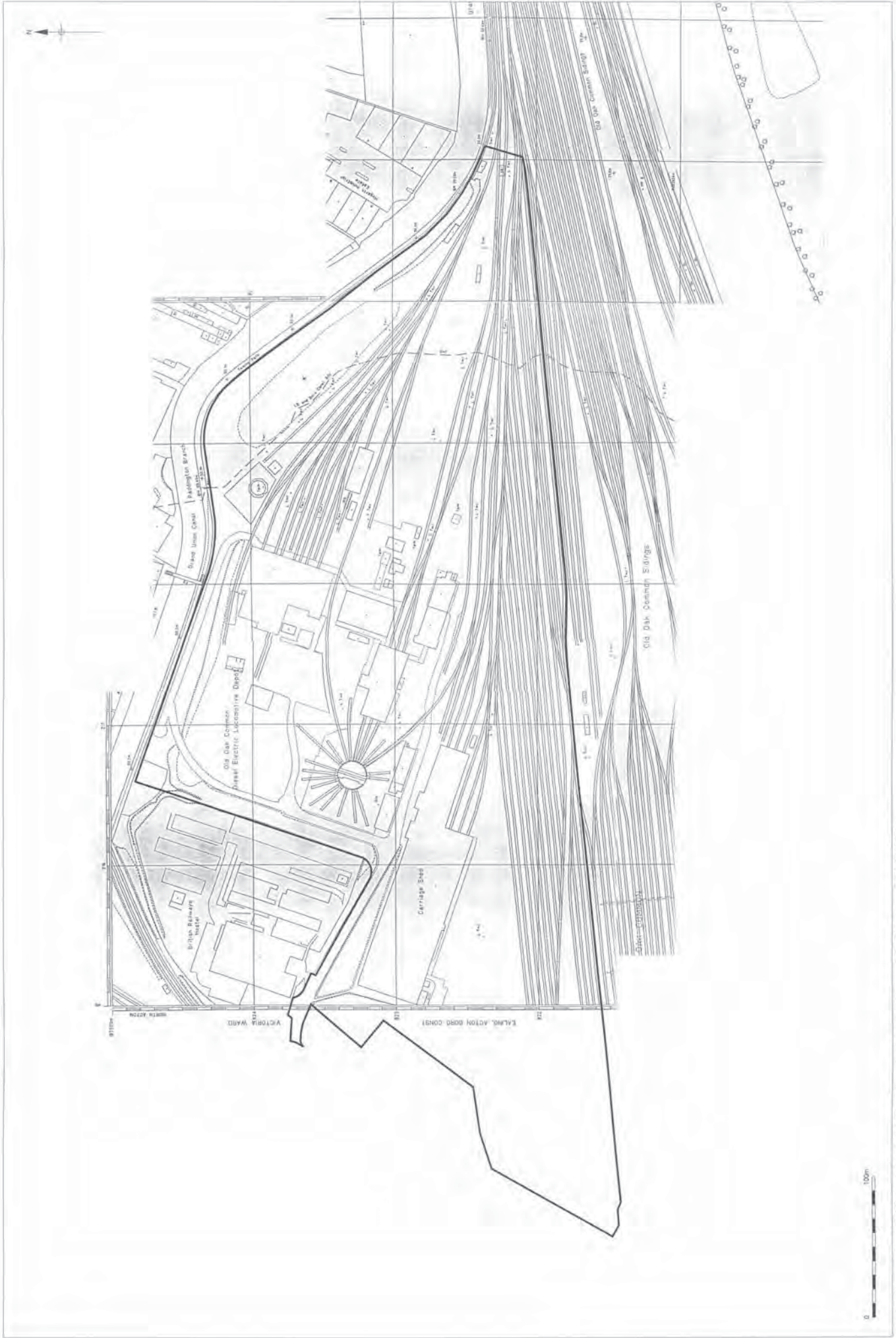
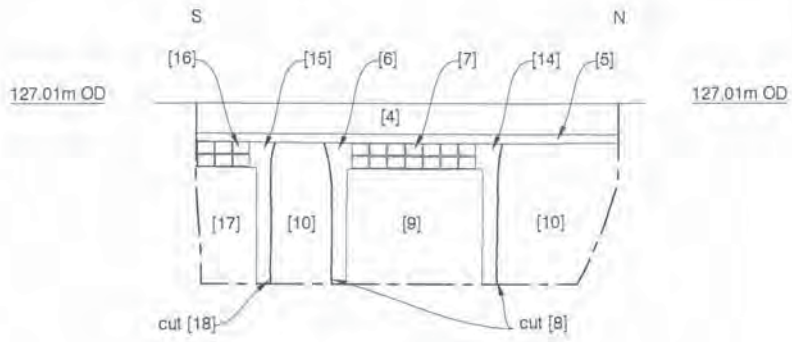


Figure 34
 WSHC 2525/4/10/2172 Old Oak Common Diesel Depot, December 1966
 not to scale

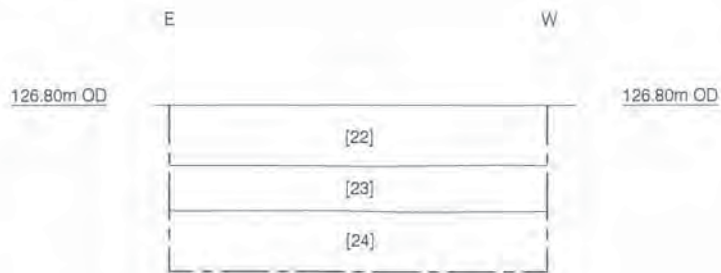


Reproduced from the 1991 1:1250 Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright PCA Ltd. Unit 54 Brockley Cross Business Centre, London SE4 2PD. Licence number 100020795 © Pre-Construct Archaeology Ltd 2010

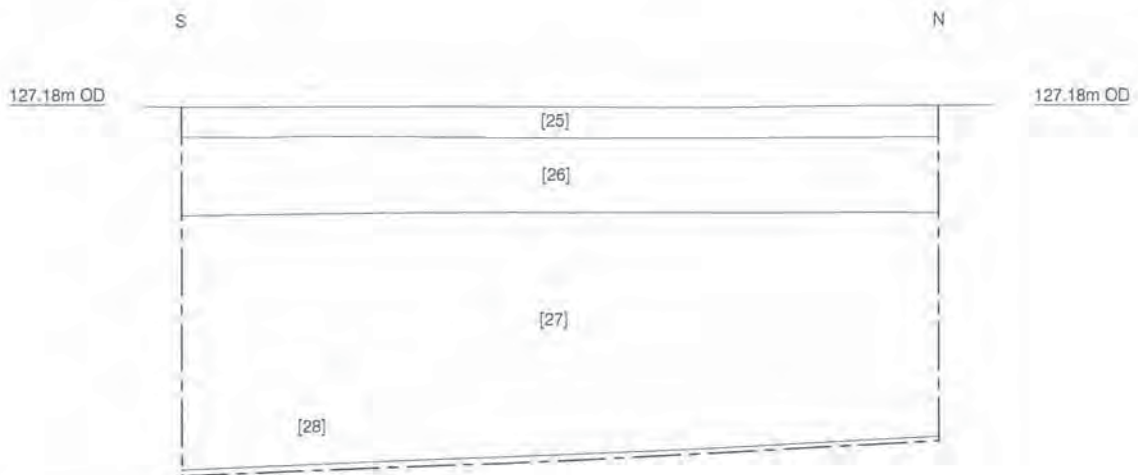
Figure 35
Ordnance Survey, 1991
1:2,500 at A3



Section 2
Test Pit 605
East Facing



Section 4
Test Pit 604
North Facing



Section 5
Test Pit 608
East Facing



Figure 36
Archaeological Sections from Test Pits 2, 3 and 4
1:50 at A4

- 1 SKULTERS CABIN
- 2 NETWORK RAIL CABIN MAINTENANCE
- 3 SKULTERS CABIN
- 4 SKULTERS CABIN
- 5 SKULTERS CABIN
- 6 DIESEL OIL PUMP HOUSE
- 7 SKULTERS CABIN
- 8 SKULTERS CABIN
- 9 TEMPORARY METAL STORE
- 10 SKULTERS CABIN
- 11 SKULTERS CABIN
- 12 SKULTERS CABIN
- 13 SKULTERS CABIN
- 14 SKULTERS CABIN
- 15 SKULTERS CABIN
- 16 SKULTERS CABIN
- 17 SKULTERS CABIN
- 18 SKULTERS CABIN
- 19 SKULTERS CABIN
- 20 SKULTERS CABIN
- 21 SKULTERS CABIN
- 22 SKULTERS CABIN
- 23 SKULTERS CABIN
- 24 SKULTERS CABIN
- 25 SKULTERS CABIN
- 26 SKULTERS CABIN
- 27 SKULTERS CABIN
- 28 SKULTERS CABIN
- 29 SKULTERS CABIN
- 30 SKULTERS CABIN
- 31 SKULTERS CABIN
- 32 SKULTERS CABIN
- 33 SKULTERS CABIN
- 34 SKULTERS CABIN
- 35 SKULTERS CABIN
- 36 SKULTERS CABIN
- 37 SKULTERS CABIN
- 38 SKULTERS CABIN
- 39 SKULTERS CABIN
- 40 SKULTERS CABIN
- 41 BURED TURNTABLE PITS
- 42 BURED SITE OF TRANSFER PIT
- 43 SITE OF DEMOLISHED WATER SOFTENER
- 44 SITE OF DEMOLISHED SAND FILTER
- 45 SITE OF DEMOLISHED SAND FILTER
- 46 SITE OF DEMOLISHED SAND FILTER
- 47 SITE OF DEMOLISHED COALING BUILDING AND WATER TOWER
- 48 SITE OF DEMOLISHED COALING BUILDING LEADING TO COALING BUILDING
- 49 CONSERVATION AREA FORMERLY COAL STOCK PILE
- 50 SITE OF DEMOLISHED COALING BUILDING
- 51 SITE OF EMBANKMENT LEADING TO FORMER BOILER HOUSE
- 52 SITE OF DIESEL OIL TANK
- 53 SITE OF DIESEL OIL TANK
- 54 COVERED WALKWAY TO REAR OF STORES
- 55 COVERED WALKWAY
- 56 COVERED WALKWAY
- 57 PIPE BRIDGE
- 58 PIPE BRIDGE
- 59 PIPE BRIDGE
- 60 SITE OF DEMOLISHED AIR RAD SHELTERS
- 61 STORAGE SHELTER
- 62 BOUNDARY RETAINING WALL
- 63 BOILER WASHING PLANT HOUSE
- 64 BOILER PUMP HOUSE

- 1 CASEWORKING DATA STORAGE
- 2 BOILER HOUSE - PULLMAN SHED
- 3 LIFTING SHOP (M/A CARTRIDGE LIFTING SHED)
- 4 SUMP/OIL INTERCEPTOR
- 5 ACCESS ROAD
- 6 OUTLINE OF DEMOLISHED STEAM SHED
- 7 DIESEL OIL TANK
- 8 DIESEL OIL OVERHEAD DELIVERY LINE
- 9 DIESEL OIL DELIVERY AREA
- 10 ASH SHELTER
- 11 SITE OF DEMOLISHED MASONRY ARCH TO SUPPORT RANSED TRACKS
- 12 SITE OF DEMOLISHED BOILER HOUSE
- 13 MESS ROOM
- 14 CORONATION SIDINGS
- 15 CASEWORKING DATA STORAGE
- 16 CASEWORKING DATA STORAGE
- 17 CASEWORKING DATA STORAGE
- 18 CASEWORKING DATA STORAGE
- 19 CASEWORKING DATA STORAGE
- 20 CASEWORKING DATA STORAGE
- 21 CASEWORKING DATA STORAGE
- 22 CASEWORKING DATA STORAGE
- 23 CASEWORKING DATA STORAGE
- 24 CASEWORKING DATA STORAGE
- 25 CASEWORKING DATA STORAGE
- 26 CASEWORKING DATA STORAGE
- 27 CASEWORKING DATA STORAGE
- 28 CASEWORKING DATA STORAGE
- 29 CASEWORKING DATA STORAGE
- 30 CASEWORKING DATA STORAGE
- 31 CASEWORKING DATA STORAGE
- 32 CASEWORKING DATA STORAGE
- 33 CASEWORKING DATA STORAGE
- 34 CASEWORKING DATA STORAGE
- 35 CASEWORKING DATA STORAGE
- 36 CASEWORKING DATA STORAGE
- 37 CASEWORKING DATA STORAGE
- 38 CASEWORKING DATA STORAGE
- 39 CASEWORKING DATA STORAGE
- 40 CASEWORKING DATA STORAGE

Recommended Recording Levels

- Level 1
- Level 2
- Level 3



Figure 37
Standing Buildings Recommended Recording Levels
1:2,500 at A3



Reproduced from drawings supplied by Cadria Symonds (April 2010)
 Amended by PCA July 2010

Figure 38
 Elements Identified during Salvage Assessment
 1:2,500 at A3



APPENDIX 3. PLATES

APPENDIX 3. PLATES



Plate 1. Pullman Shed (22) after air raid on 25/10/1940, showing damage to gable end and north wall.



Plate 2. Pullman Shed (22) interior after air raid on 25/10/1940, showing damage to rolling stock and roof trusses.



Plate 3. Pullman Shed (22) interior looking north east after air raid on 25/10/1940.



Plate 4. South elevation of 'Shunters Cabin' (1), former WWII air raid shelter.



Plate 5. Carriage Washing Plant (3).



Plate 6. Carriage Washer Treatment Plant (7) and Water Tower (8).



Plate 7. Underframe Cleaning Shed (4).

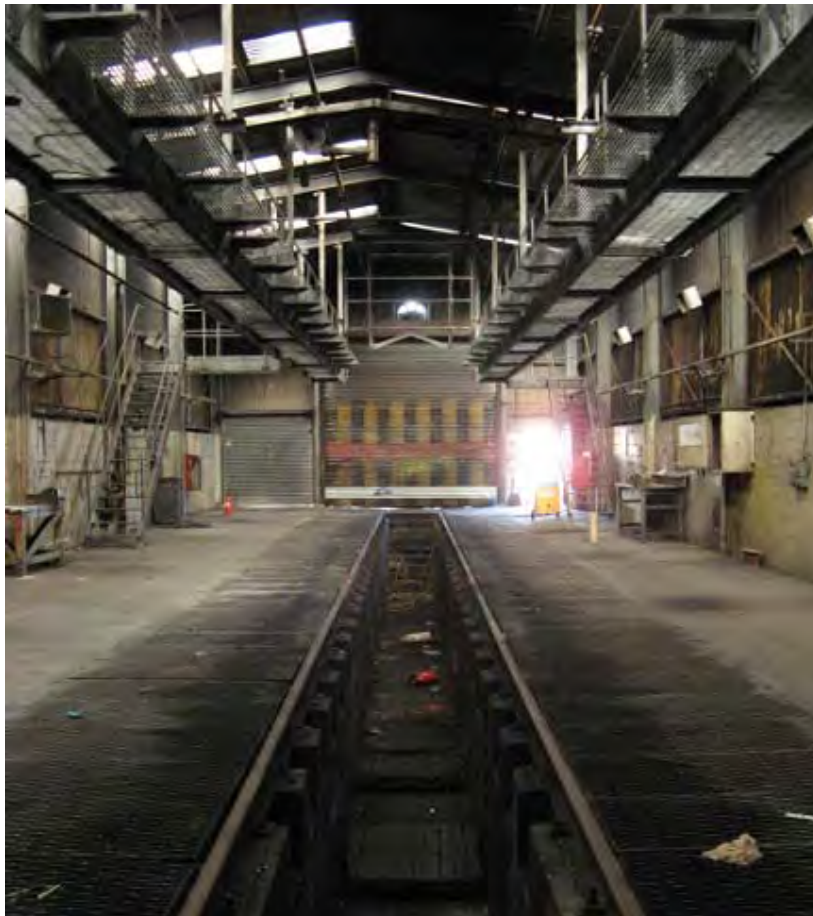


Plate 8. Underframe Cleaning Shed (4) interior looking west.



Plate 9. Steam Raising Plant (5), looking north-west.



Plate 10. Diesel/Oil Pump House (6) and Bunded Oil Tank (53), looking north-west.



Plate 11. Metal Store (9), looking south-west.



Plate 12. Offices/Portakabins (11 & 18), looking north-west.



Plate 13. Water Softening Plant (12) and Soft Water Tower (13), looking south-west.



Plate 14. The Factory Maintenance Shed (15a), looking north-west.



Plate 15. South elevations of The Factory, central gable end wall of Lifting Bay (15b) and two gable end walls of Boiler House on left (15c).



Plate 16. Interior of the Factory Maintenance Shed (15a) looking north-east.



Plate 17. Interior of the Factory Lifting Bay (15b), looking west.



Plate 18. Interior of the Factory Boiler House (15c), looking west.



Plate 19. Twin gable end walls of Stores / Offices (16a & 16b), looking north-west.



Plate 20. Gable end walls of west elevation of Stores/Offices (16a & 16b) on right with the Factory (15a, 15b & 15c) on left. The surviving turntable (28) is just out of sight on the right and the foreground is part of the area covered by the original 1905 Engine Shed.



Plate 21. Interior view of Stores/Offices (16a & 16b), looking south-east across central open area to ground floor offices against east and south walls.



Plate 22. Amenity Buildings (17a & 17b), looking north-east.



Plate 23. Amenity Buildings (17b & 17a), looking south-west.



Plate 24. South elevation of Diesel Refuelling and Maintenance Shed (19).



Plate 25. Interior of Diesel Refuelling and Maintenance Shed (19), looking east.



Plate 26. Mess Room/Sand Furnace (20) on right and Fuel Oil Tanks and Pump House (34 & 54) on left.



Plate 27. Mess Room/Sand Furnace (20) looking north-west, showing recessed panels on the once exterior face of the original 1905 Engine Shed wall which had been retained as the north wall of this building and enclosed when this building was extended.



Plate 28. Pullman Shed Boiler House (21) looking north-east.



Plate 29. North elevation of the Pullman Shed (22) with Fuel Oil Tanks and grey Pump House (34 & 54) visible on the far left.



Plate 30. South elevation of Pullman Shed (22) with east gable end wall of Carriage Lifting Shed (23).



Plate 31. West gable end walls of Pullman Shed (22) on left and Carriage Lifting Shed (23) on right.



Plate 32. Interior of Pullman Shed (22) looking west.



Plate 33. Original offices at west end of Pullman Shed (22).



Plate 34. South elevation of Carriage Lifting Shed (23) with SubStation B3 (36) in foreground.



Plate 35. Interior of Lifting Shop (23), looking west with yellow painted crane at far end.



Plate 36. Sump/oil Interceptor (24), Bunded oil tank (54) and Sub Station B2 (26).



Plate 37. Turntable (28), looking north-east.



Plate 38. Toilet block (30) looking north with Stores/offices building on right.



Plate 39. Substation B5 (38) looking south.



Plate 40. Mess Room (39), likely to be an original 1905 construction.



Plate 41. Composite roof truss on west side of Factory (former Lifting Shop) (15a)



Plate 42. Composite roof truss, Factory former Lifting Shop (15a): Detail of cast steel junction ring



Plate 43. Composite roof truss, Factory former Smiths' Shop (Lifting Bay) (15b).



Plate 44. Composite roof truss, north side of Factory Boiler House (former Carpenters' and Coppersmiths' Shop) (15c)



Plate 45. Composite roof truss, south side of Factory Boiler House (former Carpenters' and Coppersmiths' Shop) (15c)



Plate 46. Cast iron column, centre of Stores/Offices building (16a & 16b): detail of manufacturer's stamp



Plate 47. Cast iron column, centre of Stores/Offices building (16a & 16b)



Plate 48. Detail of column capital, transverse beams and truss connection, Stores/Offices building (16a & 16b)



Plate 49. Composite roof truss, south side of Stores/Offices building (16a & 16b)



Plate 50. Detail of probable cast iron pulley wheel, Stores building (16a)



Plate 51. Teak carriage wheel sections reused as flooring in the west end of Carriage Lifting Shop (23)



Plate 52. Cast iron railing, Sump/Oil Interceptor (24)



Plate 53. Steel door at west end of Substation B2 (26)



Plate 54. Steel door at west end of Substation B2 (26): detail of maker's nameplate



Plate 55. North elevation of Diesel Pump House (6), showing heavy oil/diesel pumps



Plate 56. Heavy oil/diesel pipe and valves, Oil/Diesel delivery area (32)



Plate 57. Diesel oil unloading jib, Diesel/Oil Tank and Pump House (6 & 53)



Plate 58. S.H. Heywood & Co Ltd gantry crane, south-east end of Factory former Lifting Shop (15a)



Plate 59. Detail of running wheel of Heywood crane on central 'fish belly' beam of Factory former Lifting Shop (15a)



Plate 60. Detail of lifting gear of Heywood crane, Factory former Lifting Shop (15a)



Plate 61. Composite roof trusses, Amenities Building, first floor (17a)



Plate 62. Original Engine Shed exterior window at west end of Mess Room (former Sand Furnace) (20).



Plate 63. Wharton gantry crane at west end of Carriage Lifting Shop (23)



Plate 64. Pooley & Sons scales, Steam Raising Plant (5)

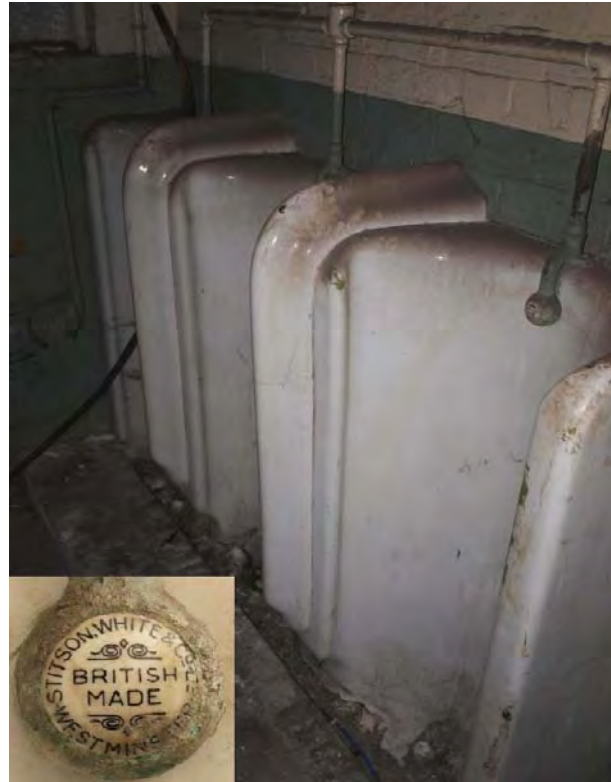


Plate 65. Urinals in lavatory, south side of Carriage Lifting Shop (23), with inset of maker's plate



Plate 66. 'Self reversing' points lever baseplate, locomotive shunting yard, near Shunters' Cabin (1).



APPENDIX 4. WATCHING BRIEF REPORT

GEOLOGY AND TOPOGRAPHY

- 2.1 The regional geology of the area around Old Oak Common is typical of that for the western London region. It comprises the London Clay Formation (approximately 70 to 110m thick) underlain by Lambeth Group (approximately 18 to 20m thick), which is underlain in turn by the Thanet Sand Formation (approximately 10m thick).
- 2.2 Made ground varies in thickness between approximately 0.8m to 5.0m and overlies the London Clay Formation.
- 2.3 Much of the original topography has been altered by the removal of deposits due to construction activities associated with the development of the railway and its infrastructure.
- 2.4 The Old Oak Common site was terraced during works in 1890 and further works in the early to mid 20th century have resulted in further reduction of the natural landscape.

METHODOLOGY

- 6.1 The watching brief was conducted according to the Specification prepared by Crossrail Act 2008 Crossrail Ltd Old Oak Common Worksites Site-Specific Archaeological Written Scheme of Investigation. Document Number: CR-EG-OOC-EN-SP00001 (2008).
- 6.2 The fieldwork was designed to assess the presence or absence of significant archaeological remains, which may require further investigation. Ten Trial Pits were monitored during the Watching Brief; their dimensions are given in the table below:

Trial Pit No.	Dimensions
Trial Pit 604	N-S – 0.80m / E-W – 2.50m
Trial Pit 605	N-S – 2.80m / E-W – 1.30m
Trial Pit 606	N-S – 5.00m / E-W – 0.90m
Trial Pit 607	N-S – 0.50m / E-W – 1.50m
Trial Pit 608	N-S – 0.50m / E-W – 1.50m
Trial Pit 609	N-S – 0.60m / E-W – 2.00m
Trial Pit 610	N-S – 1.30m / E-W – 2.00m
Trial Pit 633	N-S – 0.80m / E-W – 2.50m
Trial Pit 634	N-S – 0.80m / E-W – 2.70m
Trial Pit 637	N-S – 0.50m / E-W – 1.50m

- 6.3 The Trial Pits were excavated under archaeological supervision by a 360 mechanical excavator fitted with a flat-bladed bucket. Level spits of no more than 0.10m were removed in each pass. Material was removed by the machine until either natural ground or significant archaeological strata were uncovered.
- 6.4 A plan of each Trial Pit was drawn to a scale of 1:20 or 1:50, and a representative section was drawn at 1:10 or 1:20 for each Trial Pit.
- 6.5 Archaeological features and deposits were recorded using the recording system stipulated in the Specification. A photographic record consisting of digital shots was created.
- 6.6 All OD heights were taken using spot heights from plan P1 15/04/2010, First issue, CS/038088-OOC-GEO-3K-0005 (1:1000).
- 6.7 Locations of Trial Pits are contained in plan P1 15/04/2010, First issue, CS/038088-OOC GEO-3K-0005 (1:1000).
- 6.8 The numbering of Trial Pits, used in this report, follows the original numbering used by Crossrail Ltd.
- 6.9 Trial Pits 607, 608, 609, and 637 were not excavated under archaeological supervision but were recorded using geo-technical logs and digital photos.

ARCHAEOLOGICAL SEQUENCE

7.1 Trial Pit 604

- 7.1.1 Trial Pit 604 was located in the south part of the site and was excavated down to 1.10m from ground level.
- 7.1.2 The earliest deposit recorded in Trial Pit 604 was a natural deposit of London Clay (24). It was recorded at 26.10m OD.
- 7.1.3 A layer of made ground (23), thought to be of early 20th century date, was observed overlying natural London Clay (24). This layer was 0.40m thick, was recorded at 26.40m OD.
- 7.1.4 Sealing made ground (23) was a layer of modern made ground (22), which was 0.40m thick and was recorded at 26.80m OD, illustrating current ground level.

7.2 Trial Pit 605

- 7.2.1 Trial Pit 605 was located in the central part of the site and was excavated down to 1.20m from the ground level.
- 7.2.2 The earliest deposit recorded in Trial Pit 605 was a natural deposit of London Clay (10). It was recorded at 26.75m OD.
- 7.2.3 Natural deposit (10) was truncated by two construction cuts [8] and [18]. Cut [8] measured: N-S – 1.10m, E-W – 1.30m, depth - 0.94m, which was recorded from level 26.75m OD, down to 25.81m OD. Cut [18] measured: N-S - 0.50m, E-W – 1.30m, Depth - 0.93m, and was observed from level 26.75m OD down to 25.81m OD.
- 7.2.3 A 19th/20th century wall (7), comprising two courses of red brick, based on a concrete footing (9) was recorded within construction cut [8]. Wall (7) measured: N-S – 0.80m, E-W – 1.30m, height; 0.16m. The concrete footing measured: N-S – 0.85m E-W 1.30m, Height; 0.76m. Wall (7) was observed at 26.75m OD, and concrete footing (9) at 26.57m OD.
- 7.2.4 A 19th/20th century wall (16) comprising two courses of red brick, based on a concrete footing (17) was recorded within construction cut [18]. Wall (16) measured: N-S – 0.35m, E-W – 1.30m, height - 0.16m. Concrete footing (17) measured: N-S – 0.40m E-W 1.30m, height - 0.76m. Wall (16) was observed at 26.75m OD, and Concrete footing (9) at 26.57m OD.
- 7.2.5 Construction cut [18] was backfilled with silty sandy deposits (6) and (14). Dimensions of deposit (6) were: N-S – 0.10m E-W – 1.30m, 0.94m thick; Dimensions of deposit of deposit (14): N-S 0.10m, E-W 1.30m, 0.94m thick and were both recorded 26.75m OD.
- 7.2.6 Construction cut [8] was backfilled with silty sandy deposit (15), measuring: N-S – 0.10m, E-W 1.30m, 0.94m thick, which was observed at 26.75m OD.
- 7.2.7 Sandy deposit (5), possibly a leveling layer for modern concrete surface (4), was found at 26.81m OD and sealed all earlier deposits in Trial Pit 605.
- 7.2.8 Modern pipe cut [12] truncated layer (5). Cut [12] measured: N-S- 2.80m, E-W –0.12m and was

recorded at 26.81m OD (it was not excavated).

7.2.9 Cut [12] was backfilled with modern silty sandy deposit (yellow sand), which measured: N-S-2.80m, E-W – 0.12m and was observed at 26.81m OD.

7.2.10 Above sandy deposit (5) was a layer of modern concrete (4), which was 0.20m thick and was recorded at 27.10m OD.

7.3 Trial Pit 606

7.3.1 Trial Pit 606 was located in the north part of the site and was excavated down to 1.10m from ground level.

7.3.2 The earliest deposit recorded in Trial Pit 606 was a concrete structure (28), which was interpreted as a base of an early 20th century turntable. It was recorded at a maximum height of 24.98m OD and a minimum height of 24.78m OD.

7.3.3 Made ground consisting of three layers (27), (26), (25), thought to be of modern date, was overlying the concrete structure (28). These layers were recorded at: (27) 26.48m OD, 1.70m thick, (26) at 16.98m OD, 0.50m thick and (25) – at 27.18m OD.

7.4 Trial Pit 607

7.4.1 Trial Pit 607 was located in north part of the site and was excavated down to 1.60m from ground level.

7.4.2 The earliest deposit recorded in Trial Pit 607 was a natural deposit of London Clay (30). It was recorded at 28.20m OD.

7.4.3 Layer of made ground (31), thought to be of early 20th century date, was overlying clay (30). This layer was 0.90m thick, was recorded at 27.90m OD.

7.4.4 Sealing made ground (31) was a layer of modern made ground (32), which was 0.30m thick and was recorded at 28.20m OD, and it illustrates the current ground level.

7.5 Trial Pit 608

7.5.1 Trial Pit 608 was located in north part of the site and was excavated down to 2.30m from the ground level.

7.5.2 The earliest deposit recorded in Trial Pit 608 was a natural deposit of London Clay (35). It was recorded at 25.25m OD.

7.5.3 Layer of made ground (34), thought to be of early 20th century date, overlay natural clay (35). This layer was 1.40m thick and was recorded at 26.65m OD.

7.5.4 Sealing made ground (34) was another layer of modern made ground (33), which was 0.40m thick and was recorded at 27.05m OD, illustrating the current ground level.

7.6 **Trial Pit 609**

- 7.6.1 Trial Pit 609 was located in the northern part of the site and was excavated down to 1.40m from the ground level.
- 7.6.2 The earliest deposit recorded in Trial pit 609 was natural London Clay (38). It was recorded at 26.11m OD.
- 7.6.3 Layer of made ground (37), thought to be of early 20th century date, overlay clay (38). This layer was 0.30m thick, and was recorded at 26.41m OD.
- 7.6.4 Sealing made ground (37) was another layer of modern made ground (36), which was 0.70m thick and was recorded at 27.11m OD.

7.7 **Trial Pit 610**

- 7.7.1 Trial Pit 610 was located in north east part of the site and was excavated down to 1.50m from the ground level.
- 7.7.2 The earliest deposit recorded in Trial Pit 610 was natural London Clay (13). It was recorded at 25.96m OD.
- 7.7.3 Made ground (3), possibly early 20th century in date, sealed natural London Clay (13). This deposit was recorded at 26.50m OD.
- 7.7.4 Layer of made ground (2), thought to be modern, overlay layer (3). This layer was 0.15m thick, and was recorded at 26.65m OD.
- 7.7.5 Sealing made ground (2) was a layer of modern concrete, which was 0.15m thick and was recorded at 26.80m OD, illustrating the current ground level.

7.8 **Trial Pit 633**

- 7.8.1 Trial Pit 633 was located in the central part of the site and was excavated down to 1.35m from the ground level.
- 7.8.2 The earliest deposit recorded in Trial Pit 633 was natural London Clay (21). It was recorded at 26.07m OD.
- 7.8.3 Layer of made ground (20), thought to be of early 20th century date, overlay clay (21). This layer was 0.30m thick, was recorded at 26.37m OD.
- 7.8.4 Sealing made ground (20) was another layer of modern made ground (19), which was 0.75m thick and was recorded at 27.12m OD, illustrating the current ground level.

7.9 **Trial Pit 634**

- 7.9.1 Trial pit 634 was located in the central part of the site and was excavated down to 1.10m from ground level.

7.9.2 The only deposit encountered in Trial Pit 634 was modern made ground (29). It was recorded at 26.50m OD.

7.10 **Trial Pit 637**

7.10.1 Trial Pit 637 was located in the eastern part of the site and was excavated down to 2.30m from ground level.

7.10.2 The earliest deposit recorded in Trial pit 637 was natural London Clay (41). It was recorded at 25.10m OD.

7.10.3 Layer of made ground (40), thought to be of early 20th century date, overlay clay (41). This layer was 1.55m thick, was recorded at 26.65m OD.

7.10.4 Sealing made ground (40) was another layer of modern made ground (39), which was 0.40m thick and was recorded at 26.80m OD.

DISCUSSION AND CONCLUSIONS

- 8.1 The main objectives of the archaeological watching brief were to assess the nature of underlying geology and to establish the presence or absence of archaeological activity of any period and also to determine the extent of truncation at the site and its effect upon any underlying archaeology. These objectives were reached and are presented below.
- 8.3 In Trial Pit 605 remains of two parallel 19th/20th century walls (7) and (16) were uncovered. The walls possibly represent a masonry arch, which was supporting raised railway tracks and are associated with the early 20th century Old Oak Common Depot.
- 8.4 In Trial Pit 3 concrete structure (28) was encountered, which was interpreted as part of the base of one of the four engine turntables. The turntables were built and located within the former Engine Shed, which was built c.1904-6 and was demolished c. 1964..
- 8.5 Across the site a natural horizon was uncovered in Trial Pits 604, 605, 607, 608, 609, 610, 633 and 637 and was represented by London Clay. The highest point of the London Clay was recorded in Trial Pit 607, which was located in the western part of the site. The lowest point was recorded in Trial Pit 637, which was located in the eastern part of the site. These levels suggest that the natural deposit slopes down to the east.
- 8.6 In the light of these findings it is recommended that further archaeological work should be undertaken during the main ground reduction works on the site.

APPENDIX 4 A: CONTEXT INDEX

Context No.	Plan No.	Section No.	Trial Pit No.	Type	Description	Date	Phase	Highest	Lowest
1	/	S. 1	Tp. 7	Layer	concrete	Modern	1	126.80	/
2	/	S. 1	Tp. 7	Layer	Levelling layer	Modern	1	126.65	/
3	/	S. 1	Tp. 7	Layer	Early 20 th c made ground	20 th c	2	126.50	/
4	Tp. 2	S. 2	Tp. 2	Layer	Modern concrete	Modern	1	127.01	/
5	Tp. 2	S. 2	Tp. 2	Layer	Levelling layer	Modern	1	126.81	/
6	Tp. 2	S. 2	Tp. 2	Fill	Backfill of the cut [8]	19 th /20 th c	2	126.75	/
7	Tp. 2	S. 2	Tp. 2	Masonry	19 th /20 th c wall	19 th /20 th c	2	126.75	/
8	Tp. 2	S. 2	Tp. 2	Cut	Construction cut	19 th /20 th c	2	126.75	125.81
9	Tp. 2	S. 2	Tp. 2	Masonry	Concrete footing	19 th /20 th c	2	126.57	/
10	Tp. 2	S. 2	Tp. 2	Natural	Natural – Clay	Natural	3	126.75	/
11	Tp. 2	/	Tp. 2	Fill	Fill of the cut [12]	Modern	1	126.81	/
12	Tp. 2	/	Tp. 2	Cut	Poss. Pipe cut	Modern	1	126.81	/
13	Tp. 7	S.1	Tp. 7	Layer	Natural – Clay	Natural	3	125.96	/
14	Tp. 2	S. 2	Tp. 2	Fill	Backfill of the cut [8]	19 th /20 th c	2	126.75	/
15	Tp. 2	S. 2	Tp. 2	Fill	Backfill of cut [18]	19 th /20 th c	2	126.75	/
16	Tp. 2	S. 2	Tp. 2	Masonry	19 th /20 th c wall	19 th /20 th c	2	126.75	/
17	Tp. 2	S. 2	Tp. 2	Masonry	Concrete footing	19 th /20 th c	2	126.57	/
18	Tp. 2	S. 2	Tp. 2	Cut	Construction cut	19 th /20 th c	2	126.75	125.81
19	/	S. 3	Tp. 8	Layer	Made ground	Modern	1	127.12	/
20	/	S. 3	Tp. 8	Layer	Sandy layer	Modern	1	126.37	/
21	Tp. 8	S. 3	Tp. 8	Layer	Natural – Clay	Natural	3	126.07	/
22	/	S. 4	Tp. 1	Layer	Made ground	Modern	1	126.80	/
23	/	S. 4	Tp. 1	Layer	Sandy layer	Modern	1	126.40	/
24	Tp. 1	S. 4	Tp. 1	Layer	Natural – Clay	Natural	3	126.10	/
25	/	S. 5	Tp. 3	Layer	Made ground	Modern	1	127.18	/
26	/	S. 5	Tp. 3	Layer	Made ground	Modern	1	126.98	/
27	/	S. 5	Tp. 3	Layer	Made ground	Modern	1	126.48	/
28	Tp. 3	S. 5	Tp. 3	Masonry	Base of a turntable	19 th /20 th c	2	124.98	124.78
29	Tp. 9	S. 6	Tp. 9	Layer	Made ground	Modern	1	126.70	/
30	/	S. 7	Tp. 4	Layer	Made ground	Modern	1	128.20	/
31	/	S. 7	Tp. 4	Layer	Made ground	Modern	1	127.90	/
32	Tp. 4	S. 7	Tp. 4	Layer	Natural – Clay	Natural	3	127.00	/
33	/	S. 8	Tp. 5	Layer	Made ground	Modern	1	127.05	/
34	/	S. 8	Tp. 5	Layer	Made ground	Modern	1	126.65	/
35	Tp. 5	S. 8	Tp. 5	Layer	Natural – Clay	Natural	3	125.25	/
36	/	S. 9	Tp. 6	Layer	Made ground	Modern	1	127.11	/
37	/	S. 9	Tp. 6	Layer	Made ground	Modern	1	126.41	/
38	Tp. 9	S. 9	Tp. 6	Layer	Natural – Clay	Natural	3	126.11	/
39	/	S. 10	Tp. 10	Layer	Made ground	Modern	1	127.10	/
40	/	S. 10	Tp. 10	Layer	Made ground	Modern	1	126.65	/
41	/	S. 10	Tp. 10	Layer	Natural – Clay	Natural	3	125.10	/

