

AN ARCHAEOLOGICAL EVALUATION AT
YORK ENGINEERS' TRIANGLE,
YORK RAILWAY STATION, CINDER LANE,
OFF LEEMAN ROAD, YORK

P

C

A

PRE-CONSTRUCT ARCHAEOLOGY

**An Archaeological Evaluation at York Engineers' Triangle,
York Railway Station, Cinder Lane, off Leeman Road, York**

Central National Grid Reference: SE 459330 451500

Site Code: YET 11

Commissioning Client:

**Ramboll UK
60 Newman Street
London
W1T 3DA**

Tel: 0207 631 5291



Contractor:

**Pre-Construct Archaeology Limited
Northern Office
Unit N19a Tursdale Business Park
Durham
DH6 5PG**

Tel: 0191 377 1111



**© Pre-Construct Archaeology Limited
February 2012**

This report is protected by copyright. The report and the information contained herein are and remain the sole property of Pre-Construct Archaeology Limited and are provided on a single site multi-user basis. If provided in paper form, the report may be utilised by a number of individuals within a location, but copying is prohibited under copyright. If provided in an electronic form the report may be utilised in a shared server environment, but copying or installation onto more than one computer is prohibited under copyright, and printing from electronic form is permitted for own, single location, use only. Multiple printing from electronic form for onward distribution is prohibited under copyright. Further distribution and uses of the report in its entirety or part thereof in electronic form is prohibited without prior consent from Pre-Construct Archaeology Limited.

Pre-Construct Archaeology Limited has made every effort to ensure the accuracy of the content of this report. However Pre-Construct Archaeology Limited cannot accept any liability in respect of, or resulting from, errors, inaccuracies, or omissions herein contained.

CONTENTS

List of Figures

	<i>page</i>
1. NON-TECHNICAL SUMMARY	1
2. INTRODUCTION	3
3. PROJECT AIMS AND RESEARCH OBJECTIVES	11
4. ARCHAEOLOGICAL METHODOLOGY	12
5. RESULTS: THE ARCHAEOLOGICAL SEQUENCE	15
6. CONCLUSIONS	39
7. REFERENCES	40
8. ACKNOWLEDGEMENTS AND CREDITS	42

APPENDICES

- Appendix A Stratigraphic Matrices
- Appendix B Context Index
- Appendix C Identification of Ceramic Material
- Appendix D Identification of Faunal Material
- Appendix E Assessment of Palaeoenvironmental Material

List of Figures

Figure 1	Site Location	5
Figure 2	Trench Location	6
Figure 3	Trench 1, Plan and Section	26
Figure 4	Trench 2, Plan and Section	27
Figure 5	Trench 3, Plan and Section	28
Figure 6	Trench 5, Plan and Section	29
Figure 7	Trench 6, Plan and Section	30
Figure 8	Trench 1, representative part of southwest facing section	31
Figure 9	Trench 2, Inspection Pit 1	31
Figure 10	Trench 2, southwest corner of 1841 Engine Shed	32
Figure 11	Trench 2, 1841 Engine Shed, wall [297] detail	32
Figure 12	Trench 3, view along the trench	33
Figure 13	Trench 3, revetting in feature [411]	33
Figure 14	Trench 3, Structure [400]	34
Figure 15	Trench 3, Structure [400], timber [371] detail	34
Figure 16	Trench 5, southeast facing section, Slot 1	35
Figure 17	Trench 5, southeast facing section, Slot 2	35
Figure 18	Trench 6, Structure [350]	36
Figure 19	Trench 6, representative part of SSE facing section	36
Figure 20	Plan of Trench 2 overlain on 1892 Ordnance Survey map	37
Figure 21	Plan of Trench 3 overlain on 1909 Ordnance Survey map	38

1. NON-TECHNICAL SUMMARY

- 1.1 An archaeological evaluation was undertaken by Pre-Construct Archaeology Limited at York Engineers' Triangle, a parcel of land within the curtilage of York Railway Station, located off Cinder Lane, to the south-west of the main station building. The site is roughly triangular in shape covering c. 2.8ha, centered at National Grid Reference SE 459330 451500. The triangular shape of the site is derived from the very beginnings of the railway infrastructure in the city in the mid-19th century, when the separate lines of the York and North Midland and the Great North of England Railways were connected by a curving link line which bypassed the first railway station in the city.
- 1.2 The site is proposed for re-development by Network Rail and a detailed planning application for the scheme is to be submitted. Extensive new build is proposed, the majority occupying the eastern portion of the site but also extending into the north-western portion in a roughly three pointed star-shaped building. Ramboll is partnering BAM in delivery of the proposed re-development scheme for Network Rail. In terms of cultural heritage and archaeology, Ramboll is developing and implementing a strategy, in liaison with the City of York Archaeologist, to ensure that all constraints, risks and opportunities in relation to the historic environment are fully considered in the design of the scheme.
- 1.3 Ahead of the evaluation, the Engineers' Triangle site was considered to lie within an area of moderate archaeological potential, with evidence of prehistoric and Roman activity considered most likely. Cemetery activity of the Roman period is known to the immediate north-east, on higher ground in the area of York Railway Station. Previous archaeological monitoring of geotechnical site investigations at the site indicated the potential of the site for palaeoenvironmental data despite evidence for extensive truncation of earlier ground surfaces by 19th-century development.
- 1.4 In addition to the potential for prehistoric and Roman remains, the site was considered highly likely to contain remains of important elements of industrial era railway infrastructure, most notably a group of mid-19th century engine sheds depicted on historic mapping within the central portion of the site. York was a core location at the heart of railway development in the north of England from the mid-19th century and has remained one of the UK's chief centres of employment in the railway industry since then. The potential survival of extensive buried remains associated with the rich and important railway heritage of the site therefore represented a key consideration in the design of the archaeological work.
- 1.5 The evaluation was undertaken according to a Project Design prepared by Pre-Construct Archaeology and Ramboll. Seven evaluation trenches were investigated (Trenches 1-7), sited to provide broad coverage of the overall site, whilst taking into consideration the proposed development footprint and existing constraints, in order to provide the most productive archaeological information. Some trenches were also sited to investigate the level of survival of the mid-19th century engine sheds. The earliest structure was a 'straight' shed built in 1841 in the northern part of the site, with three 'roundhouse' sheds built to the south of this in 1851 (Roundhouse 1), 1852 (Roundhouse 2) and 1864 (Roundhouse 3).

- 1.6 Trench 1 was a judgement trench to test the north-westernmost extent of the site for archaeological remains. Trench 2 was partly a judgement trench to test for archaeological remains while its south-easternmost end targeted the western end of the 1841 Engine Shed, potentially the earliest railway heritage structure at the site. Trench 3 was a judgement trench to test the southernmost part of the site for archaeological remains. Trench 4 was partly a judgement trench to test the central part of the site for archaeological remains, while also specifically targeting the central and eastern parts of Roundhouse 3. Trench 5 was a judgement trench sited to test the north-easternmost part of the site for archaeological remains, an area where peat deposits had been encountered in the earlier geotechnical investigation. Trench 6 was a judgement trench to test the northernmost part of the site for archaeological remains. Trench 7 was partly a judgement trench to test the easternmost part of the site for archaeological remains, while for the most part it was sited to specifically target the north-westernmost portion of Roundhouse 1, as well as the eastern part of Roundhouse 2.
- 1.7 The trial trenching evaluation established that the site has very limited potential for prehistoric, Roman, medieval and early post-medieval archaeological remains and palaeoenvironmental remains in general. No deposits of proven prehistoric or Roman date were recorded although dump deposits in Trench 5 produced cultural material of Roman date, this probably residual material derived from Roman occupation deposits in the vicinity, but imported onto the site for ground raising purposes in the post-medieval industrial era. Similarly, no deposits of proven medieval or early post-medieval date were recorded, although again later dump deposits in Trench 5 produced cultural material of these eras. Ongoing usage of the site since the mid-19th century for the railway has evidently had a serious adverse impact upon strata representing earlier archaeological eras across the site.
- 1.8 The evaluation determined that historically significant elements of York's railway heritage survive to an exceptional degree as below-ground archaeological remains at the site. Trenches 4 and 7 revealed the exceptionally well-preserved structural remains of Roundhouses 2 and 3, respectively, while Trench 7 also contained the less well-preserved remains of Roundhouse 1, and Trench 2 contained the less well-preserved remains of the 1841 Engine Shed, this the earliest historic structure to be located by the evaluation. The remains exposed in Trenches 2, 4 and 7 are the most significant to be recorded at the site. Trench 3 recorded evidence of probable mid-19th century drainage, including channel revetting, and ground consolidation, likely ahead of the usage of the site for the railway and exposed the well-preserved remains of an engine shed built in the southern part of the site between 1892 and 1909.
- 1.9 This evaluation report summarises the findings only of evaluation Trenches 1-3 and 5-6. Further work, incorporating Trenches 4 and 7, is to be undertaken to further expose those parts of Roundhouses 1, 2 and 3 which lie within the site boundary in order to further inform the design of the re-development scheme.

2. INTRODUCTION

2.1 General Background

- 2.1.1 This report details the methodology and results of an archaeological evaluation undertaken by Pre-Construct Archaeology Limited (PCA) December 2011-January 2012 on a parcel of land – the York Engineers' Triangle (YET) site – within the curtilage of York Railway Station (Figure 1). The site is proposed for development by Network Rail, with extensive new build proposed, the majority occupying the eastern portion of the site but also extending into the north-western portion in a roughly three pointed star-shaped new build footprint.
- 2.1.2 Ramboll is partnering Principal Contractor BAM in delivery of the proposed scheme for Network Rail. Ramboll is liaising closely with the City of York Archaeologist to ensure that all constraints, risks and opportunities in relation to the historic environment are fully considered in the design of the scheme. A Heritage Statement will be submitted in 2012 in support of the planning application and the archaeological evaluation was undertaken to inform the Heritage Statement.
- 2.1.3 A Project Design for the evaluation was prepared by PCA and Ramboll to detail the scheme of archaeological investigation to be undertaken.¹ The Project Design followed the format set out in *Management of Research Projects in the Historic Environment (MoRPHE)*.²
- 2.1.4 The YET site has been the subject of previous archaeological interventions and research. In 1998, a limited trenching evaluation conducted in the north-western part of the site revealed truncated natural deposits and recorded limited structural remains of probable 19th-century date.³ In 2005, a desk-based assessment (DBA) was undertaken of the archaeological and historical potential of a large area of land to the south-west of the River Ouse, ahead of a broader re-development scheme which included the YET site within its south-easternmost portion.⁴ The DBA concluded that the YET site was located within an area of 'moderate' archaeological potential, with evidence of prehistoric and Roman activity considered most likely, as well as remains of elements of industrial era railway infrastructure, most notably a group of engine sheds built during the mid-19th century. Subsequent to the DBA, archaeological monitoring of geotechnical site investigations (SIs) concluded that although the YET site may have suffered extensive horizontal truncation during 19th-century development of the area for the railway, there was evidence at certain locations of earlier strata surviving in the form of probable alluvial material and, at one location, two separate organic-rich horizons.⁵
- 2.1.5 The current evaluation comprised seven machine-excavated archaeological trial trenches (Figure 2). These were variously located across the site either as 'judgment' trenches to assess the general archaeological potential of available parts of the site or to specifically target industrial era structural remains known from historic mapping to have previously occupied the site. The potential survival of extensive buried remains associated with the rich and important railway heritage of the city represented a key consideration in the design of the archaeological investigation.

¹ PCA/Ramboll 2011.

² English Heritage 2006.

³ Northern Archaeological Associates 1998.

⁴ Archaeological Services Durham University 2005.

⁵ Archaeological Services Durham University 2006.

- 2.1.6 The Site Archive (site code YET 11) is currently held at the Northern Office of PCA and the retained element, comprising the written, drawn and photographic records, as well as a small assemblage of artefactual material, will ultimately be deposited at the Yorkshire Museum. The Online Access to the Index of Archaeological Investigations (OASIS) reference number for the project is: preconst1-119258.

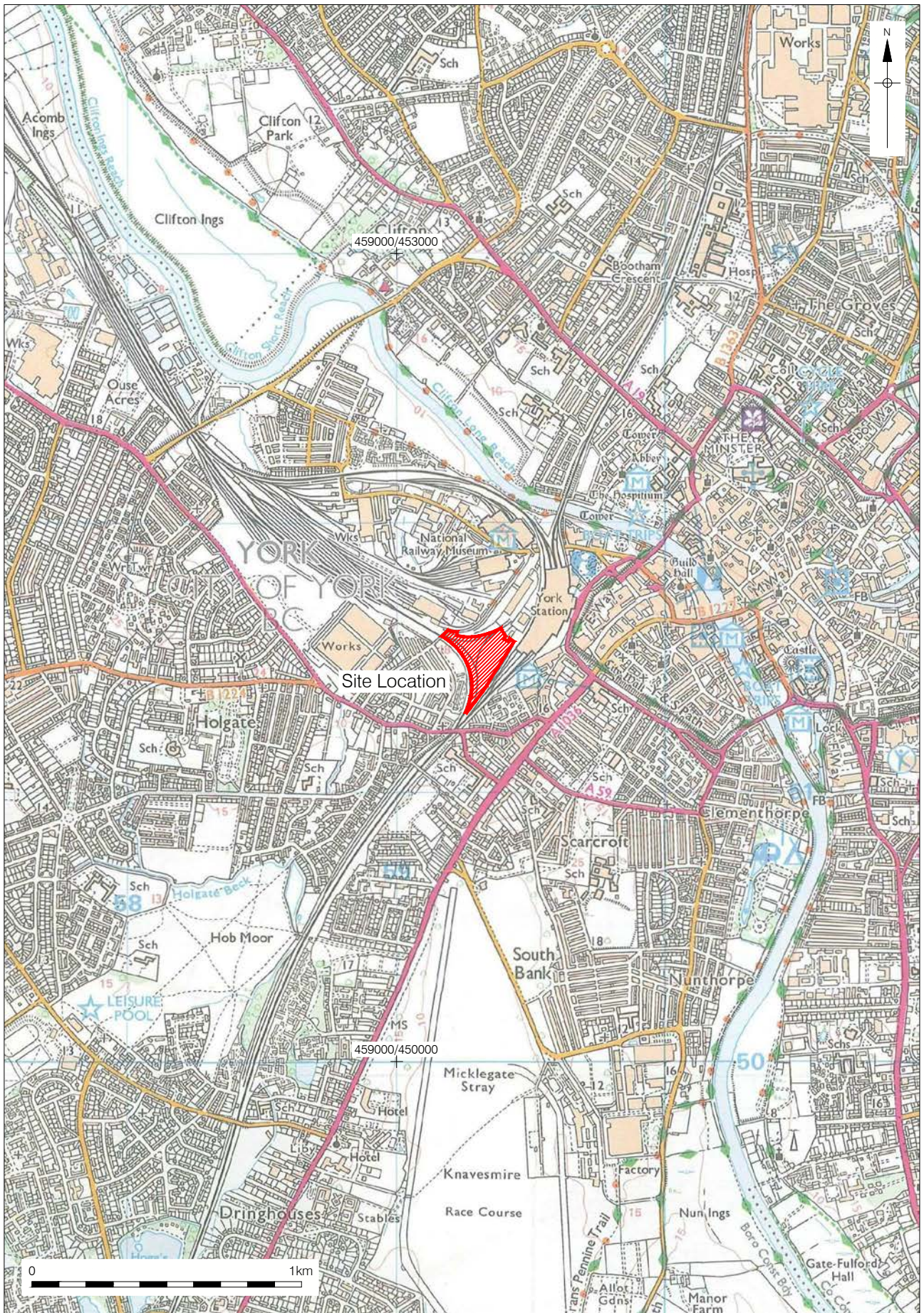
2.2 Site Location and Description

- 2.2.1 The YET site is located to the south-west of York Railway Station, off Cinder Lane, which runs south from Leeman Road. Centered at National Grid Reference SE 459330 451500, the site is roughly triangular and covers c. 2.8ha (Figures 1 and 2). The triangle is derived from the very beginnings of the railway infrastructure in the city in the mid-19th century, when the separate lines of the York and North Midland Railway and the Great North of England Railway were connected by a curving link line which bypassed the original station, built in 1841.
- 2.2.2 Today the site is bounded to the west/south-west by the modern version of the curving link line at Holgate Junction, beyond which lies a modern housing development, St. Paul's Mews. To the east/south-east it is bounded by the tracks of the East Coast Mainline Railway on the approach from Holgate Junction to the existing station building, built in 1875, while to the north it is bounded mostly by a station car park on Cinder Lane, with various station facilities, including a signaling house and telephone exchange, to the north-east.
- 2.2.3 The site is currently mostly open ground with some areas of hardstanding and heaps of rubble. At the time of the evaluation the central part of the site was occupied by a Colas Rail site compound (part of the Colas Rail Morgan Sindall Joint Venture for the York Holgate Junction 4th Line), including temporary offices and welfare buildings, with a Network Rail temporary car park extending northwards from the compound to the northern site boundary. Retained within the site is a triangular arrangement of curving railway tracks; used only occasionally and due for de-commissioning in the summer of 2012. The only standing building on the site is a small disused one-storey brick building, adjacent to the south-eastern site boundary.

2.3 Geology and Topography

- 2.3.1 The solid geology of the area of the site comprises sandstone bedrock of the Sherwood Sandstone Group.⁶ The site lies to the south of the River Ouse and within its floodplain, in an area where the superficial geology is complex. Devensian Till (boulder clay) is predominant but pockets of glaciofluvial and/or morainic sand and gravel are also known, as well as alluvial material, mostly clay and silt, but also sand and gravel.
- 2.3.2 The site is fairly level with current ground level c. 13.0m OD. Along the central eastern margin of the site ground level is c. 13.10m OD, in the northernmost portion it is c. 12.90m OD, in the north-westernmost portion it is c. 12.80m OD and at the southern end it is c. 12.75m OD, these values demonstrating that on the whole there is relatively little variation in ground level. One large mound of spoil was present in the north-easternmost corner of the site during the evaluation.

⁶ Geological information from the *British Geological Survey* website.

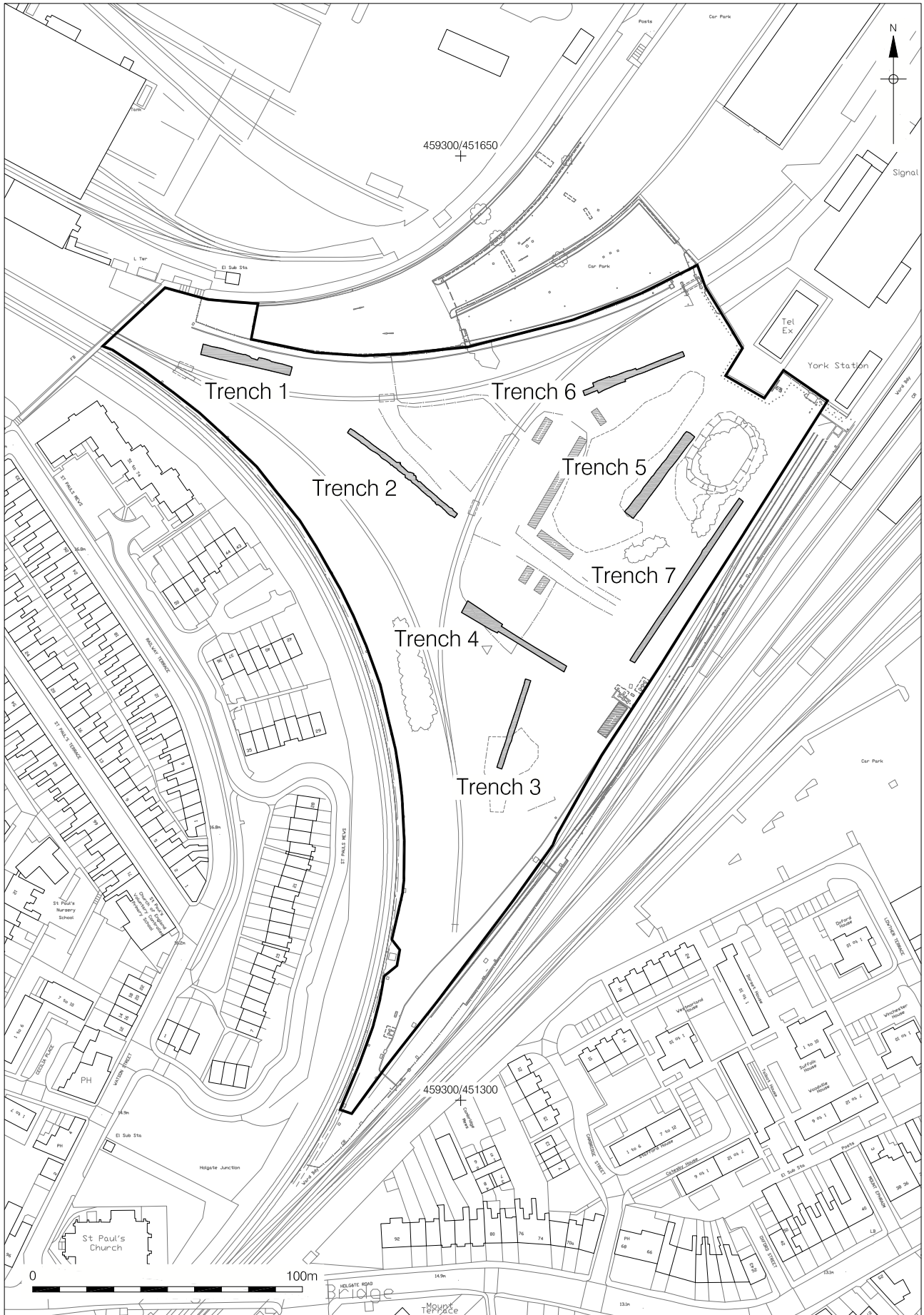


© Crown copyright 2006. All rights reserved. License number 36110309

© Pre-Construct Archaeology Ltd 2012

27/02/12 MR

Figure 1
Site Location
1:20,000 at A4



© Crown copyright 2012. All rights reserved. License number PMP36110309
 © Pre-Construct Archaeology Ltd 2012
 23/02/12 MR

Figure 2
 Trench Location
 1:2,000 at A4

2.4 Planning Background

- 2.4.1 A detailed planning application for the re-development scheme is to be submitted in 2012. Extensive new build is proposed, the majority occupying the eastern portion of the site but also extending into the north-western portion in a roughly three pointed star-shaped new build footprint.
- 2.4.2 Ramboll is partnering BAM in delivery of the proposed scheme for Network Rail. Ramboll has liaised closely with the City of York Archaeologist to ensure that constraints, risks and opportunities in relation to the historic environment are fully considered in the design of the scheme. A Heritage Statement will be submitted in support of the planning application and the archaeological evaluation was undertaken to inform the Heritage Statement.
- 2.4.3 The requirement to undertake the archaeological investigation is in line with planning policy at a national level, as set out in *Planning Policy Statement 5 'Planning for the Historic Environment'* (PPS5)⁷ and the associated *Historic Environment Planning Practice Guide* (HEPPG),⁸ the practical guide to implementing PPS5. In broad terms, PPS5 provides guidance on the treatment of archaeological remains within the planning process.
- 2.4.4 Policy 'HE6' of PPS5 advises Local Planning Authorities to require applicants to provide early consideration of the potential for 'heritage assets' (those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest) on their sites, a description of the significance of those heritage assets and an assessment of the potential impact of the proposed development on the significance of those heritage assets. 'HE6' also advises that where initial research is insufficient to properly assess the archaeological interest, a field evaluation will be required.
- 2.4.5 The requirement for archaeological work at the site is also in accordance with Policy HE10 'Archaeology' of the *City of York's Draft Local Plan Incorporating the 4th set of changes, Development Control Local Plan*,⁹ currently being replaced by a Local Development Framework.
- 2.4.6 In sum, therefore, the scheme of archaeological work was designed to provide sufficient information on the archaeological resource at the site to the Local Planning Authority, the City of York Council, as well as to the project's design team.

2.5 Archaeological and Historical Background

- 2.5.1 The aforementioned 2005 DBA concluded that the YET site was located within an area of 'moderate' archaeological potential. The results of that research are summarised below.

⁷ Department of Communities and Local Government 2010.

⁸ Department of Communities and Local Government, English Heritage and Department for Culture Media and Sport, 2010.

⁹ City of York 2005.

Prehistory and Palaeoenvironment

- 2.5.2 The land to the south-west of the River Ouse is generally thought to be a focus for prehistoric activity, with at least two Neolithic polished stone axes having been recovered in the area. Most recently, one such object was recovered during archaeological work in 1999 at St. Paul's Green, c. 150m to the west of the site. An assemblage of Late Neolithic or Early Bronze Age pottery was also recovered during this work. In addition, a peat deposit was encountered across the site, this highlighting the potential of the wider area of the YET site for evidence of ancient land surfaces and palaeoenvironmental data.
- 2.5.3 The palaeoenvironmental potential of the YET site was indicated during the aforementioned archaeological watching brief undertaken in 2005-06 in association with geotechnical SIs for the earlier, broader proposed re-development scheme. For the YET site, the work broadly concluded, firstly that 'made ground', comprising material probably dumped in the 19th century ahead of construction of the railway, was widespread across the site and, secondly, that natural glacial material generally underlay these deposits, in turn suggesting that extensive horizontal truncation of earlier strata had occurred. However, one window sample excavated in the central eastern portion of the site recorded probable alluvial material at a depth of c. 1.80m, and underlying this, at a depth of c. 2.0m, were two distinct horizons of organic-rich material, with a combined thickness of c. 0.30m. Other locations also recorded possible alluvial material. Organic deposits generally allow important palaeoenvironmental reconstruction, that is, investigations which reconstruct the climate and vegetation of a specific time and place. Potential scientific techniques employed for peat deposits include studies of peat stratigraphy, pollen, rhizopods and plant macrofossils. In addition, radiocarbon dating of organic strata can usually provide a firm chronology for palaeoenvironmental reconstruction.

Roman

- 2.5.4 The Roman legionary fortress *Eboracum* was founded on a wedge of higher ground on the opposite side of the Ouse to the YET site, which lies to the west of the Roman road which ran north-eastwards up to the Ouse crossing. Generally known as Road 10,¹⁰ this followed a course slightly to the west of, and roughly parallel with, modern Blossom Street, running on to Tadcaster. It was joined to the south of the YET site by another road – Road 9 – with a curving course initially but then straightening in the area of the Holgate Beck to run north-westwards and on to Aldborough. The Roman civil settlement or *colonia* developed initially around the Ouse bridgehead and then along and adjacent to the Tadcaster road. Its limits are broadly assumed to have coincided with the area enclosed by the surviving medieval city walls.
- 2.5.5 There are two known main areas of Roman cemetery activity in the vicinity of the YET site, the first developed on the western margin of the *colonia* in the area of the existing railway station building, the second lies in the area of The Mount/Trentholme Drive, c. 300m to the south-east of the YET site.

¹⁰The Royal Commission classification system for the Roman roads of York is summarised in Brinklow 1986.

2.5.6 Although the railway station cemetery was focused along a raised spur of land running roughly between the Royal Station Hotel and the northernmost elements of the National Railway Museum, it is possible that the YET site falls within its southernmost extent. The cemetery was probably served by another spur road – Road 8 – which ran some way to the north-east of the YET site. Antiquarian investigations of the railway station cemetery area, which appears to have been used from the 2nd century AD through to the 4th century, recorded a majority of inhumation burials, although a distinct area of cremations was also recorded, as well as mass burial pits described as being ‘on the outskirts of the cemetery’.

Early Medieval to Post-medieval

2.5.7 The 2005 DBA concluded that the YET site – as part of the broader area under consideration at the time – had low potential for early medieval/Anglo-Scandinavian, medieval and early post-medieval activity. However, early Anglo-Saxon settlement in the vicinity of the *colonia* has been demonstrated by the discovery in the 19th century of a cremation cemetery on The Mount, dated to the 5th-6th centuries.¹¹ For the Anglo-Scandinavian period, there are numerous casual finds of material south-west of the Ouse, the majority occurring within the circuit of the medieval city walls. Of note, however, was a jet pendant in the form of a coiled snake found in excavations connected with the building of the existing railway station in 1874.

Early Modern Industrial

2.5.8 For the early modern industrial era, the YET site has very high potential for important archaeological remains, specifically relating to elements of railway infrastructure. York was, and remains, the epicentre of the railway system in the North of England, forming a hub for lines travelling in all directions. Driven chiefly by Yorkshire’s own ‘Railway King’, George Hudson, the railways first arrived in York in 1839 with the construction of the York and North Midland Railway (YNM) to Normanton and Leeds. This was soon joined by the Great North of England (GNE) railway to Darlington, and the two planned a joint station, duly constructed in 1841 inside the city walls, adjacent to Tanner Row. The origin of the triangular form of the YET site has been previously mentioned, when the separate lines of YNM and the GNE were connected by a link line – the North Junction–Holgate Bridge Junction curve – which bypassed the first station, which was replaced in 1875 by the current building.

2.5.9 When the GNE’s first services reached York in 1850, there were already three locomotive sheds in place to the south of the station, two wholly or partly within the YET site.¹² The first of these was a three road straight/rectangular shed built in 1841 on the south side of the GNE lines; it is known to have originally had a roof with large clerestory and was used for many years by GNE engines until being taken over in 1932 by the London Midland and Scottish Railway. The second was a roundhouse which was brought into use c. 1851 and appears on the Ordnance Survey 1st edition map of 1851; only the extreme north-westernmost portion of this structure – Roundhouse 1 – lies within the eastern boundary of the YET site.

¹¹ Work up to the mid 1980s which recorded early medieval and Anglo-Scandinavian evidence to the south-west of the Ouse is summarised in Moulden and Tweddle 1986.

¹² Information regarding the site’s railway heritage has been largely summarised from Hoole 1972 and 1976, Appleby 1993 and Griffiths and Hooper 2000.

- 2.5.10 A probably identical building – Roundhouse 2 – was built in 1852, this immediately to the south-west of Roundhouse 1. Both sheds had 16 stalls and was served by a 42ft turntable. A third and larger roundhouse – Roundhouse 3 – with 18 stalls and a 45ft turntable was erected to the west of Roundhouse 2 in 1864. Historic photographs show that this had a relatively elaborate superstructure, each radiating road having an individual ribbed roof with gable end and its main circular central roof surmounted by a large weather vane with locomotive design.
- 2.5.11 Re-development of the station in 1875 required the eastern wall of Roundhouse 2 to be 'shaved' off. In October 1921, by which time Roundhouse 1 was being used to repair wagon sheets, a fire completely destroyed that shed and its contents. Roundhouse 2 continued in use until 1961 and was demolished in 1963. The 1864 shed – Roundhouse 3 – was originally used by the North Eastern Railway, but from 1879 was used by the Midland Railway to provide accommodation for its engines under an agreement with the NER. After 1923 Roundhouse 3 was used solely by the London and North Eastern Railway until its closure in 1961 and demolition in 1963, by which time only its walls were standing, the roof having been removed as unsafe. Ahead of the archaeological evaluation there was considered to be high potential for remains of all three roundhouses and the 1841 straight shed to survive below ground at the YET site.

3. PROJECT AIMS AND RESEARCH OBJECTIVES

3.1 Project Aims

3.1.1 The overarching aim of the archaeological evaluation was to inform all project stakeholders regarding the character, date, extent and degree of survival of archaeological deposits generally, and industrial era structural remains specifically, at the YET site. The results of the work will therefore ensure that all constraints, risks and opportunities in relation to the historic environment are fully considered in the design of the re-development scheme.

3.1.2 Archaeological trial trenching was selected as the next most appropriate investigative tool to test the archaeological potential of the site.

3.1.3 Additional aims of the project were:

- to compile a Site Archive consisting of all site and project documentary and photographic records, as well as all artefactual and palaeoenvironmental material recovered;
- to compile a report that contains an assessment of the nature and significance of all data categories, stratigraphic, artefactual, *etc.*

3.2 Research Objectives

3.2.1 The specific objectives of the archaeological evaluation were to shed light on prehistoric, Roman and early modern industrial era activity in this part of York. The project was considered to have moderate potential to contribute to existing knowledge of prehistoric and Roman York, including providing palaeoenvironmental data, but particularly high potential with regard to the city's industrial era railway archaeology. Of particular relevance for any Roman period remains would be the relationship of the archaeological evidence from the site to known archaeological remains in the vicinity, such as the Roman cemetery area in the vicinity of York Railway Station.

3.2.2 In sum, the proposed archaeological work had the following site-specific objectives:

- to assess the significance of any buried archaeological remains;
- to assess the likely impact of the re-development proposals upon any buried archaeological remains;
- to provide the basis for exploring the feasibility of preserving, in situ, any remains deemed regionally or nationally significant through engineering design; and
- to inform the detailed engineering design of the scheme;
- to inform the scope and design of other mitigation measures, should they be required.

4. ARCHAEOLOGICAL METHODOLOGY

4.1 Fieldwork

4.1.1 The evaluation fieldwork was undertaken between 6 December 2011 and 11 January 2012. All fieldwork was undertaken in accordance with the relevant standard and guidance document of the Institute for Archaeologists (IfA).¹³ PCA is an IfA-Registered Organisation. The evaluation was undertaken according to the aforementioned Project Design compiled by PCA and Ramboll which should be consulted for full details of methodologies employed regarding archaeological excavation, recording and sampling.

4.1.2 Archaeological trial trenching was selected as the most appropriate investigative tool to test the archaeological potential of the site. Seven trenches (Trenches 1-7) were located across the proposed development area on variable alignments sited to provide broad coverage of the overall site, whilst taking into consideration the proposed development footprint and existing constraints, in order to provide the most productive archaeological information. Some trenches were also sited to investigate elements of industrial era railway infrastructure, most notably the group of mid-19th century engine sheds known from cartographic information to have occupied the site.

4.1.3 A summary of the rationale for the evaluation trenching is set out below:

- Trench 1 - judgement trench to test the north-westernmost extent of the site.
- Trench 2 - partly a judgement trench to test for archaeological remains. In addition, its south-easternmost end targeted the western end of the 1841 Engine Shed.
- Trench 3 - judgement trench to test the southernmost part of the site.
- Trench 4 - partly a judgement trench to test the part of the site which will be occupied by the central part of the proposed new build footprint. In addition, its north-western end specifically targeted the central area and south-eastern portion of Roundhouse 3, an engine shed built in 1864.
- Trench 5 - judgement trench sited to test the north-easternmost part of the site which is to be occupied by the north-easternmost portion of the proposed new build footprint. This trench was also sited in an area where organic-rich deposits were encountered in the 2005-06 geotechnical survey.
- Trench 6 - judgement trench to test the northernmost part of the site, this being an area which will be occupied by a car park associated with the proposed new build.
- Trench 7 - partly a judgement trench to test, by its north-easternmost third, the part of the site which will be occupied by the north-easternmost portion of the proposed new build footprint. In addition, its south-westernmost two thirds specifically targeted the north-westernmost portion of Roundhouse 1, an engine shed built in 1851, and the easternmost part of Roundhouse 2, an engine shed built in 1852.

¹³ IfA 2008.

- 4.1.4 The trenches were set-out by PCA using a Leica Viva Smart Rover Global Navigation Satellite System (GNSS), with pre-programmed co-ordinate data determined by an office based CAD operative. The Smart Rover GNSS provides correct Ordnance Survey co-ordinates in real time, to an accuracy of 1cm.
- 4.1.5 All trenches were mechanically-excavated by a 13-tonne 360° tracked machine with toothless ditching bucket under archaeological supervision. The trenches were excavated to the top of the first significant archaeological deposit or structure, or the clearly defined top of the natural sub-stratum, or to the maximum depth allowed by Health and Safety considerations, whichever was reached first.
- 4.1.6 Trench 1 had to be widened at ground level and stepped-down due to the depth of deposits encountered and in practice it measured 34m x 4m at ground level. Trench 2 measured 50m x 2m at ground level. Trench 3 measured 34m x 2m at ground level. Trench 4 measured 50m x 2m at basal level with the north-easternmost portion widened at ground level to allow loose rubble to be angled to create safe trench edges. Trench 5 had had to be widened at ground level and stepped-down due to the depth of deposits encountered; at ground level it measured 38m x 4m and the lower step was excavated in two separate slots because of the presence of live services running across the northern part of the trench. Slot 1 at the north-eastern end of the trench measured 9m x 2m whilst Slot 2, located 3.50m to the south-west of Slot 1, measured 24m x 2m. Trench 6 measured 40m x 2m at ground level with the south-western part of the trench partially widened to 4m at ground level to allow the trench to stepped-down. Trench 7 measured 70m x 2m at ground level.
- 4.1.7 Trenches 1, 5 and 6 were widened and stepped-down due to the depth of deposits encountered. Part of the lower element of Trench 5, towards its north-eastern end, could not be excavated due to the presence of live services running across the trench.
- 4.1.8 The investigation of Trenches 1, 3, 5 and 6 was hampered due to groundwater. A trash pump was used to remove the water and in most of these trenches it was possible to examine the basal deposits. However, it was not possible to plan the basal deposits in Trench 6 due to the rate of water ingress and the lowermost deposits within this trench were recorded in section only.
- 4.1.9 All trenches were hand cleaned and then photographed and archaeologically recorded, with partial excavation of features where necessary.
- 4.1.10 Five Temporary Bench Marks (TBMs) were established across the site using the Smart Rover GNSS survey. The heights of the TBMs were: 12.93m OD (Trench 1); 12.72m OD (Trench 2); 13.17m OD (Trenches 3 and 4); 13.22m OD (Trenches 5 and 7); 13.02m OD (Trench 6). The height of all principal strata and features were calculated relative to Ordnance Datum and indicated on the appropriate plans and sections.

4.2 Post-excavation

- 4.2.1 The stratigraphic data generated by the project is represented by the written, drawn and photographic records. A total of 412 archaeological contexts were defined in the seven evaluation trenches. Post-excavation work involved checking and collating site records, grouping contexts and phasing the stratigraphic data. A brief written summary of the archaeological sequence encountered within each trench was then compiled, as described below in Section 5. Details of the archaeological remains uncovered in Trenches 4 and 7 are not included in this report as, at the time of writing, further work, incorporating Trenches 4 and 7, is ongoing at the site to further expose those parts of Roundhouses 1, 2 and 3 which lie within the site and which are currently available for investigation, in order to further inform the design of the re-development scheme. The westernmost part of Roundhouse 3 and part of the 1841 Engine Shed are to be further exposed at a later date.
- 4.2.2 The artefactual material from the evaluation comprised a small assemblage of pottery and ceramic building material. Specialist examination of the artefactual material was undertaken and relevant comments integrated into Section 5, with a report on the ceramic material included as Appendix C. A small assemblage of faunal remains was also recovered; specialist examination of the material was undertaken with a report on the material included as Appendix D. No other categories of organic or inorganic artefactual material were represented. None of the material recovered during the evaluation required specialist stabilisation or an assessment of its potential for conservation research.
- 4.2.3 The palaeoenvironmental sampling strategy of the project was to recover bulk samples, where appropriate, from well-dated stratified deposits covering the main periods or phases of occupation and the range of feature types represented, with specific reference to the objectives of the evaluation. The lowermost sequence of deposits exposed in section in Trench 5 was column sampled using overlapping Kubiena tins and bulk samples were taken from each deposit. In post-excavation, assessment of artefactual material recovered from these lowermost deposits suggested that they were imported material of post-medieval date. Therefore, no work was undertaken on the column samples and a bulk sample of just the lowermost layer in one part of the trench was assessed in an attempt to confirm the date of the deposit through its plant macrofossil profile or by other means, with a report on the assessment of this sample included as Appendix E.
- 4.2.4 The complete Site Archive will be packaged for long term curation. In preparing the Site Archive for deposition, all relevant standards and guidelines documents referenced in the Archaeological Archives Forum guidelines document¹⁴ will be adhered to, in particular a well-established United Kingdom Institute for Conservation (UKIC) document¹⁵ and the relevant IfA publication.¹⁶ The depositional requirements of the body to which the Site Archive will be ultimately transferred will be met in full.

¹⁴ Brown 2007.

¹⁵ Walker, UKIC 1990.

¹⁶ IfA 2008b.

5. RESULTS: THE ARCHAEOLOGICAL SEQUENCE

During the evaluation, separate stratigraphic entities were assigned unique and individual 'context' numbers, which are indicated in the following text as, for example [123]. The archaeological sequence is described by placing stratigraphic sequences within broad phases for each trench.

5.1 Trench 1 (Figures 3 and 8)

Probable alluvial deposit

- 5.1.1 The basal deposit, [4], recorded across the extent of Trench 1, comprised mid to dark grey silty sand. This was excavated for a maximum thickness of 0.50m, although the base of the deposit could not be reached due to water ingress within the trench. The highest and lowest levels at which it was recorded were 11.90m OD and 11.56m OD, respectively, with the top of the deposit sloping down from north-west to south-east. This material may be of alluvial origin. Two small scraps of ceramic building material were recovered from layer [4]; these are probably post-Roman in date, though firm identification was not possible (see Appendix C).

Post-medieval ground raising dump and structure

- 5.1.2 Deposit [4] was overlain by an extensive layer, [3], of mixed composition, but generally comprising bands of orange and grey clayey sand. This was recorded across the extent of the trench and was up to 0.62m thick. It has been interpreted as a ground raising dump.
- 5.1.3 A 0.64m wide brick wall, [26], aligned approximately east-west was recorded at the south-eastern end of Trench 1. The structure was exposed in plan for a distance of 5.60m and it appeared to have been cut through deposit [3]. It was built with red bricks (260mm x 110mm x 65mm) bonded with lime mortar. The highest level recorded on top of the wall was 12.93m OD. The wall likely relates to development of the site from the mid-19th century for the railway.

Modern activity

- 5.1.4 The remaining features and deposits encountered in Trench 1 were of modern date and included a variety of service trenches, [22], [24], [35] and [41] and drainage pipe trenches, [10] and [15]. Service trench [41] incorporated a timber shuttering, [32], protecting the service that it housed.
- 5.1.5 A modern ground raising and levelling deposit, [2], was encountered across the extent of the trench. This comprised clinker and coal debris with gravel and was up to 0.68m thick.
- 5.1.6 The existing ground surface within Trench 1 was formed by a 0.10m thick deposit of angular grey stones and clinker, recorded at a highest level of 13.18m OD.

5.2 Trench 2 (Figure 4 and Figures 9-11)

Natural sub-stratum

- 5.2.1 Natural deposits were exposed intermittently throughout Trench 2. At the north-western end of the trench, the natural sub-stratum, [323], comprised mid yellow clayey sand, recorded at a highest level of 12.25m OD. A small area of natural sub-stratum, [279], comprising mid brownish yellow coarse sand was exposed towards the centre of the trench, recorded at a highest level of 12.14m OD. At the south-eastern end of the trench, natural sub-stratum was exposed over a more extensive area, recorded as deposits [293], comprising yellow sand, and [304], comprising mid brownish yellow clayey sand, for a total distance of c. 14m. This was recorded at a highest level of 12.53m OD, in section at the south-eastern end of the trench.

1841 Engine Shed and associated structures

- 5.2.2 A compact deposit of clinker, [292] = [307], overlay the natural sub-stratum at the south-eastern end of the trench. This deposit extended across the width of the trench and was recorded for a distance of 7.40m, at a highest recorded level of 12.61m OD. The upper interface of the deposit was relatively level and the material has been interpreted as having been laid down prior to the construction of the 1841 Engine Shed. It may represent a ground surface pre-dating the construction of the engine shed or, alternatively, it may have been a levelling and ground consolidation deposit directly associated with the construction of the building.
- 5.2.3 The clinker deposit was truncated by a construction cut, [302], for the south wall of the 1841 Engine Shed (Figure 20). The walls, [297] = [303], forming the south-western corner of this rectangular building was exposed within the south-eastern end of the trench, with the south wall exposed for 4.80m east-west and a 3.0m return representing the north-south aligned west wall. The lowermost surviving portion of the wall was 0.68m wide at the top and it had been constructed with a stepped footing. Sample excavation exposed the base of the wall in the corner of the structure and in this area its maximum width was 0.76m. The wall was built with red bricks (230mm x 120mm x 75mm) in English bond with lime mortar. The wall survived for a maximum of ten courses, to a maximum height of 0.84m, and its highest recorded level was 12.77m OD. At its highest point, the wall was encountered at a depth of 0.30m below existing ground level.
- 5.2.4 At some stage a drain had been cut through the south wall of the engine shed. Its construction cut, [301], was 0.80m wide at the top of the cut, recorded in section, narrowing to 0.60m wide at its base, which contained a ceramic drainpipe, [300]. The foundation of the engine shed wall had been cut through for the construction of this drain. External to the engine shed was a concrete drain hopper, [306], which measured 640mm x 540mm with a circular central inlet 240mm in diameter, feeding a ceramic drainpipe within the building. Running external and parallel to the southern wall of the engine shed was the construction cut, [414], for a brick structure, [331], this probably part of the same drain arrangement, though further investigation was hampered by the water ingress within the trench. The construction cut was backfilled with a rubble deposit, [305].

- 5.2.5 Another concrete and brick drain, [315] and [314], was partially exposed c. 4m to the west of the engine shed. Detailed investigation was not possible as the exposed part of the structure ran under a substantial deposit of concrete, which had been poured over the top of it.
- 5.2.6 In the central part of the trench were the remains of two structures which would have been set below two sets of rail tracks which ran into the 1841 Engine Shed. The southernmost structure comprised two WNW-ESE aligned track walls, [282] and [285], set 1.10m apart, and largely constructed below track level thus forming a 0.74m deep and 1.10m wide inspection pit chamber (Inspection Pit 1). Projection of the alignment of these track walls shows that the exposed portion was located c. 8m from the western entrance into the 1841 Engine Shed. Track wall [282] was exposed for a maximum length of 5.40m and track wall [285] for 4.10m. The construction cut, [413], for wall [282] was recorded truncating the natural sub-stratum, [279], on the north side of the inspection pit structure. The lowermost 0.40m of the track walls were built with red bricks (230mm x 100mm x 70mm) bonded with cement. On top of these footings were concrete plinths, each 0.34m high, so that the total surviving height of the track walls was 0.74m. The track walls were 0.50m wide at the top, with stepped footings on the external sides giving a width of c. 0.64m at the base. Formed at regular intervals within the upper surfaces of the concrete plinths were shallow square indentations, many with iron fittings surviving in their corners, these being fixings for the track. Seven such indentations were recorded along the length of track wall [282], on average these were 0.50m apart, with dimensions of 240mm x 240mm. Six indentations were exposed, at least partially, along the top of wall [285]. Between the track walls at the base of the inspection pit was a concrete floor, [283], recorded at a level of 11.96m OD. The concrete floor stopped adjacent to the western side of the trench and in this area an iron plate, [317], was partially exposed at the base of the structure; it was observed that there was a void beneath this plate.
- 5.2.7 The level on top of the concrete plinth of track wall [285] was 12.70m OD. The precise height of the ground level that was contemporary with the tracks is not known, but a deposit of clinker, [316], external to wall [285] on the south side of Inspection Pit 1, may have been associated with the tracks. This was recorded at a highest level of 12.26m OD, demonstrating that the contemporary ground surface had been truncated; photographic evidence shows that the track running into the engine shed only projected a short height above ground level. A deposit of silty sand, [328], external to wall [282], on the north side of the inspection pit had a square timber pipe, [281], running through the top of the deposit, parallel with the track wall. This was recorded at a highest level of 12.53m OD, at a depth of around 0.30m below the concrete plinth of the track wall. This deposit and the timber pipe were truncated by a linear cut, [330], of uncertain function, which contained a sandstone block, [280], adjacent to the edge of the trench.

- 5.2.8 The northernmost structure also comprised two brick footings with upper concrete plinths, [273] and [276], again forming a below-ground inspection pit (Inspection Pit 2). A construction cut, [333], was visible on the south side of wall [276], truncating the natural sub-stratum [279]. On the northern side of track wall [273] was a clinker and clay deposit, [262], which the structure had evidently been cut through. This deposit was recorded intermittently throughout the northern part of Trench 2 for a distance of over 12m and was probably deposited as levelling material prior to the laying out of the railways in this area. Inspection Pit 2 was of the same general dimensions as Inspection Pit 1 and the uppermost surviving parts of the inspection pits were 1.70m apart. The concrete plinths of Inspection Pit 2 had evidently suffered more damage, possibly during removal of its rails, and fewer fixtures and fittings survived. The concrete at the base of Inspection Pit 2 was recorded at a highest level of 12.0m OD and the concrete plinths at 12.59m OD.
- 5.2.9 The south-western corner of another structure, [338], was located c. 1.20m to the north of Inspection Pit 2. Historic mapping shows that this was a rectangular structure, an outbuilding, which measured c. 14m east-west x 4m, constructed sometime between the Ordnance Survey maps of 1852 and 1892 (Figure 20). The construction cut, [404], for the south wall, [269], of the building truncated aforementioned deposit [262]. Wall [269], exposed for a distance of 3.80m east-west and with a maximum height of 0.34m, was 0.50m wide and built with red bricks (240mm x 120mm x 80mm). The bricks were laid as stretchers and bonded with lime mortar. The highest level recorded on top of the wall was 12.57m OD and it was encountered at a depth of 0.34m below present ground level. What was probably the original west wall of the building was recorded, as wall [318], running across the trench; it was of the same fabric and construction as the south wall. Running parallel to wall [318] and c. 2m to the east was another wall, [261], the construction cut, [337], of which also truncated deposit [262]. This was of the same construction as the walls of the outbuilding and also ran across the full width of the trench. It had subsided, likely due to the presence of two earlier drains, [326] and [320], running beneath the structure. This wall probably represents an addition to the west end of the outbuilding.
- 5.2.10 A short distance to the west of wall [261] was another brick wall on the same alignment as the long axis of the nearby outbuilding. The construction cut, [337], for the wall, [260], truncated deposit [262]. Wall [260] was exposed for a distance of 4.50m east-west and a height of c. 0.20m and was 0.35m wide. It was constructed with red bricks (230mm x 110mm x 80mm), laid as stretchers along the south side and headers on the north side. At the eastern end of the wall was a concrete block, [324]. Projection of this wall to the east shows that it would have led to the north-western corner of the outbuilding, structure [338], and it may have been an external wall perhaps related to a yard area to the west of the building.

Modern activity

- 5.2.11 The iron rails on top of the track walls had evidently been dismantled when the engine shed went into disuse and the inspection pits were backfilled with rubble deposits, [275] and [284]. An extensive deposit of clinker and clay, [259], was recorded across the northern half of Trench 2, overlying the structural remains and natural sub-stratum at the north end of the trench. This levelling deposit, which was up to 0.40m thick, was overlain by a hardcore surface, [258], forming the ground surface at the time of the investigation. At the north end of the trench, this surface was recorded at a highest level of 12.90m OD.
- 5.2.12 At the southern end of the trench, the structural remains of the engine shed were overlain by a deposit of clinker and gravel, [290], up to 0.50m thick, this a levelling layer for an overlying gravel layer, [288], which also overlay the inspection pits, and was recorded at a highest level of 13.09m OD; this formed the existing ground surface in this area.

5.3 Trench 3 (Figure 5 and Figures 12-15)

Possible natural sub-stratum

- 5.3.1 A small area of possible natural sub-stratum, [419], was exposed in the central part of Trench 3 over an area measuring c. 4.10m x 2.0m. This comprised firm mid yellowish brown clay recorded at a highest level of 12.03m OD.

Revetted channel and ground raising material

- 5.3.2 To the north, the natural sub-stratum was truncated by a WNW-ESE aligned cut, [403], the south edge of which was recorded for a distance of 1.70m running across the trench. Its uppermost exposed fill, [365], which represented the basal deposit across part of the northern end of the trench, was exposed for a distance of c. 10.20m. This comprised mid greyish brown clayey silt and was recorded at a highest level of 11.88m OD. Numerous horizontal timbers measuring up to 1.12m in length x 0.14m wide were observed within the exposed upper part of this deposit. The natural sub-stratum was also truncated by a posthole, [384], situated c. 1m from the edge of feature [403]. This contained a timber post, [386], which measured 100mm x 40mm. Feature [403] has been interpreted as part of a possibly substantial landscaping feature, which was subsequently truncated by an extensive NE-SW aligned cut, [411], recorded for a total distance of 13m NE-SW x 4m and at a highest level of 12.02m OD. The Ordnance Survey map of 1852 shows a feature on the same alignment to the east of Trench 3, possibly a drain or water course feeding to a drain depicted to the north. Feature [411] may therefore represent an attempt to stabilise land in the vicinity of this feature through revetting, prior to the construction of railway tracks in this part of the site. A group of four upright vertical timber posts, [388]-[391], were recorded adjacent to the edge of feature [411] at the northern end of the trench, these likely representing *in situ* posts from a revetment structure. The latest exposed infill, [208], of the revetted channel comprised black or dark greyish brown clayey silt which also contained numerous horizontal timbers, [211], presumably timbers derived from the revetment structure and disturbed ahead of subsequent landscaping and ground raising in this area. A small portion of an underlying fill, [202], was recorded in section, this comprising dark brown organic material, mainly decayed timbers and these may have been derived from the revetment structure itself.

- 5.3.3 Overlying the upper infill, [208], of the revetted channel was an extensive mortar and clinker deposit, [201], up to 0.38m thick and recorded for a distance of 14.80m. This was truncated by three service trenches, [197], [204], and [207].
- 5.3.4 The basal deposit, [364], recorded at the southern end of Trench 3 comprised dark greyish brown clayey silt, probably a ground raising dump. This was overlain by an extensive ground raising deposit, [166], comprising clinker and sand up to 1m thick. This was truncated by three service trenches [169], [172] and [177].

Engine shed structure built between 1892 and 1909

- 5.3.5 Towards the centre of the trench, ground raising deposit [166] was truncated by the construction cut, [179], for a brick structure, [400], on a NNE-SSW alignment and exposed for a distance of 9.10m within the trench. This is interpreted as part of an engine shed first depicted on the Ordnance Survey map of 1909 (Figure 21), although the structure as recorded may have been an adaption of the original building. The 1909 map shows single tracks meeting both short sides of the building. The structure as recorded comprised a series of brick piers aligned NE-SW and NW-SE built with red frogged bricks (230mm x 110mm x 80mm), some stamped 'Castleford'. The north-easternmost pier likely represented the end wall of the building. A series of NW-SE aligned timber sleepers survived affixed to the top of the brick piers at c. 1.60m intervals. A timber plank, [371], affixed to the top of one NE-SW aligned brick wall was presumably a fixture underlying a removed rail. The sleepers and surviving NE-SW elements of the structure represent the western side of the track within the shed. Sample excavation of the later infill around the brick piers in between the sleepers demonstrated that inspection pits lay beneath the track. The structure was encountered at a minimum depth of 0.16m below existing ground level and was recorded at a highest level of 12.75m OD.

Modern activity

- 5.3.6 Structure [400] had been infilled with numerous backfill deposits with further ground raising material also dumped to either side of the structure. The uppermost deposit comprised a hardcore surface, [164], recorded at a highest level of 13.15m OD.

5.4 Trench 5 (Figure 6 and Figures 16-17)

Possible alluvial deposits

- 5.4.1 Trench 5 had to be widened and stepped-down due to the depth of deposits encountered; the lower step was excavated in two separate parts because of the presence of live services running across the northern part of the trench. Slot 1 at the north-eastern end of the trench measured 9m x 2m whilst Slot 2, located 3.50m to the south-west of Slot 1, measured 24m x 2m.
- 5.4.2 The basal deposit, [130], encountered within Slot 1 at a depth of c. 2.50m below existing ground level, comprised loose light greyish brown gravel of possible alluvial origin. This deposit was recorded at a highest level of 10.87m OD and exposed across the width of the base of Slot 1 for a distance of around 1.50m. Further investigation was hampered due to water ingress within the trench.

- 5.4.3 The basal deposit, [160], encountered within Slot 2 comprised loose dark grey sand. This was also exposed across the full width of the base of the trench for a distance of 24m. The upper interface of this deposit was undulating and the highest and lowest recorded levels were 11.31m OD and 11.0m OD, respectively. At its highest point it was recorded at a depth of c. 2m below existing ground level. As with the deposit in Slot 1, this sand may have been of alluvial origin.

Post-medieval ground-raising/consolidation deposits

- 5.4.4 In Slot 1, gravel deposit [130] was overlain by a deposit, [129], comprising soft brownish grey sandy clay with inclusions of organic material. This was exposed for a distance of c. 6m across the width of Slot 1 and its maximum excavated thickness was 0.58m; the base of the deposit was not reached at the south-western end of Slot 1. The top of the deposit sloped down from a level of 11.47m OD in the south-west to 11.23m OD in the north-east. A small assemblage of ceramic building material was recovered from this deposit during cleaning of the section. This was of mixed date with medieval or post-medieval roof tiles identified along with a fragment of possible Roman *pedalis* (see Appendix C). Two fragments of second-century AD samian ware were also recovered, along with two animal bones (see Appendix D). One of the bones was from an adult horse, its large size indicative of a post-medieval beast.
- 5.4.5 Deposit [129] was recorded to the south-west in Slot 2 as deposit [157], in this area overlying deposit [160]. Deposit [157] was exposed across Slot 2 for a distance of c. 23.50m and its maximum thickness was 0.50m. The highest level at which it was recorded was 11.59m OD.
- 5.4.6 In the north-eastern end of Slot 1, deposit [128] was overlain by a 0.32m thick deposit, [128], comprising reddish brown silty clay. A single fragment of Roman ceramic building material was recovered from this deposit, identified as a 70mm thick *bipedalis* with mortar still attached. Deposit [128] was exposed for a distance of 4.70m and had a maximum thickness of 0.32m. The overlying deposit, [127], comprised brownish grey sandy silt up to 0.30m thick and exposed for a distance of 5.20m. This deposit also produced a mixed assemblage of artefactual material during the cleaning of the section; three fragments of Roman roof tiles, two medieval or post-medieval roof tiles and four sherds of pottery dating to the late second to third century AD. Deposit [127] was partially overlain to the south-west by a brownish grey clayey silt deposit, [126], up to 0.40m thick. Deposit [126] was partially overlain to the south-west by a greyish brown sandy silt deposit, [123], up to 0.22m thick. A mixed artefactual assemblage was again recovered during cleaning of the section; four fragments of Roman roof tile, one fragment of Roman *opus signinum* with mortar still attached, two fragments of post-medieval brick, one large rim sherd from a second-century AD samian mortarium and a sherd of medieval pottery (see Appendix C). Two fragments of animal bone were also recovered (see Appendix D). The overlying deposit, [122], comprised brownish grey silt, up to 0.30m thick.

5.4.7 The sequence of deposits recorded in Slot 1 at the north-eastern end of Trench 5 overlying the putative alluvial gravel had a maximum combined thickness of 1.10m and was recorded at a highest level of 11.97m OD. The mixed artefactual assemblages recovered from these deposits suggest that material had been dumped in this area during the post-medieval period, possibly deposited as ground consolidation or levelling material. The condition of the Roman material was notable; large and unabraded fragments of pottery were recovered along with large fragments of building material, some of which had mortar still attached, suggesting that significant Roman deposits had been disturbed somewhere in the near vicinity during the post-medieval period and dumped in this area.

Demolition/ground raising deposits and clinker surface

5.4.8 The series of deposits overlying deposit [157] within Slot 2 was of notably different composition to the series of deposits overlying layer [129] in Slot 1. At the very north-eastern end of Slot 2, layer [157] was overlain by a deposit of loose sand, [158], with frequent fragments of mortar and building material. This was up to 0.38m thick and was overlain by another dump of building rubble, [156], comprising sand and degraded building material. A large sandstone block, [159], was situated a short distance to the south-west of these deposits, overlying deposit [157]. This was a rectangular block (340mm x 240mm x 320mm) with four circular holes, one of which contained a wooden peg, 40mm in diameter and 50mm deep in a square arrangement towards the centre of the block; it was probably a sleeper block derived as demolition material from a nearby structure within the 19th-century railway landscape.

5.4.9 Overlying the stone block and the rubble deposits at the north-eastern end of Slot 2 was an extensive dump of sandy gravel, [141]. This was encountered across the extent of Slot 2 for a distance of 25m and its maximum thickness was 0.74m. It was overlain by a deposit of grey sand, [138], this up to 0.50m thick but generally present as a thin band of material recorded for a distance of 15.50m within the south-western portion of Slot 2. The rubble and demolition material deposits encountered within Slot 2 had a maximum combined thickness of 0.80m and were recorded at a highest level of 12.31m OD.

5.4.10 Similar deposits of material that may represent demolition material were recorded within the north-eastern end of Slot 1. The north-eastern end of deposit [126] was overlain by a brownish grey clayey sand deposit, [125], up to 0.30m thick, in turn overlain by a 0.38m thick deposit of reddish brown silty sand, [124].

5.4.11 A narrow linear feature, [121], truncated deposit [122] at the south-western end of Slot 1 and a similar feature, [162], truncated deposit [138] within Slot 2. These were of uncertain function but it is possible that they may have once contained services, subsequently removed.

5.4.12 Within Slot 2, deposit [138] and feature [162] were overlain by a deposit of coal and clinker, [137], up to 0.30m thick and extending across the south-western end of Trench 5 for a distance of 16m. The upper interface of this deposit, which was recorded at a highest level of 12.42m OD, was generally level for much of its extent, and the material may once have formed a ground surface, constructed with waste material from nearby railway structures.

Modern deposits

- 5.4.13 The clinker surface was overlain by a series of dumped deposits, [393], [139], [140] and [136], with a maximum combined thickness of 0.60m. These variously comprised dumps of sand, sandy clay with coal and clinker.
- 5.4.14 To the north-east of surface [137], small dumps of sand with quantities of clinker, [144] and [143], were recorded overlying the extensive clayey dump deposit [141].
- 5.4.15 At the north-eastern end of Trench 5, deposit [124] recorded in Slot 1 was overlain by a dump of clayey sand with mortar and clinker, [155]. The overlying deposit, [148], comprised a dump of sand and gravel up to 0.42m thick. This had been truncated by pipe and cable trenches, [151] and [154], in turn overlain by another clinker deposit, [145], this extending for over 17m and up to 0.30m thick. The undulating nature of this deposit indicated that it had not formed a ground surface and it has been interpreted as a ground raising deposit. This was truncated by another pipe trench, [147].
- 5.4.16 An extensive clay and clinker deposit, [142], up to 0.70m thick was recorded at the north-eastern end of Trench 5 extending for a distance of over 19m. The interface between this deposit and clinker surface [137] and overlying deposits [140] and [136] to the south-west was vertical, suggesting that a wall or other structure may have been demolished at this location and the area to the north-east subsequently levelled and raised with the deposition of dump [142].
- 5.4.17 Overlying layer [142] at its south-western end and extending along the south-western part of Trench 5 for a distance of over 20m was a thin deposit of sand and mortar, [135]. This was overlain by a 0.38m thick demolition rubble deposit, [134], comprising sand, mortar and building material fragments, extending for a distance of around 25m. The overlying sand and pebble deposit, [133] was recorded across the extent of Trench 5, sloping down from a level of 13.40m OD in the south-west to 12.90m OD in the north-east, in this area representing the existing ground surface in this trench. To the south-west, the ground surface comprised a layer, [132], of compact limestone and gravel, recorded at a highest level of 13.42m OD. This was overlain by a silty clay deposit, [131], recorded in patches at the very south-western end of the trench.

5.5 Trench 6 (Figure 7 and Figures 18-19)

Possible alluvial deposit

- 5.5.1 The basal deposit, [418], encountered within a sondage excavated at the north-eastern end of Trench 6 comprised soft dark grey silt and this may have been of alluvial origin. This was recorded at a highest level of 10.98m OD, at a depth of c. 2m below the existing ground surface.

Ground raising/consolidation deposits

- 5.5.2 A series of dumped deposits was recorded across the north-eastern end of Trench 6, these layers sloping steeply down to the south-west indicating the direction from which they had been dumped. Like deposits recorded to the south in Trench 5, these may have been dumped over alluvial deposits to consolidate and raise the ground in this area.

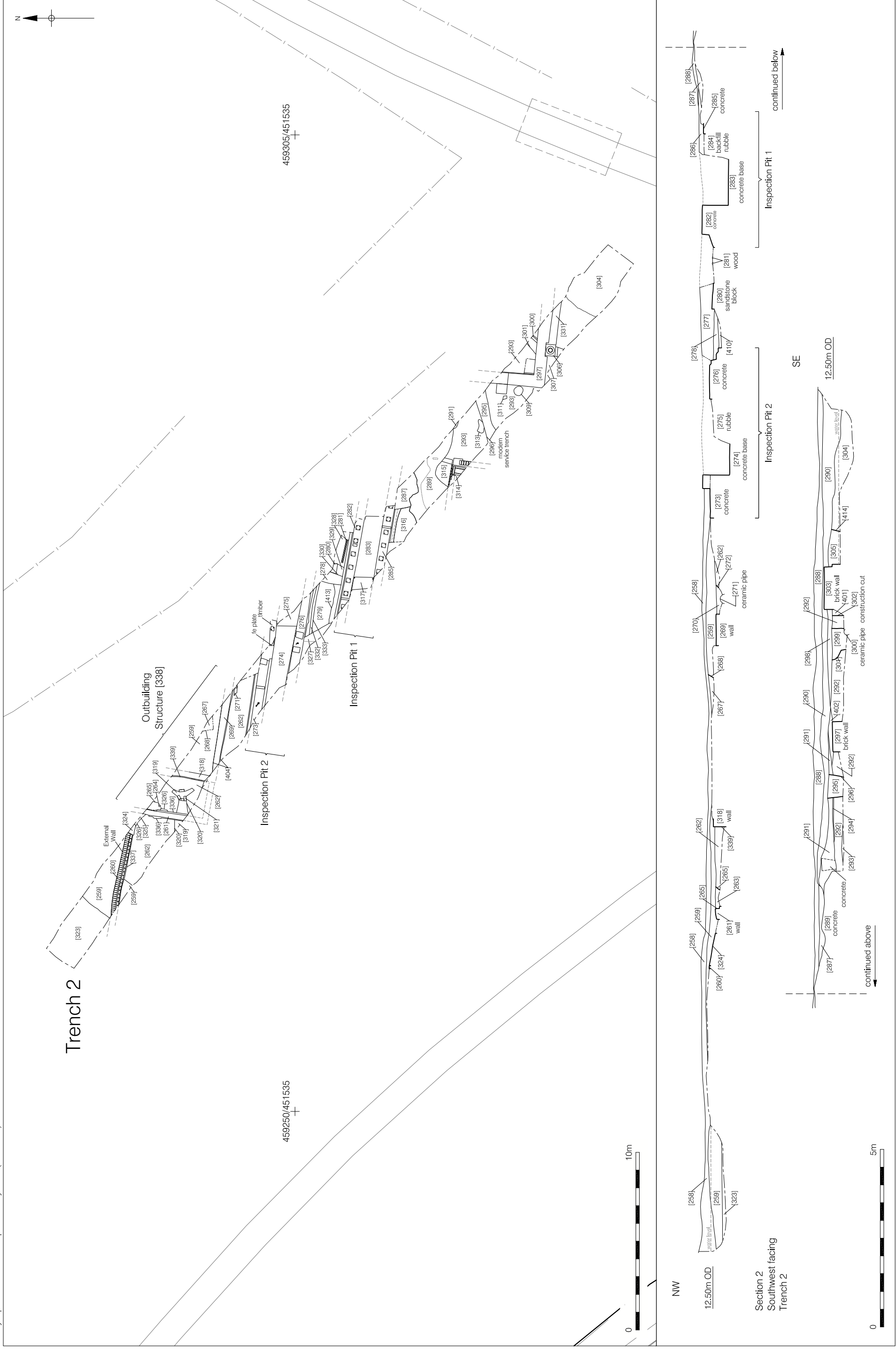
- 5.5.3 The earliest in the sequence, [360], situated at the north-eastern end of the trench comprised yellowish brown clayey sand up to 1.10m thick. It was overlain to the south-west by a narrow band of pinkish brown clayey sand, [359], in turn overlain by a mottled grey and brownish pink silty clay deposit, [358]. The overlying deposit, [357], to the south-west comprised pinkish brown sandy clay with occasional coal fragments and this was overlain by greyish brown silty clay, [356]. To the south-west was a narrow band, [355], of pinkish brown clayey sand with occasional stone and fragmented building material this overlain by grey silty clay, [354]. The overlying deposit, [353], extended for over 11m and had a maximum excavated thickness of 0.60m. This was of mixed composition comprising grey and pinkish brown clayey silt and clayey sand with mortar flecks throughout. It was overlain by a small dump of pinkish brown sand, [394], at its south-western extent
- 5.5.4 The upper interface of this group of deposits was relatively level along the north-eastern end of the trench over a distance of c. 14m, recorded at a highest level of 12.29m OD, with the top of deposit [353] sloping down gradually south-westwards to a level of c. 12.0m OD.
- 5.5.5 The overlying silty clay deposit, [352], extended across the sequence of south-west sloping deposits, recorded for a distance of 23m with a maximum thickness of 0.50m but generally 0.30m thick. The highest level of this latest levelling deposit was 12.50m OD.
- 5.5.6 Deposits of ground raising and levelling material were also recorded at the south-western end of Trench 6. The earliest deposit exposed was a series of mixed dumps of material, [347], comprising variously coloured dumps of silty clay, also sloping down south-westwards. This was overlain by a clayey sandy silt deposit, [343], with mortar and fragmented building material, excavated for a maximum thickness of 0.70m. The overlying levelling deposit, [343], comprised a band of coarse sand up to 0.20m thick which was recorded at a highest level of 12.40m OD.

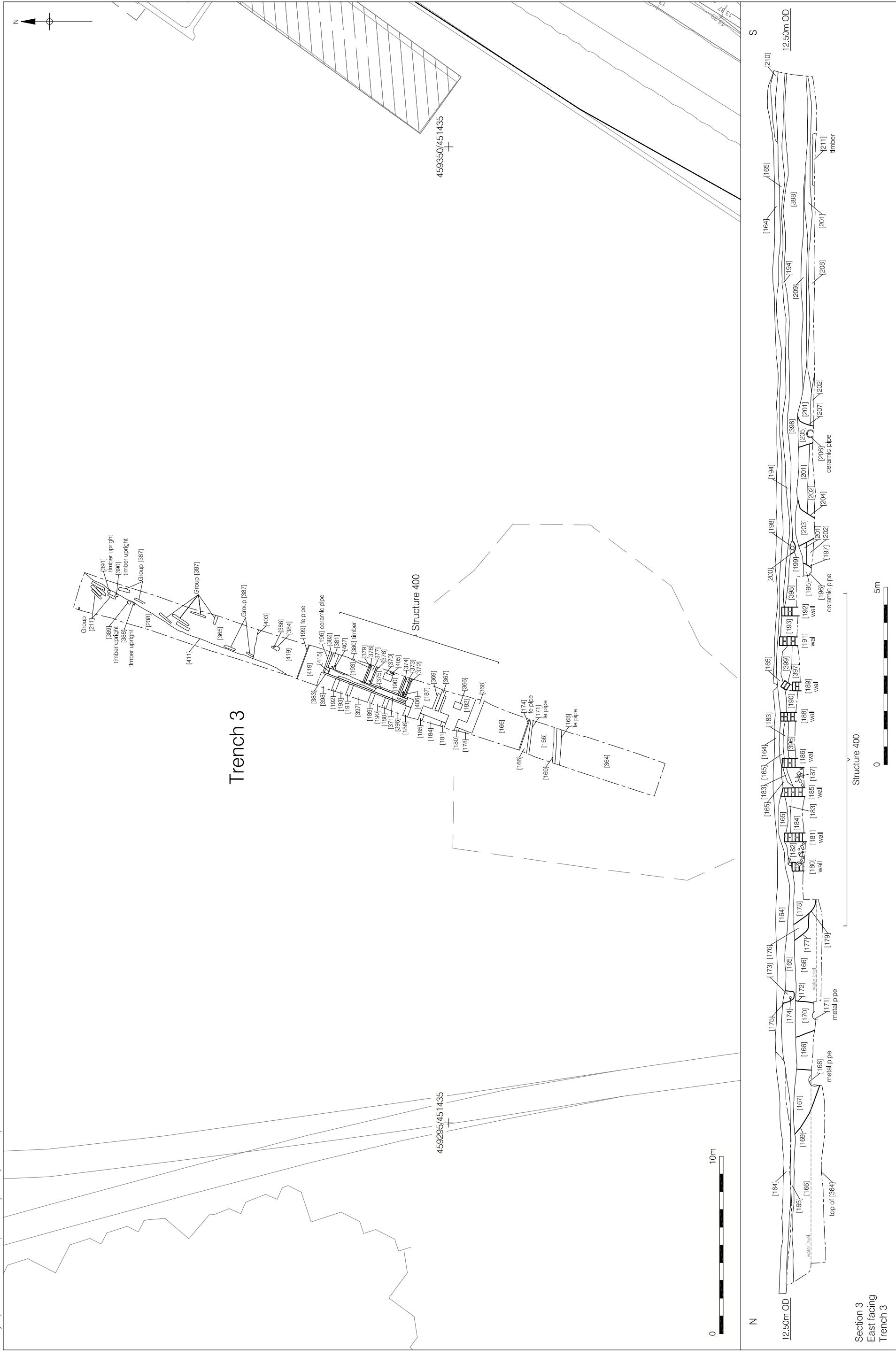
Post-medieval structure

- 5.5.7 The levelling deposits with Trench 6 were truncated by the construction cut, [348], for a brick structure, [350]. This comprised a brick wall aligned NE-SW with returns visible running north-westwards for a short distance at both ends, therefore representing the south-eastern end of a building. The external and internal widths of the structure were 6.10m and 5m, respectively. Ten courses of the wall with a maximum exposed height of 0.50m were visible within the limits of the trench and the top of the surviving masonry was situated c. 0.60m below present ground level. The wall was built with red bricks (230mm x 110mm x 90mm) in English Garden Wall bond with concrete mortar. On top of the wall was a thin layer of concrete at a level of 12.42m OD. Three small square holes, spaced c. 2m apart, were noted within the concrete on top of the wall. Towards the base of the exposed section of wall a ceramic drain pipe had been inserted through the wall.
- 5.5.8 A large building is shown on the 1909 Ordnance Survey map in the vicinity of Trench 6, although that building measured over 36m NE-SW, suggesting that the structural remains in Trench 6 represent a later building.

Modern activity

- 5.5.9 Two service trenches were recorded within Trench 6, [346] in section and [361] running across the south-western end of the trench. The brick building had been infilled with a deposit of coal fines and slag, [363]. Overlying the structure and recorded across the extent of the trench was a deposit of coal fines, [342] up to 0.40m thick.
- 5.5.10 The uppermost deposit in Trench 6 was the existing ground surface constructed with grey dolomite, recorded at an average level of c. 13.0m OD.





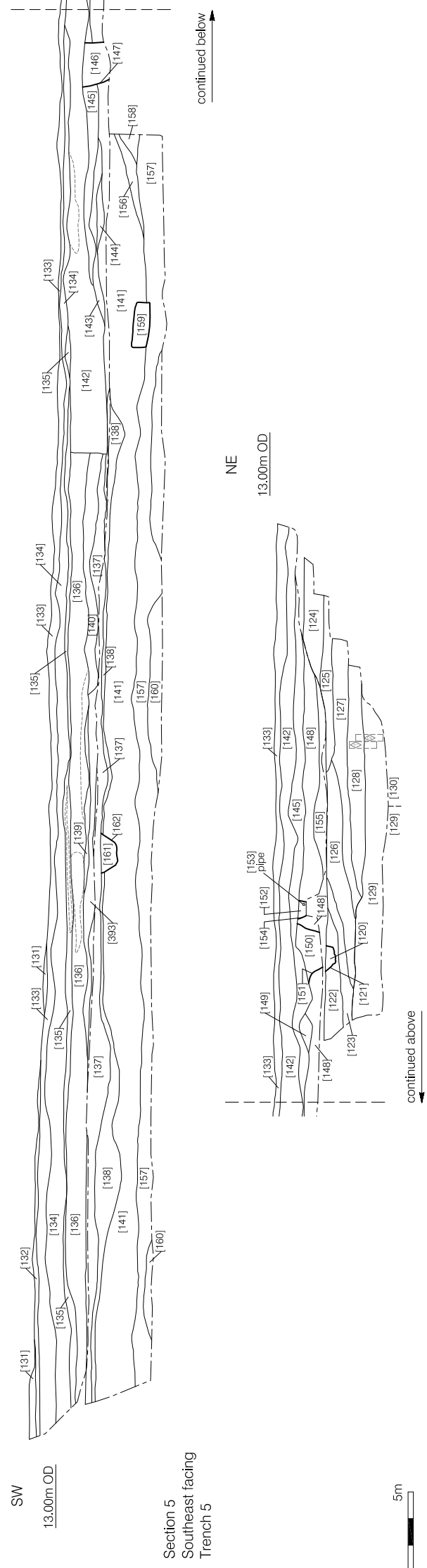
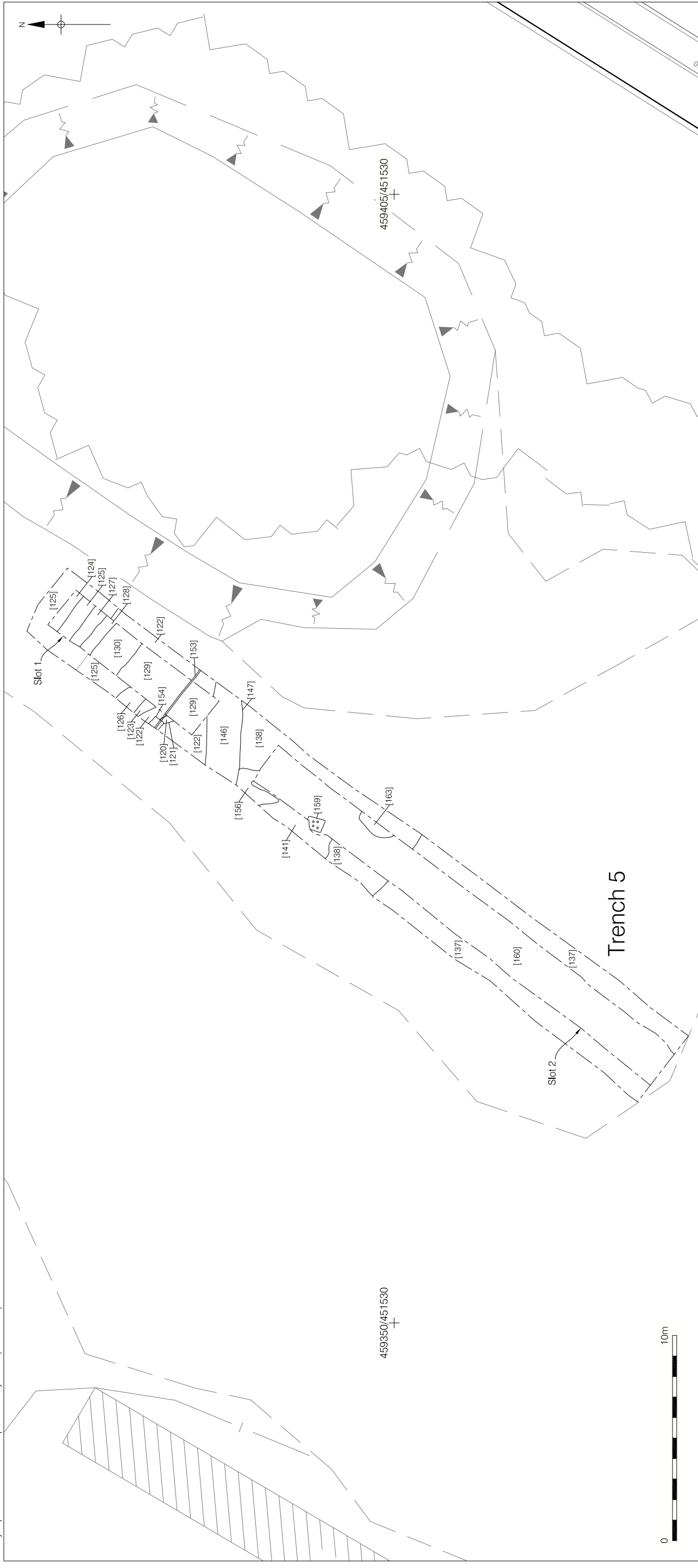




Figure 8 Trench 1, representative part of southwest facing section, towards northwest end of trench (*scale 2m*)



Figure 9 Trench 2, Inspection Pit 1, looking west (*scale 2m*)



Figure 10 Trench 2, southwest corner of 1841 Engine Shed, looking west (*scales 2m & 1m*)



Figure 11 Trench 2, 1841 Engine Shed, wall [297] detail, looking west (*scale 1m*)



Figure 12 Trench 3, view along the trench, looking SSW (*scale 2m*)



Figure 13 Trench 3, revetting in feature [411], looking southwest (*scale 2m*)



Figure 14 Trench 3, Structure [400], looking NNE (*scale 1m*)



Figure 15 Trench 3, Structure [400], timber [371] detail, looking north-west (*scale 2m*)



Figure 16 Trench 5, southeast facing section, northeast end of Slot 1 (*scales 2m & 1m*)



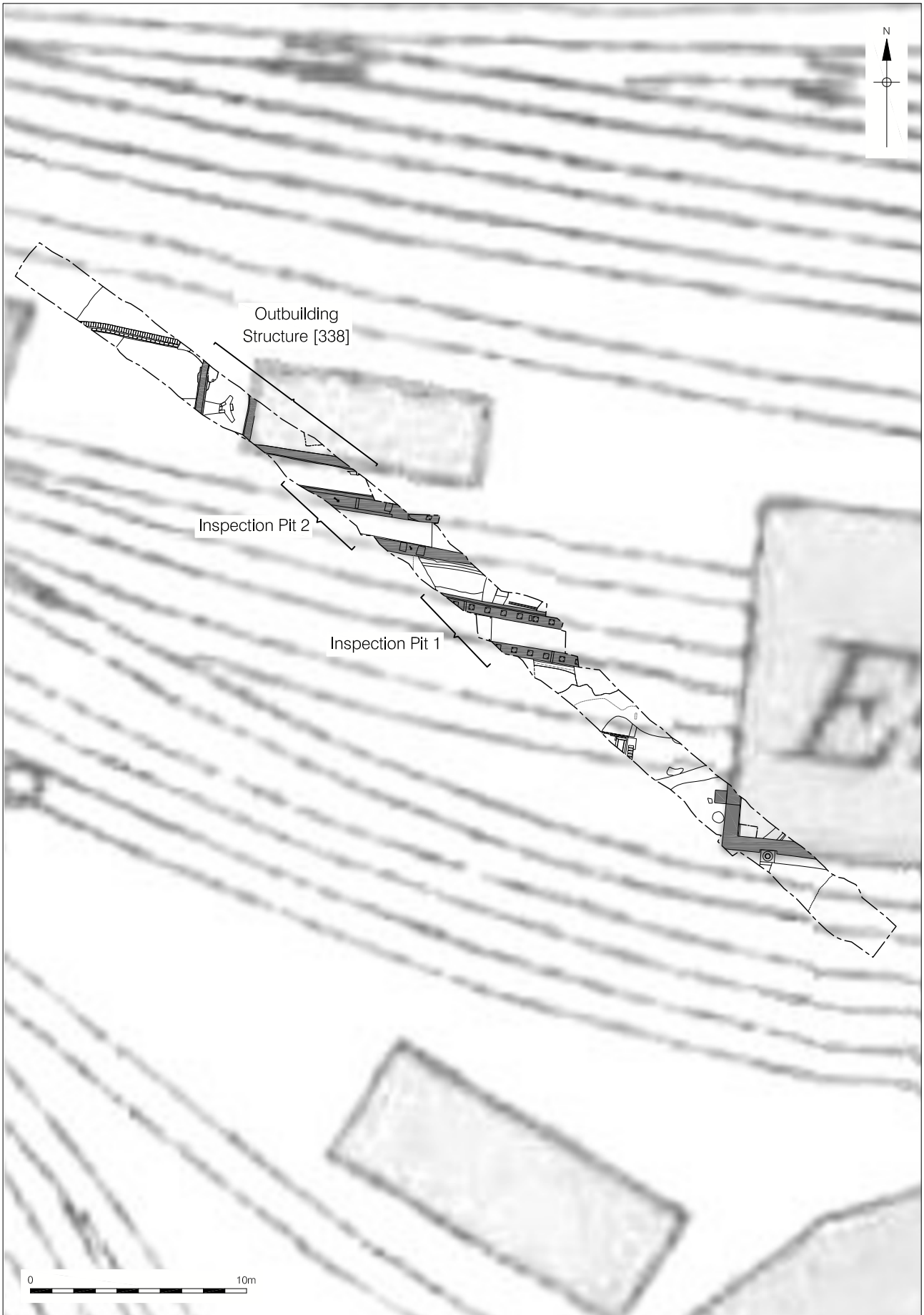
Figure 17 Trench 5, south-east facing section, southwest end of Slot 2, (*scale 2m*)



Figure 18 Trench 6, Structure [350], looking northeast (*scale 2m*)

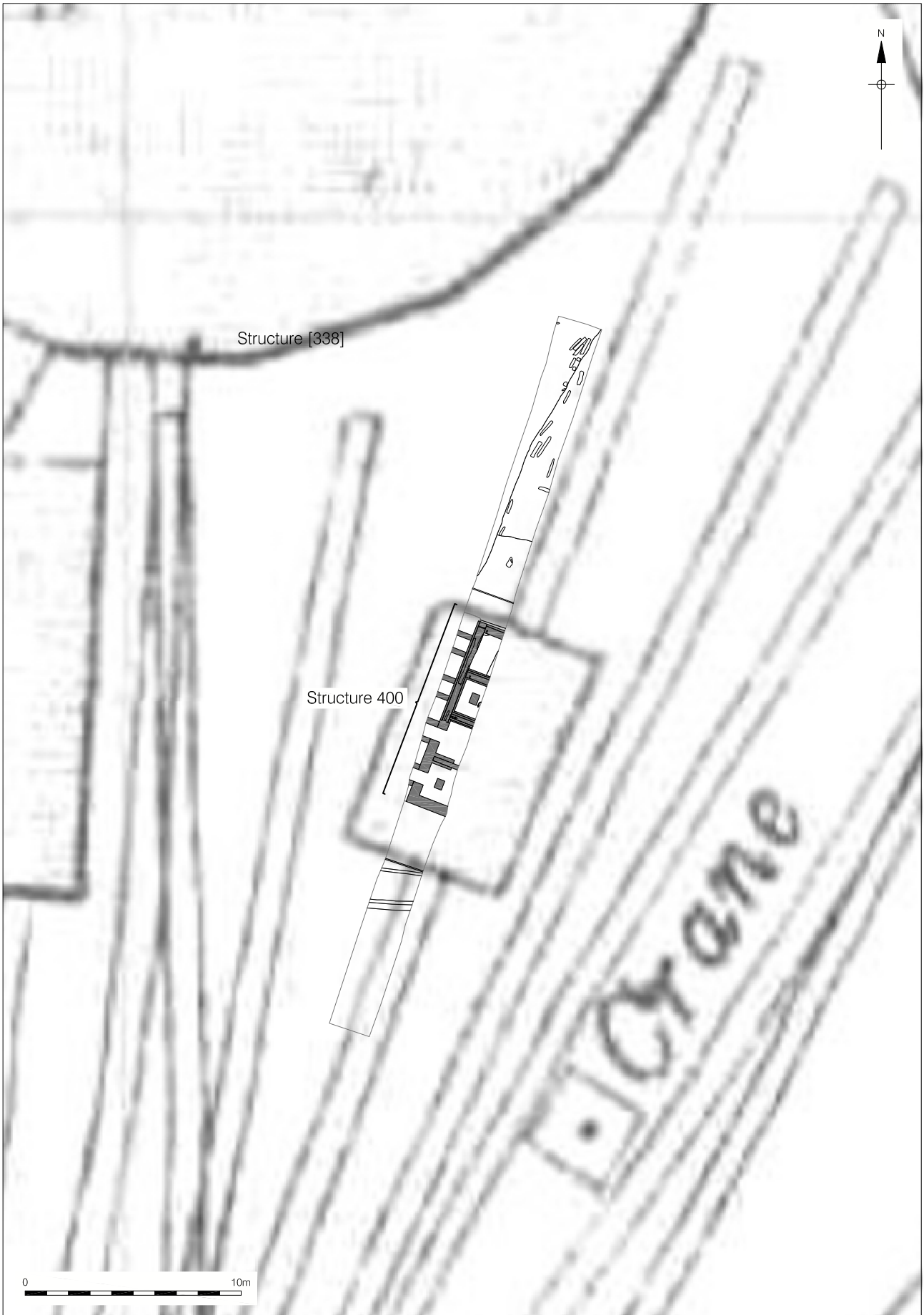


Figure 19 Trench 6, representative part of SSE facing section, towards west end of trench (*scale 2m*)



© Pre-Construct Archaeology Ltd 2012
27/02/12 MR

Figure 20
Plan of Trench 2 overlain on 1892 Ordnance Survey map
1:250 at A4



© Pre-Construct Archaeology Ltd 2012
27/02/12 MR

Figure 21
Plan of Trench 3 overlain on 1909 Ordnance Survey map
1:250 at A4

6. CONCLUSIONS

- 6.1 Trenches 1, 5 and 6 recorded only archaeological deposits and structures of low significance. These trenches in particular had the greatest potential to encounter pre-industrial era archaeological remains as they were sited at locations where historic mapping suggested little or no development had occurred during the industrial era. Although no deposits of proven prehistoric, Roman, medieval or early post-medieval date were recorded in these trenches, dump deposits in Trench 5 produced artefacts of Roman and medieval date, alongside post-medieval material. The conclusion is that these artefacts probably arrived at the site within material imported onto the site for ground raising purposes in the post-medieval industrial era and are likely derived from Roman occupation deposits in the vicinity, possibly the site of the first or second station buildings. It appears that ongoing usage of the area since the mid-19th century for the railway has had a serious adverse impact upon strata representing earlier archaeological eras at the site. Structural remains relating to usage of the site since the mid-19th century for the railway were recorded in Trenches 1 and 6. However, these remains – representing ancillary structures - are of low archaeological significance.
- 6.2 Trenches 2, 4 and 7 demonstrated that historically significant elements of York's railway heritage survive to an exceptional degree as below-ground archaeological remains at the site. These remains were generally located within c. 0.50m or less of the existing ground surface. Trench 2 contained the fairly well-preserved remains of the 1841 Engine Shed, this the earliest historic structure to be located by the evaluation. In addition, the well-preserved remains of two inspection pits, which lay on the immediate approach to the 1841 Engine Shed, were exposed and these are likely of 20th century date, while the remains of ancillary brick structures to the north-west of the 1841 Engine Shed were also recorded (Figure 20 shows the trench overlain on the 1909 Ordnance Survey map).
- 6.3 Trenches 4 and 7 revealed the exceptionally well-preserved structural remains of Roundhouses 2 and 3, respectively, while Trench 7 also contained the less well-preserved remains of Roundhouse 1. The results of Trenches 4 and 7 are not covered by this report. At the time of writing further work, incorporating Trenches 4 and 7, is ongoing at the site to further expose those parts of Roundhouses 1, 2 and 3 which lie within the site and which are currently available for investigation, in order to further inform the design of the re-development scheme. The westernmost part of Roundhouse 3 and part of the 1841 Engine Shed are to be further exposed at a later date.
- 6.4 Trench 3 recorded components of the 19th century and later railway landscape, most notably evidence of probable mid-19th century landscaping and drainage by channel revetting ahead of railway construction. In addition, this trench recorded the well-preserved remains of an engine shed built in the southern part of the site between 1892 and 1909 (Figure 21 shows the trench overlain on the 1909 Ordnance Survey map). This structure is considered to be of less significance than the remains recorded in Trenches 2, 4 and 7.

7. REFERENCES

Bibliography

- Appleby, K., 1993. *York (Britain's Rail Super Centres)*, Ian Allan.
- Archaeological Services Durham University, 2005. *York Central, York, North Yorkshire. Archaeological Desk-Based Assessment*, ASDU unpublished (report no. 1240).
- Archaeological Services Durham University, 2006. *Geotechnical Investigations: York Central, York, North Yorkshire. Archaeological Monitoring*, ASDU unpublished (report no. 1364).
- Brinklow, D., 1986. 'Main Roads Serving Roman York', in Brinklow, D., Hall, R.A., Magilton, J.R. and Donaghey, S., 'Coney Street, Aldwark and Clementhorpe, Minor Sites, and Roman Roads', *The Archaeology of York*, 6, Part 1 of The Archaeology of York: Roman Extra-mural Settlement and Roads, Council for British Archaeology.
- Brown, D. H., 2007. *Archaeological Archives. A guide to best practice in creation, compilation transfer and curation*, Archaeological Archives Forum.
- City of York, 2005. *Draft Local Plan. Incorporating the 4th set of changes. Development Control Local Plan*, City of York Council.
- Department for Communities and Local Government, 2010. *Planning Policy Statement 5, 'Planning for the Historic Environment'*, HMSO.
- English Heritage, 2006. *Management of Research Projects in the Historic Environment*, English Heritage.
- Griffiths, R. and Hooper, J., 2000. *Great Northern Railway Engine Sheds*. Volume 3 Yorkshire and Lancashire, Book Law/Railbus/Challenger.
- Hoole, K., 1972. *North Eastern Locomotive Sheds*, David and Charles.
- Hoole, K., 1976. *The Railways of York*, Dalesman Books.
- Institute for Archaeologists, 2008. *Standard and guidance for archaeological field evaluation*, IfA.
- Institute for Archaeologists, 2008. *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*, IfA.
- Moulden, J. and Tweddle, D., 1986. 'Anglo-Scandinavian Settlement South-west of the Ouse', *The Archaeology of York*, 8, Part 1 of The Archaeology of York: Anglo-Scandinavian York, Council for British Archaeology.
- Northern Archaeological Associates, 1998. *Proposed Turntable Site at York Triangle, York Railway Station. Report on Archaeological Evaluation*, NAA unpublished.
- Pre-Construct Archaeology and Ramboll, 2011. *The York Engineers' Triangle Site, York Railway Station, York. Project Design for Archaeological Investigations*, PCA/Ramboll unpublished.

Walker, K., 1990. *Guidelines for the Preparation of Excavation Archives for Long-term Storage*, UKIC.

Online Sources

The *British Geological Survey* website:

http://www.bgs.ac.uk/education/geology_of_britain/home.html

8. ACKNOWLEDGEMENTS AND CREDITS

Acknowledgements

Pre-Construct Archaeology Limited would like to thank Ramboll for commissioning the archaeological evaluation herein described on behalf of BAM Construction Limited and Network Rail.

The project roles of Phil Emery and Chris Rhodes of Ramboll are acknowledged.

The assistance of Jason Pink (Project Manager) and role of Steve Jones (Site Supervisor) of BAM are acknowledged.

The role of John Oxley, the City of York Archaeologist, is acknowledged.

PCA Credits

Project Manager: Robin Taylor-Wilson

Fieldwork: Aaron Goode (Site Supervisor and survey), Elizabeth Collison, Sophie Laidler, Amy Roberts, Scott Vance

Archive consolidation: Aaron Goode, Jennifer Proctor and Scott Vance

Report: Jennifer Proctor and Robin Taylor-Wilson

Illustrations: Mark Roughley

Faunal remains identification: Kevin Rielly

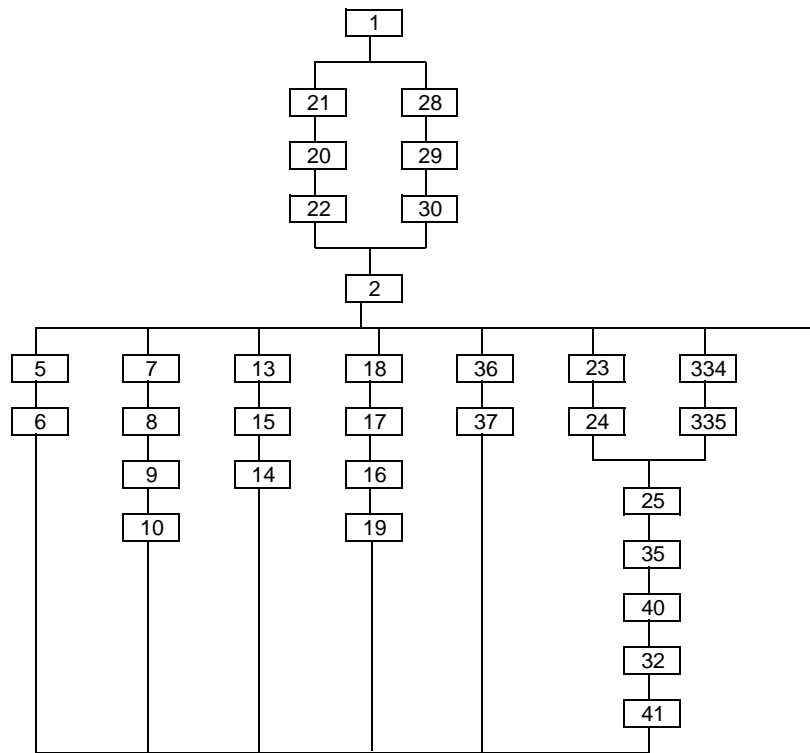
Other Credits

Ceramic identification: Alex Croom (Tyne and Wear Museums)

Palaeoenvironmental assessment: Archaeological Services Durham University (co-ordinated by Dr Charlotte O'Brien)

APPENDIX A
STRATIGRAPHIC MATRICES

Trench 1

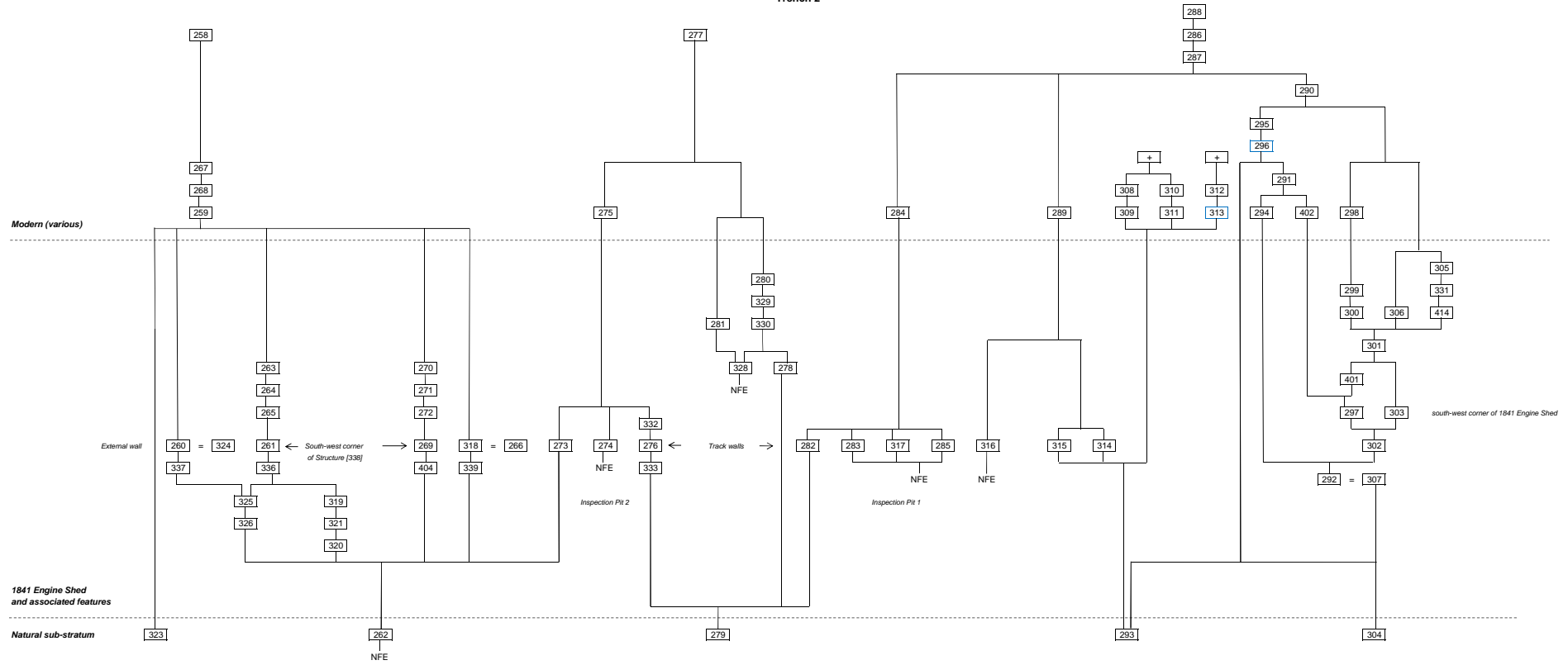


Modern (various)

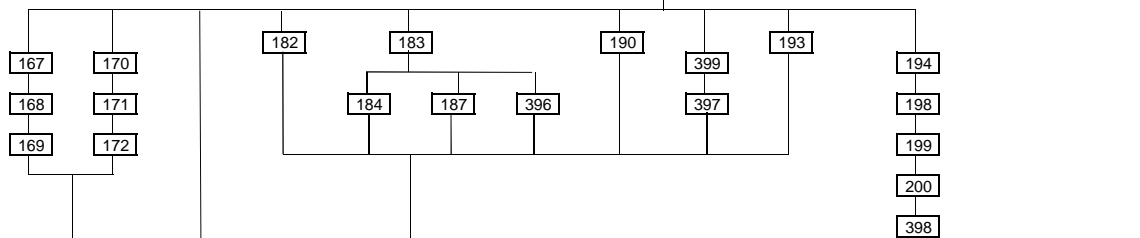
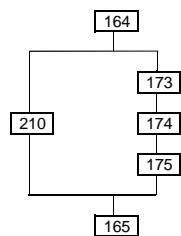
Post-medieval (ground raising)

Possible alluvium

Trench 2



Trench 3



Modern (various)

Group no. for engine shed

Group no. for timbers

Upright timbers

Group no. for timbers

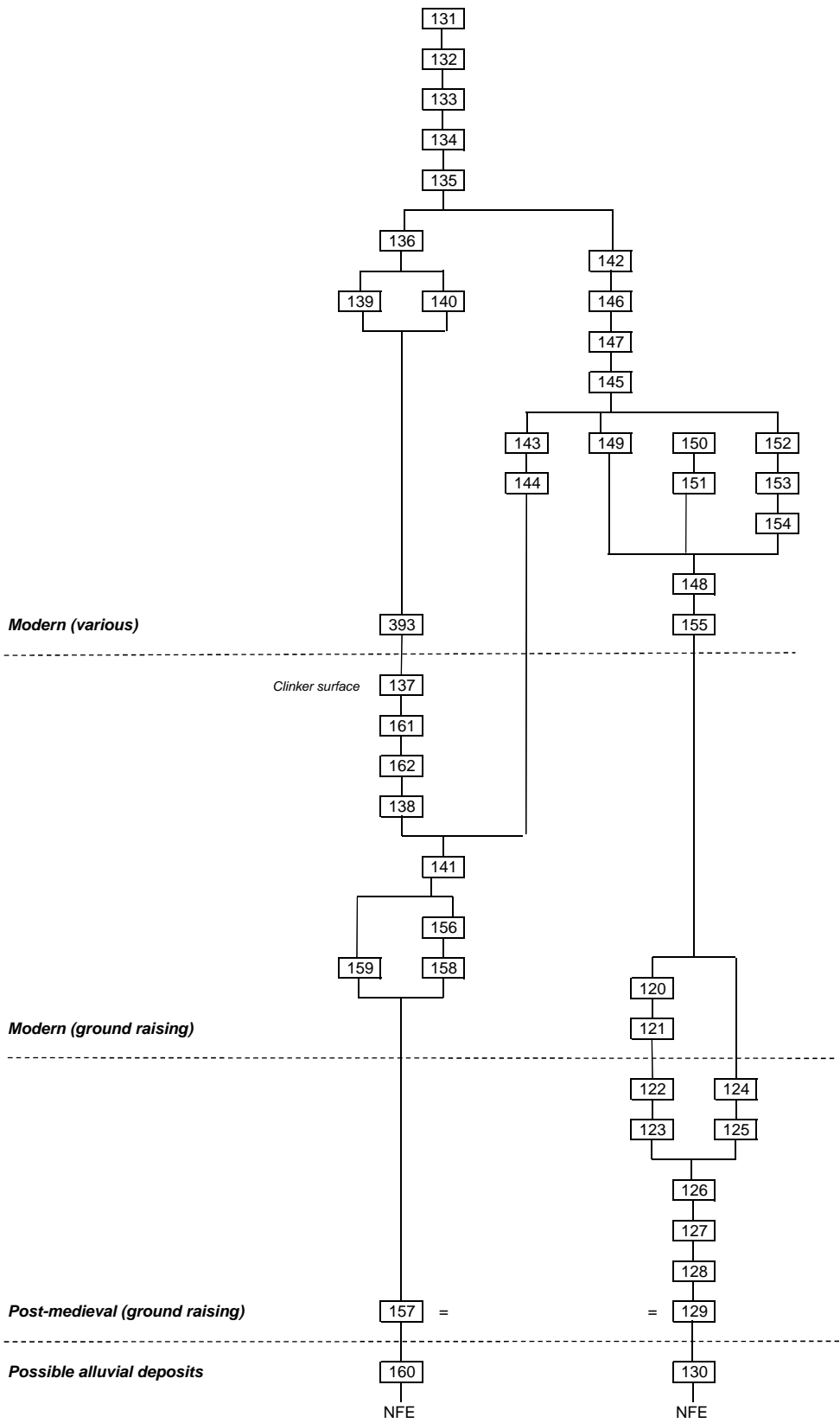
NFE

Early modern/modern (revetment and engine shed)

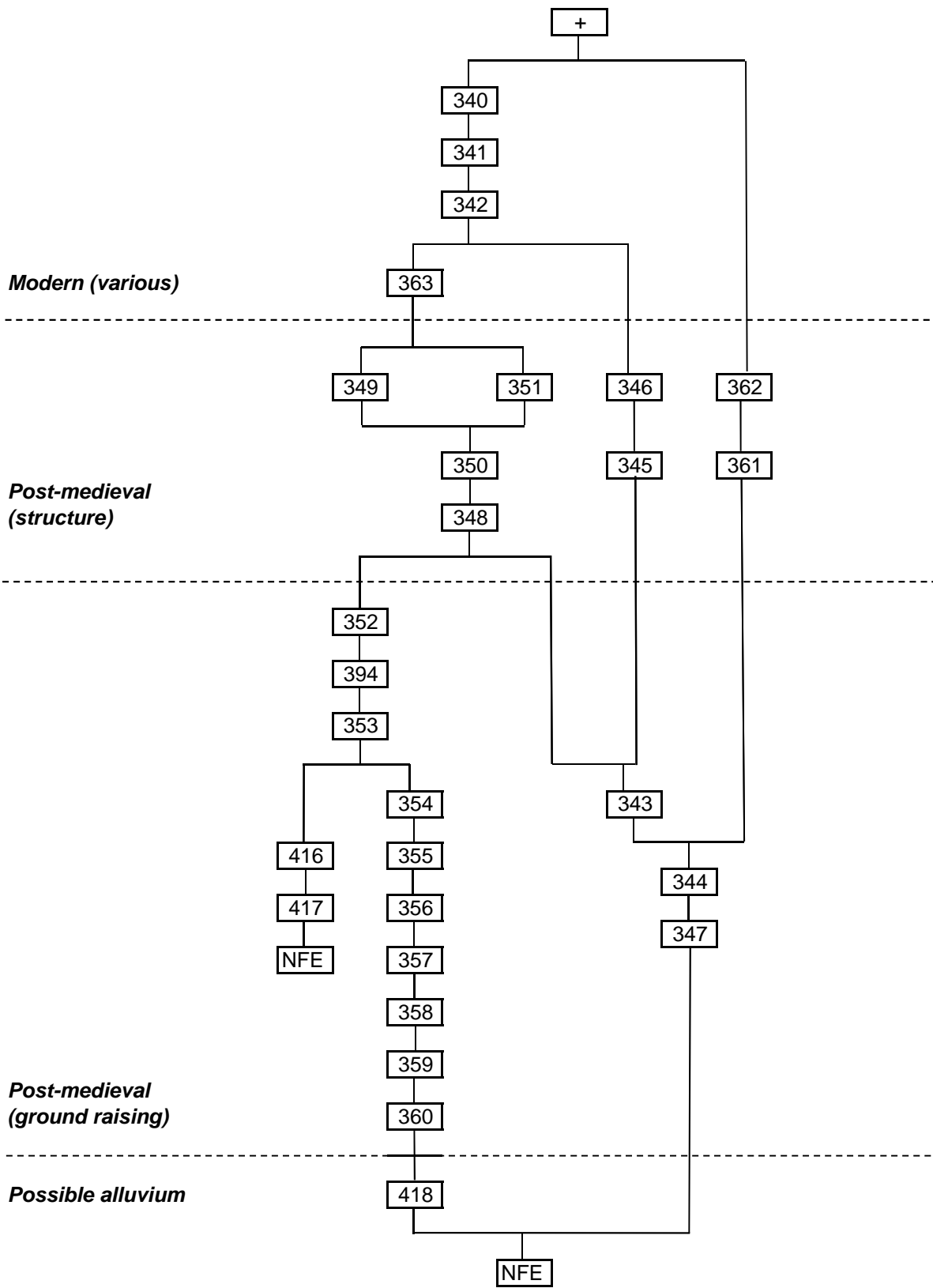
Natural sub-stratum

419

Trench 5



Trench 6



APPENDIX B
CONTEXT INDEX

YET 11 (EVALUATION): CONTEXT INDEX

Context	Trench	Type 1	Type 2	Interpretation
1	1	Deposit	Layer	Existing stone ground surface
2	1	Deposit	Layer	Ground raising dump
3	1	Deposit	Layer	Ground raising dump
4	1	Deposit	Layer	Possible colluvial layer
5	1	Deposit	Fill	Backfill of service trench [6]
6	1	Cut	Linear	Service trench
7	1	Deposit	Fill	Backfill of service trench [10]
8	1	Deposit	Fill	Backfill of service trench [10]
9	1	Deposit	Fill	Backfill of service trench [10]
10	1	Cut	Linear	Service trench
11	1	Deposit	Fill	Fill of impression [12]
12	1	Cut	Linear	Impression of decayed timber
13	1	Deposit	Fill	Backfill of service trench [14]
14	1	Cut	Linear	Service trench
15	1	Other	Pipe	Ceramic pipe within service trench [14]
16	1	Timber	Horizontal	Timber lining of service trench [19]
17	1	Other	Pipe	Ceramic pipe within service trench [19]
18	1	Deposit	Fill	Backfill of service trench [19]
19	1	Cut	Linear	Service trench
20	1	Other	Pipe	Iron pipe within service trench [22]
21	1	Deposit	Fill	Backfill of service trench [22]
22	1	Cut	Linear	Service trench
23	1	Deposit	Fill	Backfill of probable service trench [24]
24	1	Cut	Linear	Probable service trench
25	1	Deposit	Fill	Backfill of service trench [35]
26	1	Masonry	Structure	Brick wall
27	VOID			
28	1	Deposit	Fill	Backfill of service trench [30]
29	1	Other	Pipe	Plastic pipe within service trench [30]
30	1	Cut	Linear	Service trench
31	1	Deposit	Layer	Ground raising dump
32	1	Timber	Horizontal	Timber lining of service trench [41]
33	VOID			
34	VOID			
35	1	Cut	Linear	Service trench
36	1	Deposit	Fill	Backfill of feature [37]
37	1	Cut	Discrete	Modern intrusion
40	1	Deposit	Fill	Backfill of service trench [41]
41	1	Cut	Linear	Service trench
334	1	Deposit	Fill	Backfill of feature [335]
335	1	Cut	Discrete	Modern intrusion
42 - 119	7	Trench 7 not described in this report		
120	5	Deposit	Fill	Backfill of service trench [121]
121	5	Cut	Linear	Service trench
122	5	Deposit	Layer	Ground raising dump
123	5	Deposit	Layer	Ground raising dump
124	5	Deposit	Layer	Ground raising dump
125	5	Deposit	Layer	Ground raising dump
126	5	Deposit	Layer	Ground raising dump
127	5	Deposit	Layer	Ground raising dump
128	5	Deposit	Layer	Ground raising dump
129	5	Deposit	Layer	Ground raising dump
130	5	Deposit	Layer	Possible alluvial gravel
131	5	Deposit	Layer	Dump layer
132	5	Deposit	Layer	Existing stone ground surface
133	5	Deposit	Layer	Ground raising dump

YET 11 (EVALUATION): CONTEXT INDEX

134	5	Deposit	Layer	Ground raising dump
135	5	Deposit	Layer	Ground raising dump
136	5	Deposit	Layer	Ground raising dump
137	5	Deposit	Layer	Possible clinker surface
138	5	Deposit	Layer	Ground raising dump
139	5	Deposit	Layer	Ground raising dump
140	5	Deposit	Layer	Ground raising dump
141	5	Deposit	Layer	Ground raising dump
142	5	Deposit	Layer	Ground raising dump
143	5	Deposit	Layer	Ground raising dump
144	5	Deposit	Layer	Ground raising dump
145	5	Deposit	Layer	Ground raising dump
146	5	Deposit	Fill	Backfill of service trench [147]
147	5	Cut	Linear	Service trench
148	5	Deposit	Layer	Ground raising dump
149	5	Deposit	Layer	Ground raising dump
150	5	Deposit	Fill	Backfill of service trench [151]
151	5	Cut	Linear	Service trench
152	5	Deposit	Fill	Backfill of service trench [154]
153	5	Other	Cable	Plastic coated cable
154	5	Cut	Linear	Service trench
155	5	Deposit	Layer	Ground raising dump
156	5	Deposit	Layer	Ground raising dump
157	5	Deposit	Layer	Ground raising dump
158	5	Deposit	Layer	Ground raising dump
159	5	Masonry	Structure	Ex situ sandstone block
160	5	Deposit	Layer	Possible alluvial sand
161	5	Deposit	Fill	Backfill of service trench [162]
162	5	Cut	Linear	Service trench
163	5	Masonry	Structure	Ex situ concrete and brick plinth
164	3	Deposit	Layer	Existing hardcore ground surface
165	3	Deposit	Layer	Ground raising dump
166	3	Deposit	Layer	Ground raising dump
167	3	Deposit	Fill	Backfill of service trench [169]
168	3	Other	Pipe	Pipe within service trench [169]
169	3	Cut	Linear	Service trench
170	3	Deposit	Fill	Backfill of service trench [172]
171	3	Other	Pipe	Pipe within service trench [172]
172	3	Cut	Linear	Service trench
173	3	Deposit	Fill	Backfill of service trench [175]
174	3	Other	Pipe	Pipe within service trench [175]
175	3	Cut	Linear	Service trench
176	3	Deposit	Fill	Backfill of service trench [177]
177	3	Cut	Linear	Service trench
178	3	Deposit	Fill	Backfill of possible construction cut [400]
179	3	Cut	Linear	Possible construction cut for Structure [400]
180	3	Masonry	Structure	Wall, part of Structure [400]
181	3	Masonry	Structure	Wall, part of Structure [400]
182	3	Deposit	Fill	Backfill of Structure [400]
183	3	Deposit	Layer	Backfill of Structure [400]
184	3	Deposit	Layer	Backfill of Structure [400]
185	3	Masonry	Structure	Wall, part of Structure [400]
186	3	Masonry	Structure	Wall, part of Structure [400]
187	3	Deposit	Layer	Backfill of Structure [400]
188	3	Masonry	Structure	Wall, part of Structure [400]
189	3	Masonry	Structure	Wall, part of Structure [400]
190	3	Deposit	Layer	Backfill of Structure [400]
191	3	Masonry	Structure	Wall, part of Structure [400]

YET 11 (EVALUATION): CONTEXT INDEX

192	3	Masonry	Structure	Wall, part of Structure [400]
193	3	Deposit	Layer	Backfill of Structure [400]
194	3	Deposit	Layer	Ground raising dump
195	3	Deposit	Fill	Backfill within service trench [197]
196	3	Other	Pipe	Ceramic pipe within service trench [197]
197	3	Cut	Linear	Service trench
198	3	Deposit	Fill	Backfill within service trench [200]
199	3	Other	Pipe	Iron pipe within service trench [200]
200	3	Cut	Linear	Service trench
201	3	Deposit	Layer	Ground raising dump
202	3	Deposit	Fill	Decayed timber of revetment cut [411]
203	3	Deposit	Fill	Backfill of service trench [204]
204	3	Cut	Linear	Service trench
205	3	Deposit	Fill	Backfill of service trench [207]
206	3	Other	Pipe	Ceramic pipe within service trench [207]
207	3	Cut	Linear	Service trench
208	3	Deposit	Fill	Fill of revetment cut [411]
209	3	Deposit	Layer	Ground raising dump
210	3	Deposit	Layer	Ground raising dump
211	3	Timber	Group	Timbers within fill [208]
212 - 257	4	Trench 4 not described in this report		
258	2	Deposit	Layer	Existing stone ground surface
259	2	Deposit	Layer	Ground levelling layer
260	2	Masonry	Structure	Brick wall
261	2	Masonry	Structure	Part of Structure [338]; possible addition to west end
262	2	Deposit	Layer	Ground consolidation layer
263	2	Deposit	Fill	Backfill of service trench [265]
264	2	Other	Pipe	Ceramic drain pipe within service trench [265]
265	2	Cut	Linear	Service trench
266	2	Masonry	Structure	Part of Structure [338]; west wall, same as [318]
267	2	Deposit	Fill	Backfill of intrusion [268]
268	2	Cut	Discrete	Modern intrusion
269	2	Masonry	Structure	Part of Structure [338]; south wall
270	2	Deposit	Fill	Backfill of service trench [272]
271	2	Other	Pipe	Ceramic pipe within service trench [272]
272	2	Cut	Linear	Service trench
273	2	Masonry	Structure	Brick and concrete track wall; part of Inspection Pit 2
274	2	Masonry	Structure	Concrete floor; part of Inspection Pit 2
275	2	Deposit	Fill	Rubble infill; within Inspection Pit 2
276	2	Masonry	Structure	Brick and concrete track wall; part of Inspection Pit 2
277	2	Deposit	Layer	Existing stone ground surface
278	2	Deposit	Layer	Ground raising dump
279	2	Deposit	Layer	Natural sand
280	2	Masonry	Structure	Possible sandstone buttress
281	2	Timber	Horizontal	Service protection
282	2	Masonry	Structure	Brick and concrete track wall; part of Inspection Pit 1
283	2	Masonry	Structure	Concrete floor; part of Inspection Pit 1
284	2	Deposit	Fill	Rubble infill of inspection pit
285	2	Masonry	Structure	Brick and concrete track wall; part of Inspection Pit 1
286	2	Deposit	Layer	Ground raising dump
287	2	Deposit	Layer	Ground raising dump
288	2	Deposit	Layer	Existing stone ground surface
289	2	Deposit	Layer	Concrete spread
290	2	Deposit	Layer	Ground raising dump
291	2	Deposit	Layer	Ground raising dump
292	2	Deposit	Layer	Ground consolidation layer
293	2	Deposit	Layer	Natural sand
294	2	Deposit	Layer	Ground raising dump
295	2	Deposit	Fill	Backfill of service trench [296]
296	2	Cut	Linear	Service trench

YET 11 (EVALUATION): CONTEXT INDEX

297	2	Masonry	Structure	Brick wall of engine shed, as [303]
298	2	Deposit	Layer	Ground raising dump
299	2	Deposit	Fill	Backfill of service trench [301]
300	2	Other	Pipe	Ceramic pipe within service trench [301]
301	2	Cut	Linear	Service trench
302	2	Cut	Linear	Construction cut for wall [303]
303	2	Masonry	Structure	Brick wall of engine shed, as [297]
304	2	Deposit	Layer	Natural sand
305	2	Deposit	Layer	Backfill of construction cut [414]
306	2	Masonry	Structure	Concrete drain hopper
307	2	Deposit	Layer	Ground raising dump
308	2	Deposit	Fill	Fill of feature [309]
309	2	Cut	Discrete	Modern intrusion
310	2	Deposit	Fill	Fill of feature [311]
311	2	Cut	Discrete	Modern intrusion
312	2	Deposit	Fill	Fill of feature [313]
313	2	Cut	Discrete	Modern intrusion
314	2	Masonry	Structure	Brick drain
315	2	Deposit	Structure	Concrete associated with drain [314]
316	2	Deposit	Layer	Ground raising dump
317	2	Other	Fitting	Iron plate; part of Inspection Pit 1
318	2	Masonry	Structure	Part of Structure [338]; west wall, same as [266]
319	2	Deposit	Structure	Concrete drain, associated with [321]; probably related to Structure [338]
320	2	Cut	Linear	Construction cut for drains [319] and [321]
321	2	Masonry	Structure	Brick drain, associated with [319]; probably related to Structure [338]
322	VOID			
323	2	Deposit	Layer	Natural sand
324	2	Masonry	Structure	Concrete addition to wall [260]
325	2	Deposit	Fill	Backfill of service trench [326]
326	2	Cut	Linear	Service trench
327	2	Deposit	Layer	Ground raising dump
328	2	Deposit	Layer	Ground raising dump
329	2	Deposit	Fill	Backfill of construction cut [330]
330	2	Cut	Discrete	Construction cut for Structure [280]
331	2	Masonry	Structure	Brick drain
332	2	Deposit	Fill	Backfill of construction cut [333]
333	2	Cut	Linear	Construction cut for track wall [276]
334	1	Deposit	Fill	Backfill of probable service trench [335]
335	1	Cut	Linear	Probable service trench
336	2	Cut	Linear	Construction cut for wall [261]
337	2	Cut	Linear	Construction cut for wall [260]
338	2	Masonry	Structure	Overall Structure no.; main elements [261], [269], [266]=[318]
339	2	Cut	Linear	Construction cut for wall [318]
340	6	Deposit	Layer	Existing stone ground surface
341	6	Deposit	Layer	Ground raising dump
342	6	Deposit	Layer	Ground raising dump
343	6	Deposit	Layer	Ground raising dump
344	6	Deposit	Layer	Ground raising dump
345	6	Cut	Linear	Service trench
346	6	Deposit	Fill	Backfill of service trench [345]
347	6	Deposit	Layer	Ground raising dump
348	6	Cut	Linear	Construction cut for wall [350]
349	6	Deposit	Fill	Backfill of construction cut [348]
350	6	Masonry	Structure	Brick structure
351	6	Deposit	Fill	Backfill of construction cut [348]
352	6	Deposit	Layer	Ground raising dump
353	6	Deposit	Layer	Ground raising dump
354	6	Deposit	Layer	Ground raising dump
355	6	Deposit	Layer	Ground raising dump
356	6	Deposit	Layer	Ground raising dump

YET 11 (EVALUATION): CONTEXT INDEX

357	6	Deposit	Layer	Ground raising dump
358	6	Deposit	Layer	Ground raising dump
359	6	Deposit	Layer	Ground raising dump
360	6	Deposit	Layer	Ground raising dump
361	6	Cut	Linear	Service trench
362	6	Deposit	Fill	Backfill of service trench [361]
363	6	Deposit	Fill	Backfill of structure [350]
364	3	Deposit	Layer	Ground raising dump
365	3	Deposit	Fill	Backfill of revetment cut [403]
366	3	Masonry	Structure	Wall, part of Structure [400]
367	3	Timber	Structure	Timber, part of Structure [400]
368	3	Masonry	Structure	Wall, part of Structure [400]
369	3	Masonry	Structure	Wall, part of Structure [400]
370	3	Masonry	Structure	Wall, part of Structure [400]
371	3	Timber	Structure	Timber, part of Structure [400]
372	3	Timber	Structure	Timber, part of Structure [400]
373	3	Timber	Structure	Timber, part of Structure [400]
374	3	Timber	Structure	Timber, part of Structure [400]
375	3	Timber	Structure	Timber, part of Structure [400]
376	3	Timber	Structure	Timber, part of Structure [400]
377	3	Timber	Structure	Timber, part of Structure [400]
378	3	Timber	Structure	Timber, part of Structure [400]
379	3	Timber	Structure	Timber, part of Structure [400]
380	3	Timber	Structure	Timber, part of Structure [400]
381	3	Timber	Structure	Timber, part of Structure [400]
382	3	Timber	Structure	Timber, part of Structure [400]
383	3	Timber	Structure	Timber, part of Structure [400]
384	3	Cut	Posthole	Possibly part of revetment [403]
385	3	Deposit	Fill	Backfill of posthole [384]
386	3	Timber	Post	Timber post in posthole [384]
387	3	Timber	Group	Loose timbers within fill [365]
388	3	Timber	Post	Part of revetment [411]
389	3	Timber	Post	Part of revetment [411]
390	3	Timber	Post	Part of revetment [411]
391	3	Timber	Post	Part of revetment [411]
392	VOID			
393	5	Deposit	Layer	Ground raising dump
394	6	Deposit	Layer	Ground raising dump
395	VOID			
396	3	Deposit	Fill	Backfill of Structure [400]
397	3	Deposit	Fill	Backfill of Structure [400]
398	3	Deposit	Layer	Ground raising dump
399	3	Deposit	Fill	Backfill of Structure [400]
400	3	Masonry	Structure	Overall Structure no.; engine shed
401	2	Deposit	Fill	Backfill of construction cut for wall [302]
402	2	Deposit	Layer	Ground raising dump
403	3	Cut	Linear	Revetment
404	2	Cut	Linear	Construction cut for wall [269]
405	3	Other	Fitting	Iron bolt in Structure [400]
406	3	Other	Fitting	Iron bolt in Structure [400]
407	3	Timber	Structure	Timber, part of Structure [400]
408	3	Timber	Structure	Timber, part of Structure [400]
409	3	Masonry	Structure	Wall, part of Structure [400]
410	2	Deposit	Layer	Ground raising dump
411	3	Cut	Linear	Construction cut for revetment
412	VOID			
413	2	Cut	Linear	Construction cut for track wall [282]
414	2	Cut	Linear	Construction cut for drain [331]

YET 11 (EVALUATION): CONTEXT INDEX

415	3	Other	Fitting	Iron fitting in Structure [400]
416	6	Other	Pipe	Iron pipe in service trench [416]
417	6	Cut	Linear	Service trench
418	6	Deposit	Layer	Possible alluvial deposit
419	3	Deposit	Layer	Natural sub-stratum

APPENDIX C
IDENTIFICATION OF CERAMIC MATERIAL

Identification of Ceramic Material

Alex Croom

Introduction

Small assemblages of pottery and ceramic building material were submitted for identification and basic assessment.

Ceramic Building Material Catalogue

- Context [4] *Undated*
1) 2 scraps, most probably post-Roman
- Context [123] *Roman roofing*
1) *tegula* flange
2) *tegula* end fragment, discoloured on lower surface
3) *tegula* body fragment
4) probable *tegula* fragment, with mortar on two surfaces
Roman constructional
1) fragment of fine *opus signinum*, with mortar on one surface
Post-medieval constructional
1) incomplete end fragment of brick with mortar, W:110mm B:50mm
2) corner fragment of brick, heavily covered in mortar
Undated
1) 6 scraps
- Context [127] *Roman roofing*
1) undercut *tegula* flange, burnt (including over breakage edge)
2) *tegula* body fragment
3) probable *tegula* body sherd, over-fired with thick grey core
Medieval/post-medieval roofing
1) end fragment plain tile, thin
2) end fragment plain tile
Undated
1) 2 scraps
- Context [128] *Roman constructional*
Edge fragment of *bipedalis* or similar, 70mm thick, with mortar on upper surface
- Context [129] *Medieval/post-medieval roofing*
1) fragment of plain tile
Undated constructional
1) corner fragment (B:50mm), either Roman *pedalis* (or similar) or post-medieval brick
Undated

- 1) largest piece: probably post-Roman roofing, but worn, so original breadth uncertain
- 2) 3 scraps

Notes: *pedalis* (one foot wide) and *bipedalis* (two foot wide) used in the construction of hypocausts, bridging the *pilae* columns and acting as the lowest level of flooring

Pottery Catalogue

- Context [123] *Samian*
 1) rim sherd form 45 mortarium, Central Gaulish, c.170-200
Medieval
 1) body sherd, oxidized and burnt
- Context [127] *Amphora*
 1) body sherd, Dressel 20
Ebor ware
 1) rim sherd of bead-rimmed lid, Monaghan 1997 type LD, 160-225+
Grey burnished ware
 1) base/body sherd of bowl/dish with chamfer, late C2/C3
Un sourced oxidised ware
 1) base sherd of flagon, in soft, sandy micaceous oxidized fabric, with traces of cream slip
- Context [129] *Samian*
 1) footing of bowl, well-worn on lower surface, Central Gaulish, C2
 2) decorated body sherd of bowl, very small, Central Gaulish, C2

Dating Summary

- Context [4] probable post-Roman CBM
- Context [123] Roman roofing and constructional tile and pottery, late second century+
 Medieval pottery
 Post-medieval constructional CBM
- Context [127] Roman roofing CBM and pottery, late second century+
 Medieval or post-medieval roofing CBM
- Context [128] Roman constructional CBM
- Context [129] Roman pottery, second century+
 Medieval/post-medieval roofing CBM

Recommendation

No further work is recommended on this small assemblage of ceramic material, although it should be retained as part of the physical Site Archive.

Bibliography

Mongahan, J. 1997. *Roman Pottery from York*, *The Archaeology of York* **16/8**

APPENDIX D
IDENTIFICATION OF FAUNAL MATERIAL

Identification of Faunal Material

Kevin Rielly

Introduction

Four bones were submitted for identification and basic assessment; two being fragmentary, the other two complete.

Catalogue

Context [123]: cattle right radius distal fragment, distal fusing (so about 3.5-4yrs) and split

Context [123]: cattle-size rib shaft fragment

Context [129]: chicken right humerus from an adult bird

Context [129]: equid right metatarsus, adult and from a rather large animal; lateral length of 294.2mm which can be converted to a shoulder height of 1568mm; this large size suggests that this bone is of post-medieval date.

Recommendation

No further work is recommended on this small assemblage of faunal remains.

APPENDIX E
ASSESSMENT OF PALAEOENVIRONMENTAL MATERIAL

Assessment of Palaeoenvironmental Material

Charlotte O'Brien

Introduction

This report presents the results of palaeoenvironmental assessment of a bulk sample of deposit [129], which overlay possible alluvial gravel in Trench 5. The objective of the scheme of works was to assess the palaeoenvironmental potential of the sample, establish the presence of suitable radiocarbon dating material and provide appropriate recommendations. Sample processing was undertaken by Dr Carrie Drew. Assessment and report preparation was by Dr Charlotte O'Brien. The flot and small finds are currently held in the Environmental Laboratory at Archaeological Services Durham University awaiting collection. The charred plant remains will be retained at Archaeological Services Durham University.

Methods

The bulk sample was manually floated and sieved through a 500 μ m mesh. The residue was examined for shells, fruitstones, nutshells, charcoal, small bones, pottery sherds, flint and industrial residues, and was scanned using a magnet for ferrous fragments. The flot was examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al.* (2002).

Results

The sample comprised a fragment of tile, other small pieces of fired clay/CBM and a small quantity of coal. A few earthworm egg cases and uncharred seeds were noted in the flot. The only charred plant macrofossil was a hazel nutshell fragment, which would be suitable for radiocarbon dating if required. Small fragments of charcoal were present, which were orange-stained as a result of mineral inclusions. They could not be identified due to their small size and poor condition. The results are presented below in tabulated form.

Discussion

As the charred plant macrofossil assemblage is limited to a single hazel nutshell fragment, it can provide little information about the age or nature of the deposit. There was no evidence that this silt was deposited under waterlogged conditions, with vegetative material, uncharred plant macrofossils from wetland habitats and other biological remains typical of peat deposits being absent. Although a few uncharred, seeds were noted in the flot, these were ruderal and shrub species such as common chickweed and elderberry, which represent modern intrusive material.

Recommendations

No further work is required for the sample due to the low numbers and poor preservation of palaeoenvironmental remains within it. Pollen analysis is not recommended for the column samples, due to the non-waterlogged nature of the deposit. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

The flot should be retained as part of the physical archive of the site. The residue was discarded following examination.

Sources

Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora*. Oxford

Stace, C, 1997 *New Flora of the British Isles*, 2nd Edition. Cambridge

Data from Palaeoenvironmental Assessment

Sample	3
Context	129
Feature	Deposit
<i>Material available for radiocarbon dating</i>	□
<i>Volume processed (l)</i>	8
<i>Volume of flot (ml)</i>	5
<i>Residue contents</i>	
Fired clay / CBM	+
Tile (number of fragments)	1
<i>Flot matrix</i>	
Charcoal	+
Coal / coal shale	+
Earthworm egg case	(+)
Uncharred seeds	+
<i>Charred remains (total count)</i>	
(t) <i>Corylus avellana</i> (Hazel) nutshell frag.	1

[t-tree/shrub. (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant]

PCA

PCA SOUTHERN

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

PCA NORTHERN

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

PCA CENTRAL

7 GRANTA TERRACE
STAPLEFORD
CAMBRIDGESHIRE CB22 5DL
TEL: 01223 845 522
FAX: 01223 845 522
EMAIL: info.central@pre-construct.com

PCA WESTERN

6 KING ALFRED PLACE
WINCHESTER
HAMPSHIRE SO23 7DF
TEL: 07714 134099
EMAIL: info.west@pre-construct.com

