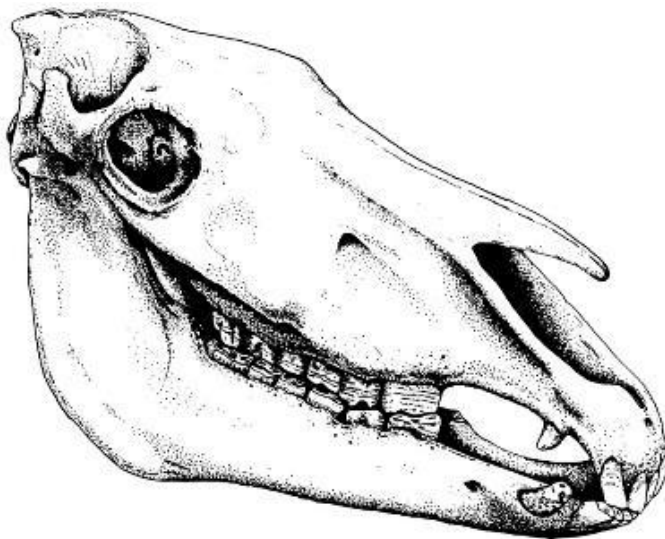


2015/1059

**Goldsmith Street,
Norwich, NR2 4QF**

Archaeological Evaluation



**Prepared for:
NPS Group**

Planning Ref: pre-application

HER: ENF 138289

August 2015

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Contents

<i>Summary</i>	1
Introduction.....	3
Project Background.....	3
Planning Background.....	3
Geology and Topography	5
Geology	5
Topography.....	5
Archaeological and Historical Background	6
Sources.....	6
HER data	6
Previous archaeological investigations	9
Methodology.....	10
General	10
Objectives	10
Methods.....	10
Archive.....	13
Results	14
Archaeological Finds	50
Pottery	50
Brick and Tile	52
Clay Tobacco Pipe.....	54
Glass.....	54
Metal Finds	54
Stone	55
Animal Bone.....	56
Shell	60
Environmental Evidence	61
Discussion	62
<i>Acknowledgements</i>	64
<i>Bibliography and Sources</i>	65
Appendix 1a: Context Summary	68
Appendix 1b: Feature Summary	69
Appendix 2a: Finds by Context	70
Appendix 2b: Finds Summary	71

Appendix 3: Pottery	72
Appendix 4: Brick and Tile	74
Appendix 5: Animal Bone	76
Appendix 6: Environmental Results	79
Appendix 7: Historical Periods	80
Appendix 8: OASIS Report Summary	81
Appendix 9: Archaeological Specification	85

Figures

- Figure 1 Site location with HER data
- Figure 2 Location of trenches
- Figure 3 Trench 1, plan and sections
- Figure 4 Trench 2, plan and sections
- Figure 5 Trench 3, plan and sections
- Figure 6 Trenches 4, 7, 8 and 10, plans and sections
- Figure 7 Trench 5, plan and sections
- Figure 8 Trench 6, plan and section
- Figure 9 Trench 9, plan and sections
- Figure 10 Trench 11, plan and sections
- Figure 11 Trench 12, plan and sections
- Figure 12 Trench 13, plan and sections
- Figure 13 Trench locations in relation to 1st Edition Ordnance Survey map

Plates

- Cover Illustration of horse skull from pit **03** by Julie Curl
- Plate 1 Machining Trench 3, looking south
- Plate 2 Trench 1, pit **39**, looking west
- Plate 3 Trench 1, pit **41**, looking west
- Plate 4 Trench 2, pit **43**, looking northwest
- Plate 5 Trench 5, pit **01**, looking southeast
- Plate 6 Trench 5, horse skeleton in pit **03**, looking southeast
- Plate 7 Trench 5, pit **03**, looking south
- Plate 8 Trench 5, pit **05**, looking south
- Plate 9 Trench 7, pit **31**, looking northeast
- Plate 10 Trench 9, pit **25**, looking west
- Plate 11 Trench 11, pit **33**, looking south
- Plate 12 Trench 13, pits **13** and **64**, looking southwest
- Plate 13 Trench 13, structure **17** and backfill **18**, looking west
- Plate 14 Skull and lower jaw of incomplete equid skeleton from fill **04** of pit **03**
- Plate 15 Equid metatarsal from fill **04** of pit **03**, showing fusing of the carpals to the proximal end of the metatarsal

Tables

Table 1	Site archive quantification
Table 2	Pottery quantities by fabric
Table 3	Pottery fabric distribution by context, with spot dates
Table 4	Brick and tile quantities by form
Table 5	Quantification of the faunal assemblage by context number, date range and weight in grams
Table 6	Quantification of the faunal assemblage by context number, date range number of pieces
Table 7	Quantification of the faunal assemblage by context number, species and NISP

Client:	NPS Group
Location:	Goldsmith Street, Norwich, Norfolk, NR2 4QF
District:	Norwich City Council
Planning Reference:	15/00272/F (pre-application)
Grid Reference:	TG 2211 0916
HER No.:	ENF 138289
OASIS ID:	norfolka1-177627
Dates of Fieldwork:	6–14 July 2015

Summary

NPS Archaeology was commissioned by NPS Group to undertake an archaeological evaluation prior to submission of a planning application to construct more than 100 new dwellings on a plot of land adjacent to Goldsmith Street on the west side of Norwich (TG 2211 0916). The results of the evaluation will be presented in support of the planning application. The proposed development site is 1.1ha in area.

Though the proposed development lays outside the medieval city walls and historic core of Norwich, it is close to the early city suburb of Lower Heigham where evidence of medieval horn-working and tanning has been revealed. It is also 100m north of Dereham Road, which may have a Roman precursor.

Maps from 1842 onwards chart the development of the area from a small suburb known as Greyhound Opening, surrounded by fields, to an area of large scale terraced housing by the late 19th century. A succession of businesses were located at the site, including a timber yard and finally a furniture factory. The site was the location of several public and private air-raid shelters, suffering bomb damage in 1942–3 before being partly cleared in the later 20th century. The Alderman Clarke Care Home, which occupied much of the site, was constructed by 1961 and demolished in 2009, since when the plot has been fenced pending re-development.

The archaeological evaluation consisted of 13 trial trenches designed to sample 5% of the development. Two smaller trial trenches adjacent to Midland Street could not be excavated at this time and do not form part of this report.

The evaluation recorded a 16th-century waste pit in the northeast corner of the site. The pit contained quantities of animal bone, including a horse skeleton, which may point to the tanning activities known to have been carried out in Lower Heigham. Activity represented by this feature may be associated with early suburban growth outside Norwich's medieval city walls.

Features of late 18th–19th-century date identified by the evaluation include waste pits and possible quarry pits, perhaps associated with the 19th-century development of Greyhound Opening.

An, undated pit may be of early origin, though the lack of dating evidence means the possibility this was a Second World War bomb crater cannot be ruled out. Further bomb craters may have been present in the north of the site, though proved difficult to identify with certainty

The paucity of medieval and early post-medieval features may help define the limits of the Lower Heigham suburb northeast of the site, closer to Heigham Street, although the degree of truncation observed across the site—a result of its recent land use and redevelopment through the 20th century—may have destroyed evidence of any prior activity.

INTRODUCTION

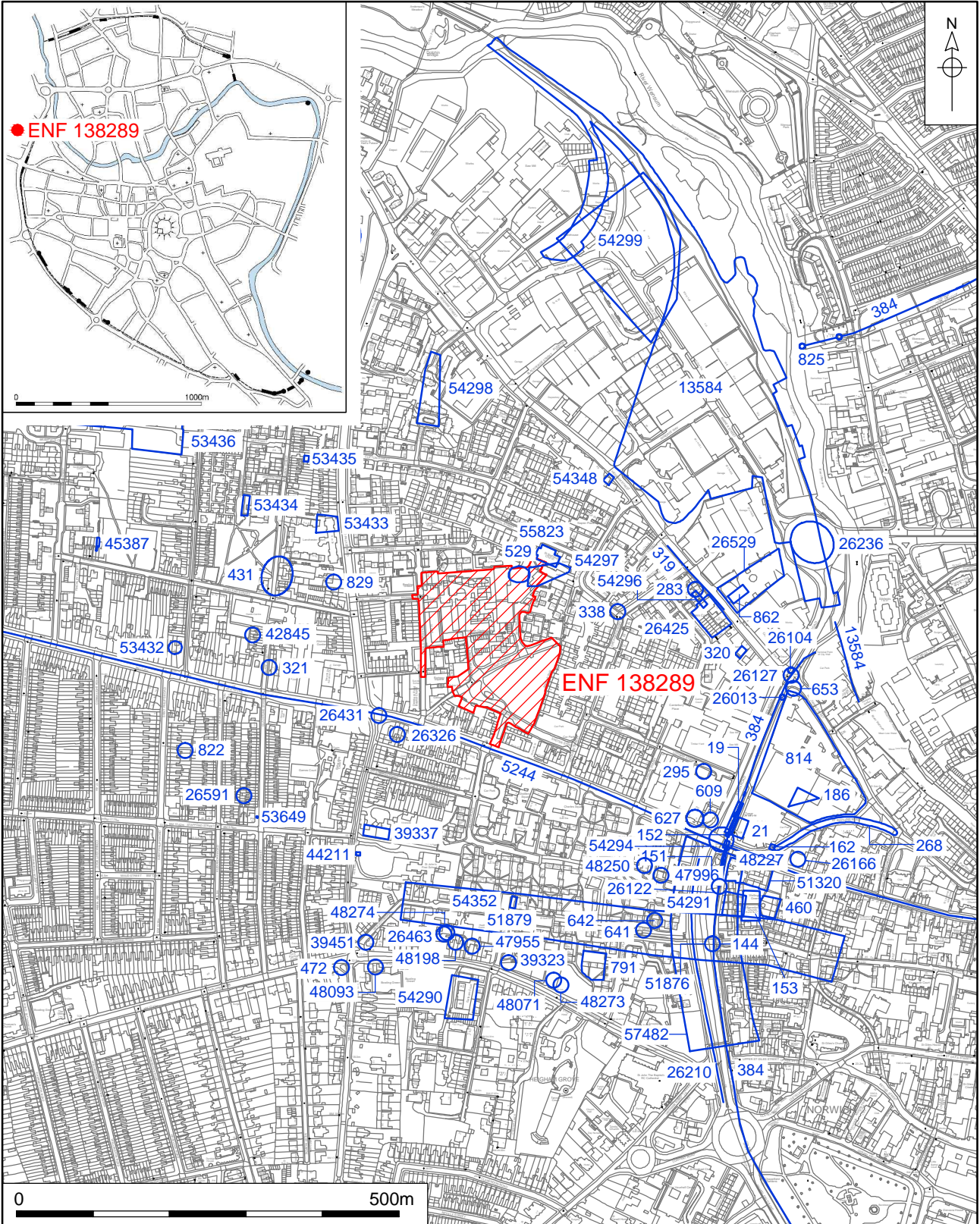
Figure 1

Project Background

- 1 NPS Archaeology was commissioned by NPS Group to conduct an archaeological evaluation at Goldsmith Street, Norwich, NR2 4QF prior to submission of plans to construct more than 100 new dwellings at the site. The work was funded by Norwich City Council.
- 2 The site is located on the east side of Goldsmith Street, which lies on the west side of Norwich between Barn Road (the Inner Ring Road) and Old Palace Road (TG 2211 0916).
- 3 The site encompasses c. 1.10ha. The current project involved excavation of 13 trial trenches, four of which measured 4m² and nine measured 30.00m x 1.80m.
- 4 There have been no previous archaeological investigations at the site, although work 240m away at 12 Heigham Street revealed well-stratified deposits of 15th–17th-century date.

Planning Background

- 5 The current work was undertaken pre-planning application (ref/15/00272/F) and to fulfil a Brief issued by Norfolk County Council Historic Environment Service (NCCHEs) (brief ref/Hamilton 2012/CNF42048). The work was conducted in accordance with a Written Scheme of Investigation prepared by NPS Archaeology (WSI ref/01-04-16-2-1059/Niall Oakey).
- 6 The programme of work was designed to assist in defining the character and extent of any archaeological remains within the proposed development area, following principles set out in *National Planning Policy Framework* (Department for Communities and Local Government 2012).
- 7 The results of the evaluation will enable decisions to be made by the Local Planning Authority about the future treatment of any archaeological remains found.
- 8 The recipients of this report will be NPS Group and their client Norwich City Council, and Norfolk County Council Historic Environment Service.



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Figure 1. Site location with HER data. Scale 1:7500

GEOLOGY AND TOPOGRAPHY

Geology

- 9 The solid geology in the area of the development site consists of Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, and Culver Chalk Formation, sedimentary bedrock which formed approximately 71–94 million years ago in the Cretaceous period in a local environment dominated by warm chalk seas (British Geological Survey 2015).
- 10 The local drift geology consists of river terrace sand and gravel, which formed up to 3 million years ago in the Quaternary period in an environment previously dominated by rivers (British Geological Survey 2015).
- 11 There are no known historical watercourses within the bounds of the site, although the site has been identified as being located on an aquifer, with a high water-table.
- 12 Much of the site was covered by degraded/mixed topsoil (light grey sandy silt), which contained large amounts of brick and other demolition materials (context 49). It ranged in thickness from 0.40–1.00m. Degraded/mixed subsoil, present lower down the depositional sequence, was also disturbed by later events (context 51). The subsoil consisted of light brown sandy silt with occasional dumped items and it was 0.20–0.50m deep. The natural geology was often orange sand and gravel, which became greyer towards the northeast of the site.

Topography

- 13 The site is an irregularly shaped plot of c. 1.10ha, located at the centre of an urban block of land formed by Devonshire Street and Langley Walk to the north, Midland Street and Mancroft Walk to the east, Dereham Road to the south and Goldsmith Street to the west.
- 14 The site is relatively flat (the majority of the site lies between c. 4.00m OD to 4.50m OD), due to a combination of its location on the floodplain of the Wensum River and the successive levelling and surfacing that has accompanied its recent historic development. However, the site does slope downwards slightly in the northeast corner (3.50m OD), at the closest point to the Wensum (375m to the northeast).
- 15 The south part of the site has been clear of buildings since 1989, and the former Alderman Clarke Care Home was demolished in 2009. The site has been vacant and enclosed by hoardings since that time and has developed into a natural space, with many small trees including fast growing sycamores and other shrubs. A large Magnolia tree in the centre-south of the site may be c. 100 years old, and may be an exotic tree planted in the garden of a 19th-century terraced house (small semi-ornamental gardens are shown on Morant's map of Norwich 1873 (Norfolk County Council 2015a))
- 16 The high water-table (visible in the northeast end of Trench 5), the relatively low height above sea level and the aquifer in the underlying geology indicate that the site is subject to poor drainage. This was not an issue during the current work, however, which was undertaken during dry summer weather.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Sources

- 17 The primary source for archaeological evidence in the county of Norfolk is the Norfolk County Council Historic Environment Record (HER), which details archaeological discoveries and sites of historical interest. In order to characterise the likely archaeological potential of the site, HER record data was purchased from NCCHEs for a 500m radius of TG 2211 0912. This exercise returned a number of individual records, including monuments, spot finds and buildings, containing evidence of historical activity spanning the prehistoric–medieval periods.
- 18 Comment in paras 44–5 on the evidence for the post-medieval development of the area surrounding the evaluation site, as indicated by a series of historical maps, is a summary of information provided by the archaeological desk-based assessment of the site (Sillwood 2015).
- 19 A reference table listing dates for historical periods described in this report is provided in Appendix 7.

HER data

Figure 1

- 20 The HER data that is most relevant to the current work is referenced and summarised below, along with details of previous archaeological work in the vicinity. The information presented that is sourced from Norfolk Historic Environment Record remains copyright of NCCHEs.

Prehistoric evidence

- 21 Two prehistoric find spots are recorded in the survey area, a Palaeolithic hand axe (HER 472) and a Late Bronze Age copper-alloy socketed gouge (HER 42845). Each of the finds came from private gardens.

Roman evidence

- 22 Two small collections of Roman coins have been recovered from the survey area. The first comprises three coins of Constantine, dated to c. 330 AD (HER 529), and the second group is of four coins, one of which is also of Constantine (HER 551).
- 23 It is suggested that a Roman road followed the line of modern Dereham Road from Bawburgh to Bishop Bridge in the centre of the city (HER 5244). It has been exposed in places as a chalk or gravel surface and a ditch, surmised to be evidence of the Roman road, shows as a discontinuous crop-mark west of the city.

Anglo-Saxon evidence

- 24 Three records of Anglo-Saxon period activity are recorded in the survey area, although each exists amongst later evidence.
- 25 Close to the edge of the survey area, excavation through the city ditch and St Benedict's Gate found a single 6th-century handmade pot sherd along with two Middle Saxon Ipswich Ware pottery sherds (HER 151).
- 26 Late Saxon remains, including a 10th-11th-century well and timber buildings, were recorded by excavations at 73 St Benedict's Street in 1973 (HER 162). Here, occupation continued into the medieval period.

- 27 Unstratified Late Saxon pottery was recovered during construction of a link road between Westwick Street and St Benedict's Street in 1974 (HER 268).

Medieval evidence

- 28 Due to the expansion of Norwich as a prosperous city in the medieval period, it is not productive to list all of the medieval records for the survey area. Only those of most relevance to the current site are considered here. The medieval record sites are presented in full on Figure 1.
- 29 A pit revealed in a pipe trench at the north end of Midland Road contained approximately twenty horn cores (HER 338). Although undated, the pit is potentially of medieval date.
- 30 A medieval hospital known as St Saviours', Coslany, founded by Richard de Breccles some time before 1297, was thought to be located to the south of the site. There are historical references to a master and brethren in 1305 (HER 26326).
- 31 At 29 Heigham Street, a tannery and other dwellings of 13th–16th-century date were recorded in archaeological excavations (HER 283).
- 32 Further large scale horn-working and medieval deposits, including walls and floors were recorded at 27 Heigham Street/Ely Street alongside other post-medieval remains (Bates 1994) (HER 26425).
- 33 A watching brief at 12–14 Heigham Street recorded medieval wall foundations (HER 26529). Other late medieval activity, including animal carcass processing was documented at 12 Heigham Street by an archaeological evaluation (Wallis 1991) (HER 862).
- 34 Documentary work has indicated that the site lay close to one of the earliest medieval suburbs of Norwich known as Lower Heigham (Penn 2006).

Post-medieval evidence

- 35 As the evaluation site lay close to the centre of post-medieval Norwich, not all of the numerous HER entries for this period are considered as relevant to the current project. The closest and most relevant are described below, whilst all of the post-medieval record sites in the survey area are presented on Figure 1.
- 36 The site of a suicide burial lies at the junction of Dereham Road with Old Palace Road and Heigham Road (HER 26431). The Coroner in 1794 ordered that the body of John Stimpson, a Norwich porter who hanged himself at the Bull Inn, St Stephen's, be buried 'in the crossroads of St Benedict's Road' (Dereham Road was then known alternatively as St Benedict's Road, a name preserved in the street to the east of Barn Road).
- 37 Post-medieval pottery and a number of post-medieval flint walls—representing buildings that fronted the original line of Heigham Street—were observed during excavations in the pavement on Heigham Street (HER 319).
- 38 A Hans Schultes jetton (1550–74), was found in a garden at 49 Old Palace Road (HER 829).
- 39 A piece of late medieval or early post-medieval pottery was found during housing development works on Adelaide Street (HER 431).

- 40 The archaeological work at 12–14 Heigham Street, which contained significant medieval evidence, was also important in showing how tanning and horn-working continued into the post-medieval period. Specifically, a watching brief observed pits containing horn cores dated to the 17th century (HER 26529). Other 19th-century brick walls and wells were also found (Emery 2000).
- 41 A well of probable 19th-century date was discovered in the front garden of 2 Adelaide Street (HER 321).
- 42 A railway line originally operated by the Midland and Great Northern Joint Railway was situated to the northeast of the evaluation site (HER 13584). This line terminated at City Station, was badly damaged in 1942 and closed in 1969.
- 43 The site of St Philip's, a Gothic Revival Church demolished in 1977, is located to the south of the evaluation site. The church was constructed in 1871 by Edward Power.

Post-medieval map evidence

- 44 Post-medieval maps provide an indication of the historical development of the evaluation site and its environs. Faden's map of Norfolk first published in 1797 is not particularly detailed, but does suggest that settlement outside the city walls was still reasonably sparse at this time. Heigham is depicted along with what are now known as Dereham Road, Waterworks Road and possibly Midland Street (Barringer 1989). Bryant's map of Norfolk in 1826 presents a similar street pattern to Faden, with the addition of a mill, depicted at the end of Midland Street (Barringer 1998). The Tithe map of Heigham c. 1840 is the first detailed map to show a small settlement known as Greyhound Opening, extending into the area of the evaluation site (Norfolk County Council 2015b). Goldsmith Street and Portway Place are depicted (though not labelled as such), and the hamlet is surrounded by larger fields and smaller plots.
- 45 The 1st Edition Ordnance Survey map of the 1880s shows that the area had infilled with terraced houses on a gridded network of streets (Norfolk County Council 2015b). Greyhound Opening (which at this time continued further north through the evaluation site) and Goldsmith Street (known as Bailey Street until c. 1900) are lined with terraced houses; indeed the whole area has filled with what appears to predominantly be housing. The east side of the evaluation site is bisected north–south by a long, linear space labelled *Rope Walk* on the 1884–5 Ordnance Survey town plan of Norwich (Old Maps 2015). The City Railway Station and associated railway lines are depicted to the northeast of the evaluation site, running close to the river Wensum.

Second World War and modern evidence

- 46 St Barnabas church, designed by A.J. Lacey and built in 1903, is situated 12m to the northeast of the boundary of the evaluation site (HER 55823).
- 47 Numerous air-raid shelters are recorded across the site, many of which may have been temporary and which have left few obvious remains. A semi-sunken air-raid shelter and a possible air-raid precaution post were located within the northeast boundary of the evaluation site (HER 54297).
- 48 Other evidence from the Second World War lies at least 120m away from the site, and includes air-raid shelters (HER 53433, 53434, 53435, 54290, 54291, 54296, 54298), ARP posts (HER 53438, 53649, 54348, 54352), emergency water tanks for

use in firefighting during air-raids (HER 53432, 53437), bomb sites and craters (HER 53436, 54294), and a barrage balloon site (HER 54299).

- 49 The evaluation site sustained a number of direct bomb strikes during the Second World War (MACC International 2015). The impacts were concentrated in the north of the site (in the area of evaluation Trenches 1–5), but presumably caused significant damage to a wider area.
- 50 An aerial photograph of 1946 (Norfolk County Council 2015b) shows areas cleared of houses, in all probability due to bomb damage, including the south half of Greyhound Opening; the houses here were not rebuilt. It is recorded that on 1 January 1943, a bomb damaged St Barnabas Church, affecting the south wall, the roof and the fine east window. The church schoolroom and a number of houses nearby also suffered from blast damage (Plunkett 2015).
- 51 An aerial photograph of 1988 shows that the development of the Alderman Clarke Care Home (bungalows, flats and houses) had taken place (Norfolk County Council 2015b). The buildings were demolished in 2009.

Previous archaeological investigations

- 52 No archaeological investigations have been undertaken previously at the site. An archaeological desk-based assessment was carried out in 2015 prior to the current work (Sillwood 2015).

METHODOLOGY

Figure 2

General

- 53 Methodology for the evaluation followed the agreed NPS Archaeology Written Scheme of Investigation (01-04-16-2-1059/Oakey 2015), where the mitigation strategy for the works is presented in full (Appendix 9).
- 54 Archaeological procedures conformed to guidelines issued by the Chartered Institute for Archaeologists (CIfA 2014a) and the evaluation was conducted within the context of the relevant regional archaeological framework (Medlycott 2011).

Objectives

- 55 The objective of the evaluation was to determine as far as reasonably possible the presence or absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.
- 56 The archaeological project aimed to provide appropriate and adequate data to permit informed decisions regarding any requirement for future archaeological mitigation work at Goldsmith Street, and to make the results of the work accessible.

Methods

- 57 The Brief required that 5% of the site be sample excavated by trial trenches. Trenches were situated according to the agreed plan (01-04-16-2-1059/Oakey 2015) and located in relation to the Ordnance Survey National Grid. Survey of the trenches was carried out by NPS Land Survey using a Leica GPS 900 device.
- 58 As the site may have sustained bomb strikes during World War Two an unexploded ordnance desk-top study was prepared by MACC International (2015). Prior to opening trenches, a site briefing was conducted by MACC in order that NPS Archaeology staff would be able to recognise any potential ordnance.
- 59 Due to a thick layer of concrete, Trenches 8 and 10 were re-located following discussion between NPS and NPS Archaeology. The location of Trench 12, constrained by garages situated at the southeast corner of the site and a large magnolia tree at the centre-south of the site, was excavated in an L-shape, and slightly shortened to fit the space available. Trenches 2 and 13 were moved slightly to the north due to the presence of larger trees and a brick wall. Trench 2 was shortened due to a tree at its east end.
- 60 Prior to mechanical excavation, each trench location was scanned with a CAT to check for buried services. There were numerous services present on the site, although none of those identified were in-use or live. The areas to be stripped were examined for surface features and for archaeological artefacts prior to excavation.
- 61 Machine excavation was carried out by an 8-tonne hydraulic 360° excavator equipped with a toothless ditching bucket. All mechanical excavation was constantly and directly monitored by a suitably experienced archaeologist. Machining was halted at the first identifiable archaeological deposits or natural geology. The machining was made particularly difficult due to the presence of thick concrete foundations and surfaces.

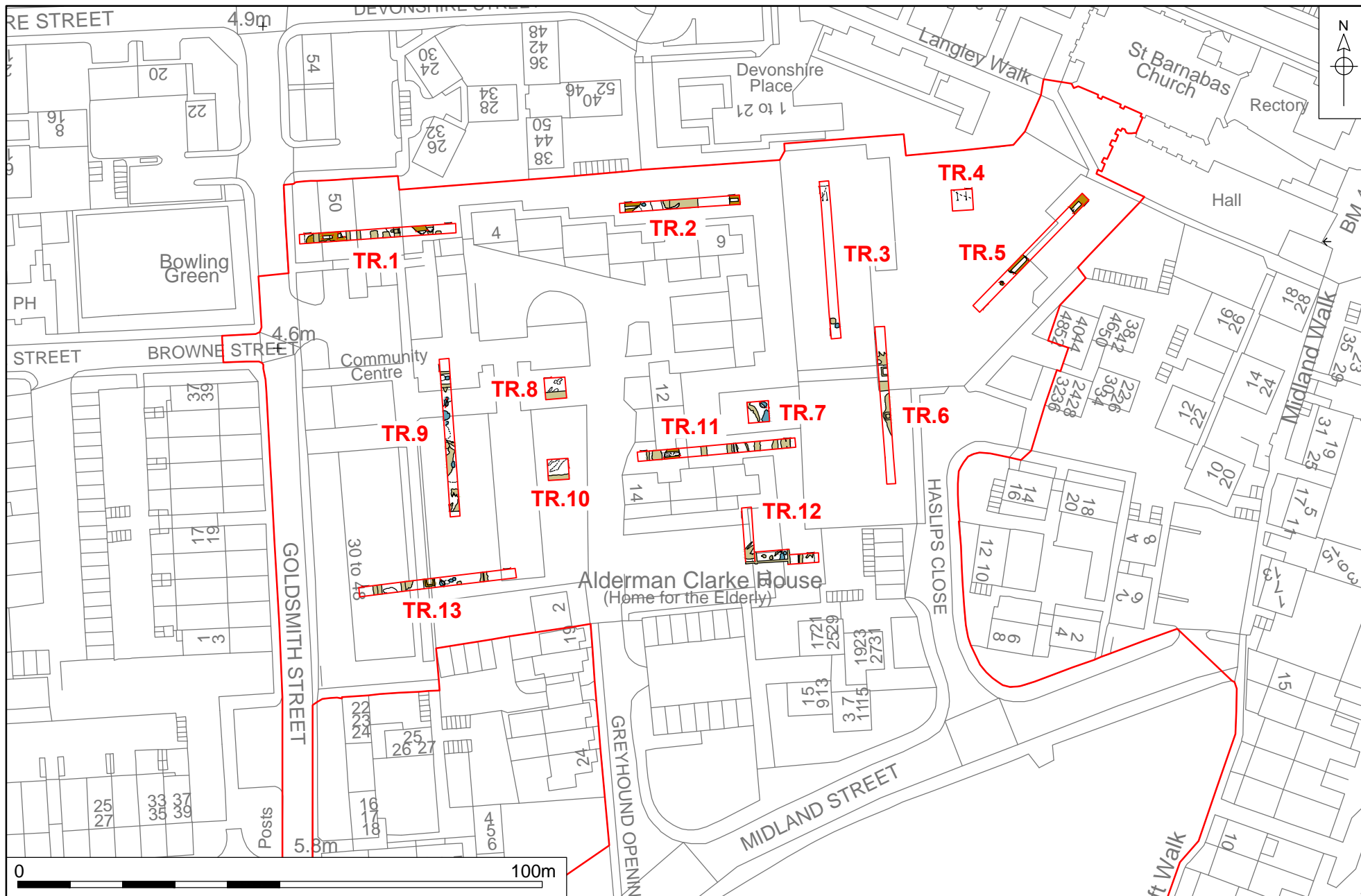


Figure 2. Location of trenches. Scale 1:1000



Plate 1. Machining Trench 3, looking south

- 62** As the site had a secure wooden hording around its perimeter, individual trenches were fenced-off using Netlon high visibility mesh fencing as detailed in the NPS Archaeology Written Scheme of Investigation (01-04-16-2-1059/Oakey 2015).
- 63** All trench surfaces revealed by machine were hand-cleaned and any archaeological deposits were excavated by hand. Upon completion of the work all trenches were backfilled by machine. Any removed concrete fragments were left stockpiled to the side of the trenches with permission and in line with usual practice.
- 64** Spoil, exposed surfaces and features were scanned with a metal-detector. All metal-detected and hand-collected finds, other than those that were evidently modern, were retained for examination. All retained finds were identified by context number to a specific deposit and were processed and recorded in line with relevant guidelines for archaeological finds (CIfA 2014b).
- 65** Authorisation was given by NCCHEs to excavate a minimum of 10% of the obviously late 19th-century waste pits revealed in the trenches. By the end of the work, 20% of the pits were excavated. Pottery and other finds were collected from the top of some unexcavated pits.
- 66** All archaeological features and deposits were recorded using NPS Archaeology pro forma. Trench locations, plans and sections were recorded at appropriate scales. Black-and-white 35mm negatives and digital photographs were taken of all relevant archaeological features and deposits where appropriate.
- 67** Accurate survey points at either end of the evaluation trenches provided temporary benchmarks during the course of the fieldwork.
- 68** Site conditions were good and the work took place in fine weather.
- 69** All site work was undertaken with respect to Health and Safety provision. Hard hats, high-visibility vests and steel toe-capped boots were worn by all staff at all times. Gloves and long sleeves were also worn due to the possibility of unknown contaminants on the site, particularly as the site once housed a timber yard. Arsenic and other hazardous chemicals are known to have been used in this industry.

- 70 Surfaces of all types associated with the 20th-century buildings that formerly occupied the site were allocated context **47**, irrespective of whether they were brick, concrete or tarmac. Similarly, layers of crushed brick, levelling deposits, or surface preparations, which always occurred beneath the surfacing were allocated context **48**. The crushed layers of building materials probably derived from demolished 19th- or 20th-century buildings. Two further layers appeared consistently across the site: mixed topsoil **49** (generally greyer in tone), and subsoil **51** (generally browner in tone), both of which had been disturbed to a large degree by late post-medieval/modern events.


Archive

- 71 The site archive is currently held at the offices of NPS Archaeology. Upon completion of the project, the documentary archive will be prepared and indexed following guidelines obtained from the relevant Museum and relevant national guidelines (ClfA 2014c). The archive, consisting of all paper elements created during recording of the archaeological site, including digital material, will be deposited with Norfolk Museums Service.
- 72 Subject to written consent and donation by the landowner, all archaeological finds recovered by the current work will be deposited with Norfolk Museums Service.
- 73 A summary form of the results of this project has been completed for Online Access to the Index of archaeological investigations (OASIS) under the reference norfolka1-177627. (Appendix 8), and this report will be uploaded to the OASIS database.
- 74 The contents of the site archive is summarised in Table 1.

Item	No.
Contexts	65
Files/paper record sheets	1/18
Plan and section sheets	7
Photographs	2 monochrome films 107 digital images
Finds	604

Table 1. Site archive quantification

RESULTS

Trench 1				
		Figures 2, 3; Plates 2, 3		
		Location		
		Orientation	East–west	
		East end	622064 309203	
		West end	622034 309201	
		Dimensions		
		Length	30.00m	
		Width	1.80m	
		Max depth	1.20m	
		Levels		
East top	4.28m OD			
West top	4.81m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
39	Cut	Large pit	0.80m	1.20–2.00m
40	Deposit	Fill of pit 39	0.00m	1.20–2.00m (whole feature)
41	Cut	Large pit	0.50m	1.20–1.70m
42	Deposit	Fill of pit 42	0.50m	1.20–1.70m
48	Deposit	Demolition	0.50m	0.10–0.60m
49	Deposit	Topsoil (mixed)	0.40m	0.10–0.50m
51	Deposit	Subsoil (mixed)	0.60m	0.60–1.20m
56	Deposit	Turf and recent garden soil	0.10m	0.00–0.10m
57	Deposit	Fill of pit 39	0.80m	1.20–2.00m (whole feature)
58	Deposit	Fill of pit 39	0.80m	1.20–2.00m (whole feature)
59	Deposit	Fill of pit 39	0.80m	1.20–2.00m (whole feature)
60	Deposit	Fill of pit 39	0.80m	1.20–2.00m (whole feature)
61	Deposit	Natural geology	Unknown	1.20m–
Discussion				
Two large pits were identified in Trench 1, both of which may have represented 19th-century quarry pits.				
Other, later features in the trench were not context-recorded due to their obviously modern date. Later features included two concrete foundations, two drain cuts, three largely rubble-filled pits,				

Trench 1

and two patches of 'scarring', which were created by demolition or construction of either 19th- or 20th-century buildings.

At the top of the sequence of machined deposits there was a turf layer consisting of dark brown humic slightly sandy silt **56**, 0.10m thick. A layer of crushed brick and mortar **48** was present in the west half of the trench, but not in the east, probably derived from the demolition of terraced houses in the 20th century. Towards the top of the sequence at the east end of the trench there was a light grey gritty sandy silt **49**, which contained moderate amounts of brick fragments and other dumped items. This probably represented a modern reworking of the pre-existing topsoil. On average this material was 0.50m thick. At the base of the machined deposits was a light brown sandy silt **51** with occasional fragments of brick and other dumped items. This represented a subsoil, mixed with demolition materials from post-19th century development.

Pit **39** at the west end of Trench 1 had no stratigraphic relationship with any other features and was irregular in plan. It was at least 1.80m north–south by 7.59m east–west and extended beyond the limit of the trench. It was excavated from the base of the trench down a further 0.80m. The feature was augered an additional 1.00m. A 'step' was created at the east side of the pit to allow safe access during excavation. The upper part of the east edge of the feature was steep and regular. The base and west edge were not seen. Five fills **57, 58, 40, 59, 60** were recorded in the pit. The earliest fill **57** consisted of a 0.30m-thick layer of mid-greyish brown sandy silt. It was overlain by re-deposited orange sand and gravel **58**, which was 0.30m thick. Both of these layers extended beyond the limit of excavation reached at the base of the pit. In the middle of the sequence, a 0.30m thick layer of mid grey sandy silt **40** was recorded. It contained a small part of a 19th-century clay pipe stem. Above **40** there was a further light brown silty sand **59**, which was 0.10m thick on average, but became thicker towards the west end of the pit. At the top of the fill sequence was mid grey sandy silt **60**, which was c. 0.30m thick. All of the deposits were considered to be deliberately deposited into the large pit.

Pit **41** was situated towards the east end of Trench 1. It was sub-square in plan and extended beyond the north side of the trench. Its observed extent was at least 1.80m north– south x 3.20m east–west. The pit was 0.48m deep and was truncated by a recent feature on its east side, which due to its recent date was not allotted a context number. The fill **41** contained no dating evidence, but did contain occasional very small brick fragments (not recovered). It consisted of dark brown sandy silt, which was thought most likely to have been deposited intentionally.

The natural geology **61** exposed at the base of Trench 1 was orange sand and gravel.

Trench 1



Plate 2. Trench 1, pit 39, looking west



Plate 3. Trench 1, pit 41, looking west

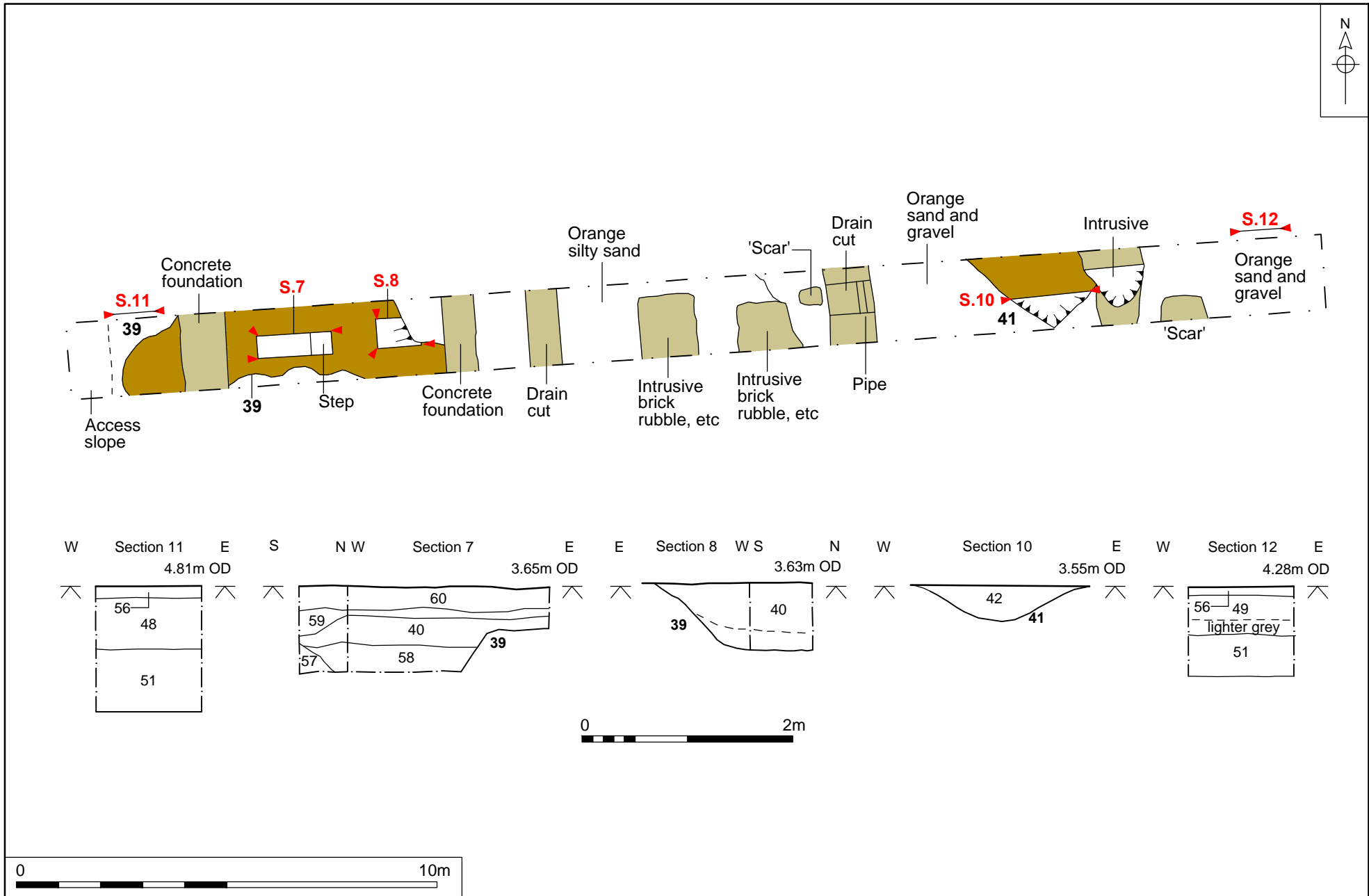



Figure 3. Trench 1, plan and sections. Scale 1:125 and 1:50

Trench 2				
		Figures 2, 4; Plate 4		
		Location		
		Orientation	East–west	
		East end	622118 309209	
		West end	622095 309207	
		Dimensions		
		Length	23.00m	
		Width	1.80m	
		Average depth	1.14m	
		Levels		
East top	4.09m OD			
West top	4.23m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
43	Cut	Pit	0.50m	1.14–1.64m
44	Deposit	Fill of pit 43	0.50m	1.14–1.64m
45	Cut	Pit (unexcavated)	Unknown	1.14m–
46	Deposit	Fill of pit 45	Unknown	1.14m–
48	Deposit	Topsoil (mixed)	Average 0.50m	0.40–0.90m
51	Deposit	Subsoil (mixed)	Average 0.24m	0.90–1.14m
55	Deposit	Deposit	0.30m	1.14–1.44m
56	Deposit	Turf and recent garden soil	Max 0.40m	0.00–0.40m
61	Deposit	Natural geology	Unknown	1.14m–
Discussion				
<p>Two pits were located in Trench 2. Pit 43 probably represented 19th-century quarrying, whereas 45 was a small 19th-century waste pit, probably located in the back plot of a property. A thick layer of subsoil 55 at the east end of the trench extended deeper than 1.20m safe working depth, so no hand excavation took place at this point.</p> <p>Near the centre of the trench was an area of intrusive ‘scaring’ resulting from demolition/construction of 19th- or 20th-century buildings. No context number was allotted to this event due to its recent date.</p> <p>At the top of the sequence of machined deposits there was a well-established turf layer 56 of dark brown humic slightly sandy silt. It ranged from 0.20m to 0.40m thick, being thicker to the west. It is worth noting that there was no layer of crushed rubble, demolition or preparation layers 48 in the depositional sequence at this point. Towards the top of the sequence there was a light grey to light brown sandy silt deposit 49, which contained moderate amounts of brick fragments and other dumped material, and which was noticeably darker towards its base. The deposit was probably an extensively mixed and degraded form of the original topsoil. It measured 0.50–0.70m thick. At the base of the machined deposits there was a light greyish brown sandy silt deposit 51 with</p>				

Trench 2

occasional fragments of brick and other dumped material, flecked with chalk to the west. Chalk in the vicinity may have been disturbed by deeper quarrying activities. Deposit **51** represented an original subsoil, heavily contaminated by demolition materials from the 19th century and subsequent events.

Pit **43** was situated towards the west end of Trench 2. It was irregular in plan and did not intersect with any other features. It extended at least 1.80m north–south and 4.00m east–west, extending beyond the trench sides and west end. It was excavated from the base of the trench down a further 0.50m. Fragments of frogged brick were seen in the fill **44** and due to its evidently recent date the base of the feature was not excavated nor located by auger. The east edge of the feature was regular and concave, though its west edge was not observed. The pit fill **44** consisted of a 0.50m-thick layer of light brown silty sand, which extended deeper than the excavated level. The pit appeared to have been deliberately backfilled. Late 18th–20th century pottery was recovered from the fill.

Pit **45** was located less than 1.00m east from pit **43**. This pit was oval in plan with an observed extent was at least 0.70m east–west and 0.59m north–south. The pit was 0.48m deep. The fill **46** contained moderate small fragments of brick, tile, glass, metal and other typical 19th-century waste items in gritty, dark grey sandy silt that had been dumped into the pit.

The lower subsoil **55** at the east end of the trench consisted of light brown sandy silt, 0.30m thick.

The natural geology **61** at the base of Trench 2 was generally orange sand and gravel, although this took on a greyer hue to the west.



Plate 4. Trench 2, pit **43**, looking northwest

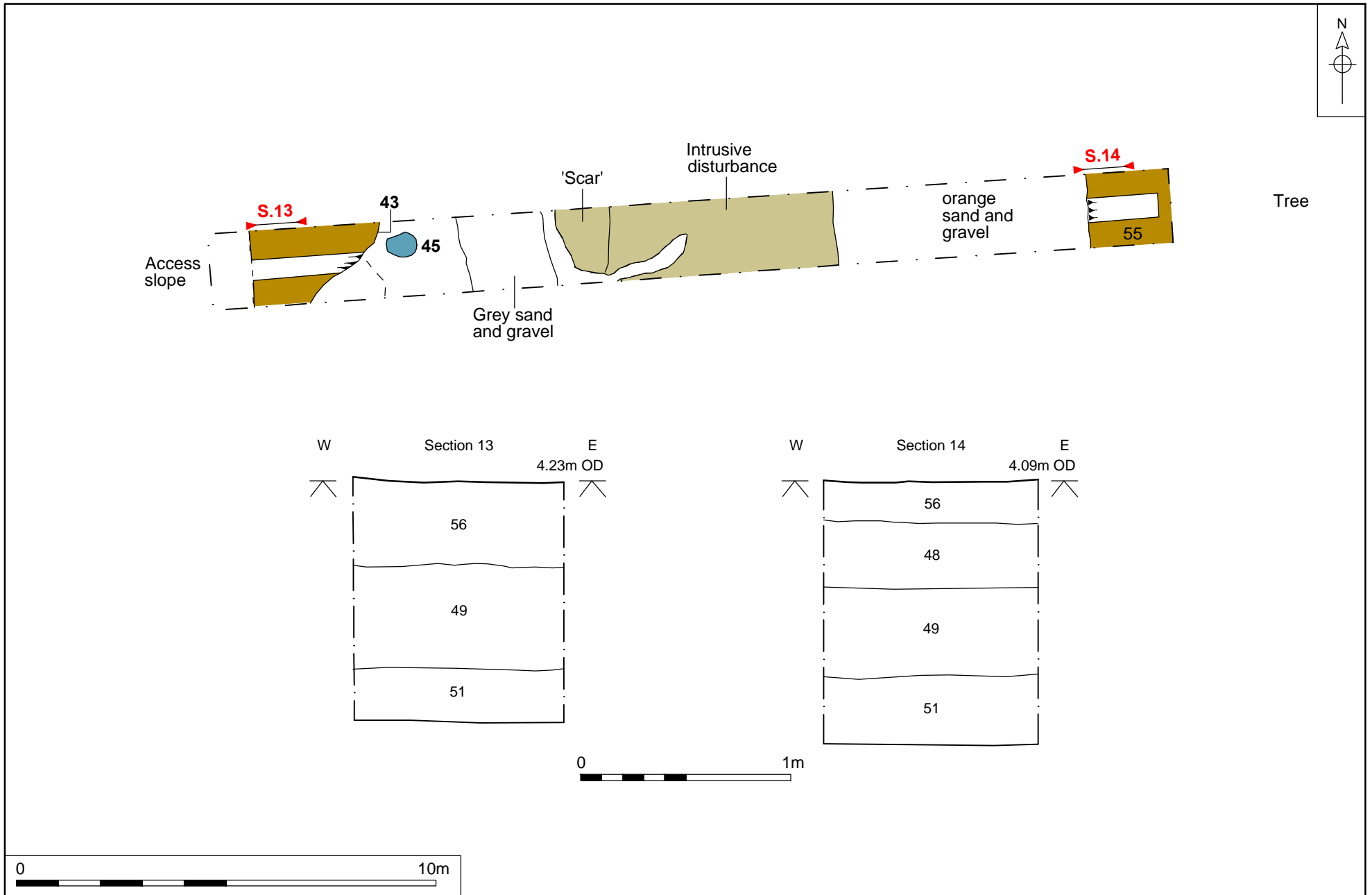



Figure 4. Trench 2, plan and sections. Scale 1:125 and 1:25

Trench 3				
		Figures 2, 5		
		Location		
		Orientation	North–south	
		North end	622134 309212	
		South end	622136 309182	
		Dimensions		
		Length	30.00m	
		Width	1.80m	
		Max depth	1.30m	
Levels				
North top	3.58m OD			
South top	3.57m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
37	Cut	Waste pit	Unknown	0.85m–
38	Deposit	Fill of pit 37	Unknown	0.85m–
47	Deposit	Concrete surface	0.20m	0.00–0.20m
48	Deposit	Surface preparation	0.10m	0.20–0.30m
49	Deposit	Topsoil (mixed)	Max 0.20m	0.30–0.50m
51	Deposit	Subsoil (mixed)	Max 0.80m	0.50–1.30m
61	Deposit	Natural geology	Unknown	1.30m–
Discussion				
<p>A small 19th-century waste pit was located towards the south end of Trench 3, but was not excavated. An intrusive feature (not context-recorded), observed near to the south end of the trench, was probably created by the demolition of 19th- or 20th-century buildings.</p> <p>At the top of the sequence of machined deposits there was a thick concrete surface 47. It was 0.20m thick along the full length of the evaluation trench. There was a preparation material 48 for the concrete, consistently 0.10m thick and consisting of crushed brick at the south end and hoggin at the north end. Below this was mid-grey gritty and sandy silt 49, which contained moderate amounts of brick fragments and other dumped materials. This was probably a mixed form of the pre-existing topsoil. It was 0.20m thick on average, but thinned to 0.16m to the south. At the base of the machined deposits, a deposit of mid-brown sandy silt 51 contained occasional fragments of brick and other dumped items. This represented an original subsoil, heavily contaminated by demolition materials from the 19th century and subsequent developments. It was 0.40m thick to the south and 0.80m towards the north, where the natural geology was seen to dip away.</p> <p>Pit 37 was located at the south end of Trench 1. It was more-or-less square in plan and extended 0.81m north–south x 0.77m east–west. It was not excavated. The fill 38 contained moderate small fragments of brick, tile, glass, metal and other typical 19th-century waste items in gritty, dark grey sandy silt dumped into the pit. Late 18th–19th century pottery was recovered from the fill.</p>				

Trench 3

The natural geology **61** at the base of Trench 3 was silvery grey sand and gravel. Geological deposits dipped away towards the north and, where a little of subsoil deposit **51** was still present at the base of the trench, a small sondage was hand-dug through it to confirm this was a natural slope.

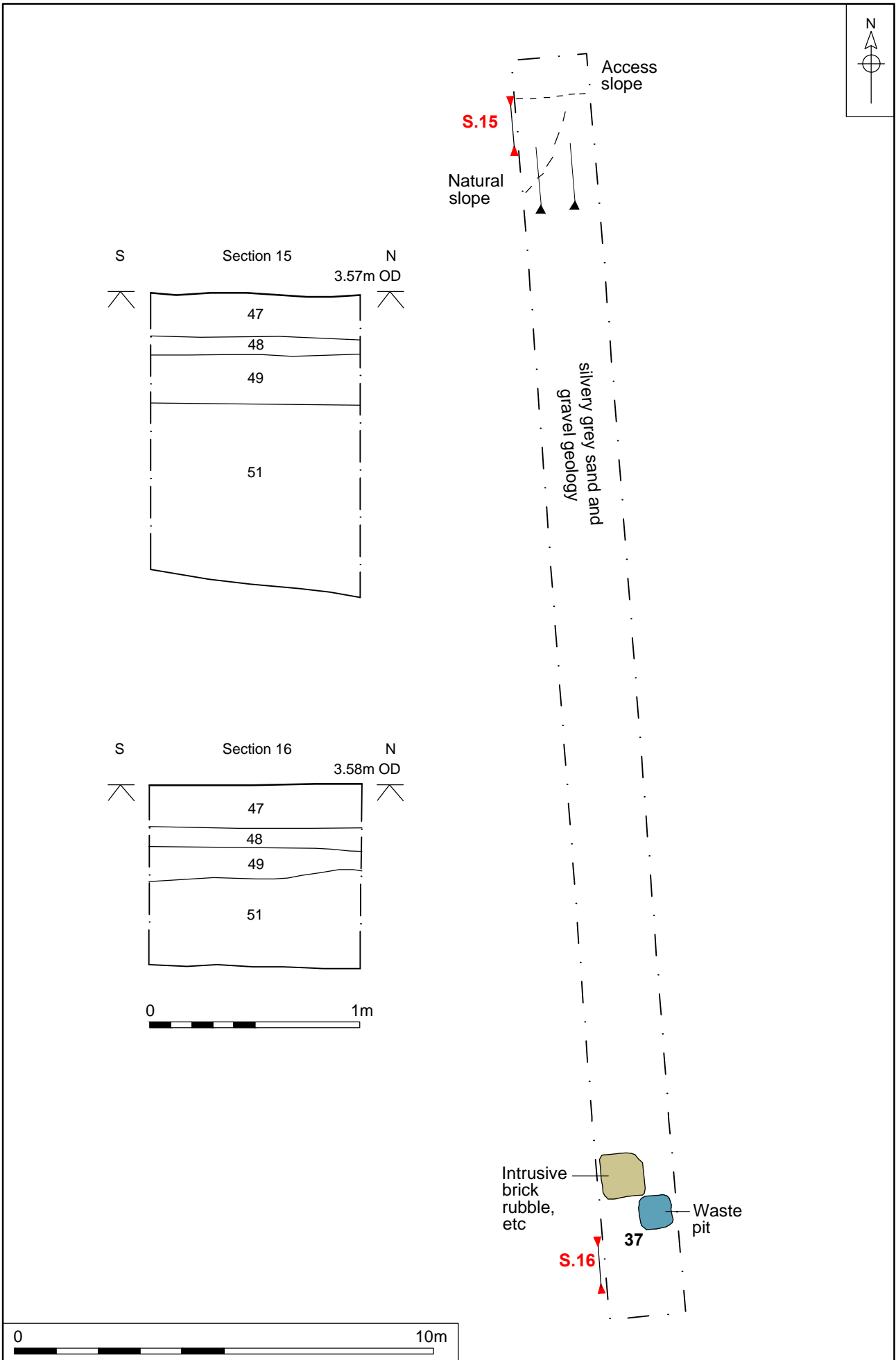



Figure 5. Trench 3, plan and sections. Scale 1:125 and 1:25

Trench 4				
			Figures 2, 6	
			Location	
			Orientation	–
			East end	622162 309209
			West end	622158 309209
			Dimensions	
			Length	4.00m
			Width	4.00m
Levels				
East top	3.38m OD			
West top	3.38m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
47	Deposit	Tarmac surface	0.14m	0.00–0.14m
48	Deposit	Surface preparation	0.14m	0.14–0.28m
49	Deposit	Topsoil (mixed)	0.92m	0.28–1.20m
61	Deposit	Natural geology	Unknown	1.20m–
Discussion				
<p>There were no archaeological features in Trench 4 and no finds were recovered.</p> <p>At the top of the sequence of machined deposits there was a 0.14m-thick tarmac surface 47 situated above a 0.14m-thick layer of crushed brick 48 preparation, which was possibly material derived from the demolition of 19th-century houses in the vicinity. Below deposit 48 there was a light grey gritty sandy silt 49, which contained moderate amounts of brick fragments and other dumped materials. The layer was probably an extensively mixed form of the original topsoil. Mixed topsoil 49 was 0.92m thick.</p> <p>The natural geology 61 at the base of Trench 4 was brown-stained sand and gravel. The geological deposits dipped away towards the north in the north part of the trench. Where a little of topsoil deposit 49 remained on the base of the trench, a small sondage was dug through it by hand to confirm the natural slope.</p>				

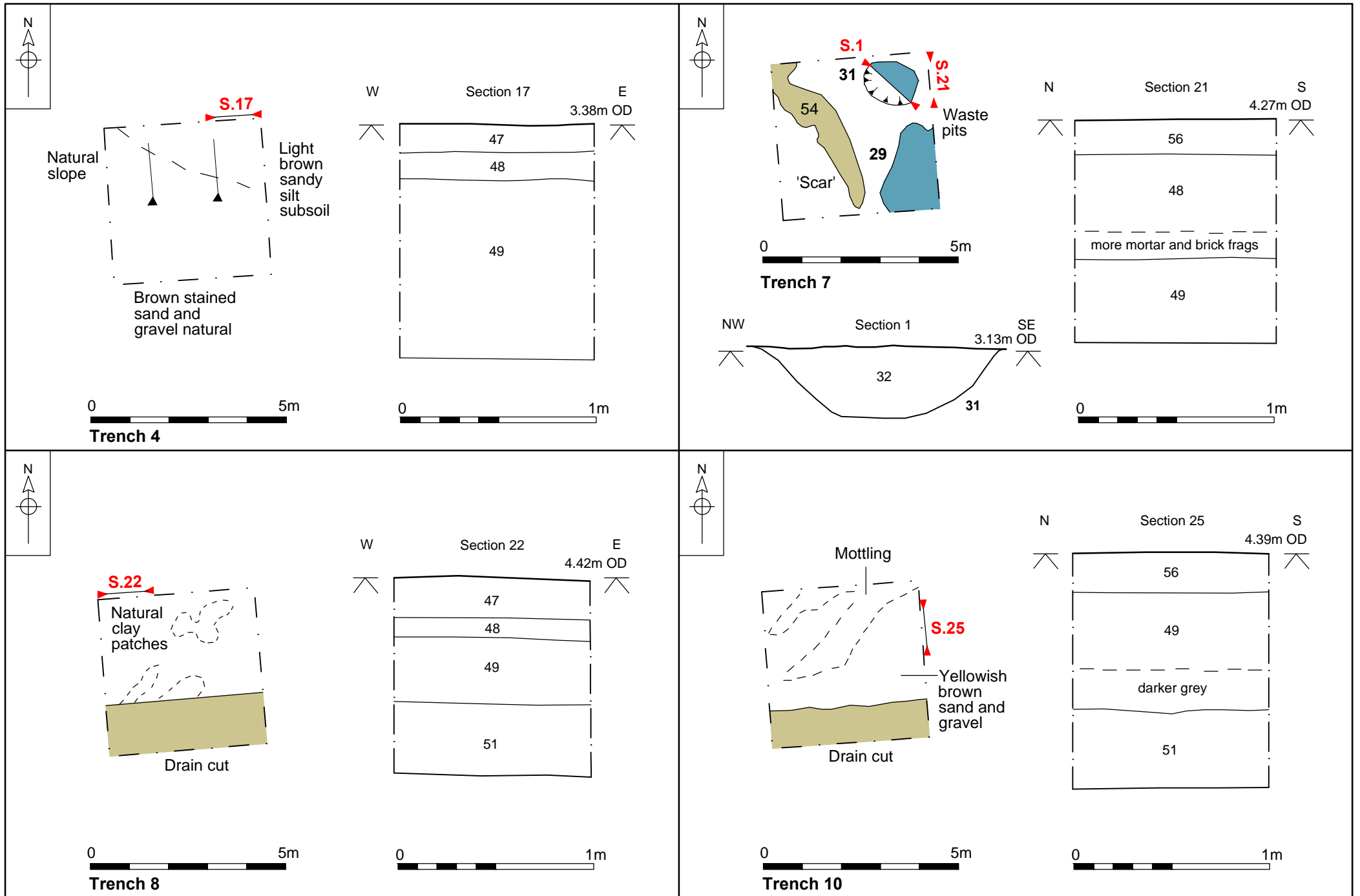



Figure 6. Trenches 4, 7, 8 and 10, plans and sections. Scale 1:125 and 1:25

Trench 5				
	Figures 2, 7; Plate 5, 6, 7, 8			
	Location			
	Orientation	Northeast–southwest		
	Northeast end	622184 309209		
	Southwest end	622163 309188		
	Dimensions			
	Length	30.00m		
	Width	1.80m		
	Average depth	0.94m		
	Levels			
Northeast top	3.49m OD			
Southwest top	3.32m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
01	Cut	Pit	1.00m excavated	0.94–1.94m
02	Deposit	Fill of pit 01	1.00m excavated	0.94–1.94m (whole feature)
03	Cut	Pit	0.52m	0.94–1.46m
04	Deposit	Fill of pit 03	0.52m	0.94–1.46m (whole feature)
05	Cut	Pit or post-hole	0.24m	0.94–1.18m (whole feature)
06	Deposit	Fill of pit or post-hole 05	0.24m	0.94–1.18m (whole feature)
47	Deposit	Tarmac and concrete surface	Max 0.24m	0.00–0.24m
48	Deposit	Surface preparation	Max 0.08m	0.24–0.32m
49	Deposit	Topsoil (mixed)	0.62m	0.62–0.94m
61	Deposit	Natural geology	Unknown	0.94m–
62	Deposit	Fill of pit 01	1.00m excavated	0.94–1.94m (whole feature)
63	Deposit	Fill of pit 01	1.00m excavated	0.94–1.94m (whole feature)
64	Deposit	Fill of pit 03	0.52m	0.94–1.46m (whole feature)
65	Deposit	Fill of pit 03	0.52m	0.94–1.46m (whole feature)
Discussion				
Two large pits and a smaller pit or possible post-hole were recorded in Trench 5.				

Trench 5

An area of 'scarring' near the north end of the trench was probably created by building works or the demolition of 19th- or 20th-century buildings. It was not allocated a context number.

A 0.04m-thick concrete surface at the north end of Trench 5 and a 0.24m-thick tarmac surface at the south end were machined off and recorded by the same context **47**. A layer of crushed brick preparation **48** present below this concrete was absent to the south. Deposit **48** may have been derived from the demolition of 19th-century houses at the site. Beneath **48** there was a light grey gritty sandy silt deposit **49**, which contained moderate amounts of brick fragments and other dumped materials. Deposit **49** was 0.34–0.62m thick (thicker to the north) and was probably a mixed and disturbed form of the pre-existing topsoil.

Pit **01** was situated at the northeast end of Trench 5. It had no relationships with any other features and its shape could not be determined as it extended beyond the edges of the excavation. The pit lacked dating material and so could be of any period, including the 1940s (see below). This feature extended at least 1.80m east–west and at least 3.60m north–south, and also lay beyond the limits of the evaluation trench. It was excavated to the water-table at 1.00m depth and augered a further 0.60m to its base. The pit's southwest edge was almost vertical and regular and its base, where observed, appeared to be slightly concave. The earliest of three fills in the pit **63**, consisted of orangey grey sandy silt mixed with orange sand and gravel, 0.70m thick. Fill **63** was located at the southwest edge of the feature and was below mid-grey sandy silt **62**, which contained occasional small flints. Deposit **62** was at least 0.70m thick and both **62** and **63** extended beneath the hand-excavated depth. The upper fill was a 0.24m-thick deposit of light grey sandy silt with frequent gravel **02**. All of the deposits were thought to be backfilled into the large pit. Although the absence of modern finds may count against such an interpretation, it is noted from the research into potential ordnance at the site that a Second World War bomb fell in very close proximity to the northeast end of Trench 5 (MACC International 2015). It is therefore plausible that pit **01** may be part of an infilled crater resulting from a bomb blast.

Pit **03** was situated 12.50m southwest of pit **01**. It could not be seen completely in plan and extended beyond both sides of the trench. Its observed extent was 4.18m northeast–southwest and 1.80m (the width of the trench) northwest–southeast. The pit was 0.54m deep and its sides were concave and its base almost flat. The earliest of three fills, **65**, consisted of a 0.24m-thick deposit of mid-greyish brown sandy silt on the northeast edge. It was recorded below mid-grey sandy silt **05**, which contained most of the finds recovered from the pit, including horse and cattle bones and a quantity of pottery. Deposit **05** was at least 0.50m thick. The upper fill **64** was a 0.30m-thick layer of mid-brown sandy silt. All of the deposits were considered to be dumped into pit **03**. An environmental sample taken from fill **04** indicated that waste, including culinary detritus from a domestic hearth had also been deposited in the pit. The pit contained sherds of 10th–11th-century pottery, but this is considered residual material, the bulk of the ceramic finds being dated to the 15th–16th-century. Fragments of later brick, roof and floor tile found in the feature may be either intrusive or suggest that it dates even later than the 16th century, whilst the presence of the earlier ceramics may indicate previously unidentified earlier activity in the near vicinity of the evaluation site.

A small pit or possible post-hole **05** was situated towards the southwest end of Trench 5 and was approximately square. The feature measured 0.69m northwest–southeast x 0.62m northeast–southwest. Its sides were steep and regular and its base flat. Its dumped fill **06** consisted of dark grey sandy silt with small fragments of 19th-century brick (not retained).

The natural geology **61** at the base of the trench was silvery grey sand and gravel. The geological deposits dipped to the northeast.

Trench 5



Plate 5. Trench 5, pit **01**, looking southeast



Plate 6. Trench 5, horse skeleton in pit **03**, looking southeast

Trench 5



Plate 7. Trench 5, pit **03**, looking south



Plate 8. Trench 5, pit **05**, looking south

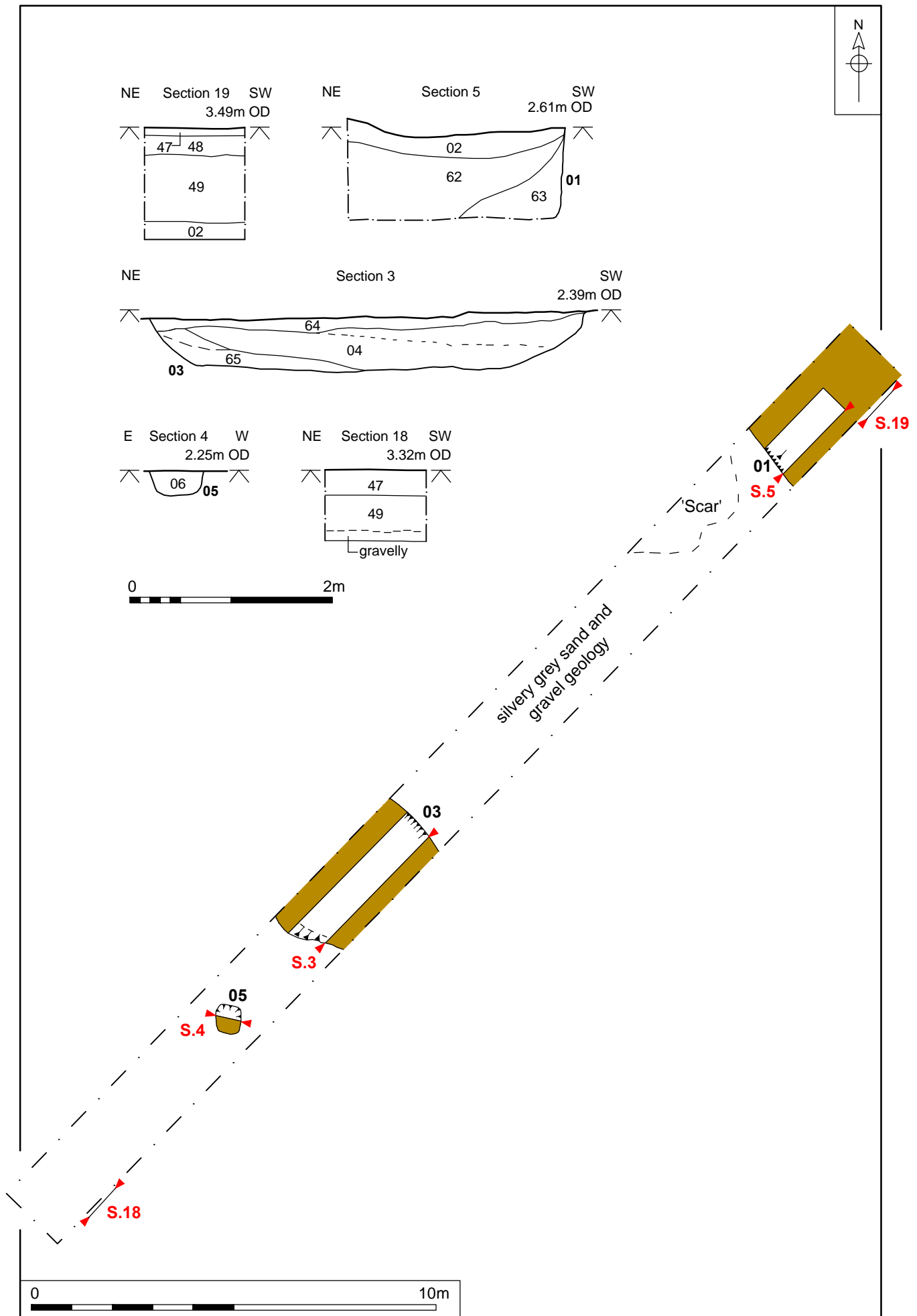


Figure 7. Trench 5, plan and sections. Scale 1:125 and 1:50

Trench 6



Figures 2, 8

Location

Orientation North–south

North end 622145 309185

South end 622147 309154

Dimensions

Length 30.00m

Width 1.80m

Average depth 1.10m

Levels

North top 3.54m OD

South top 4.08m OD

Context	Type	Description and Interpretation	Thickness	Depth BGL
47	Deposit	Concrete surface	Max 0.16m	0.00–0.16m
48	Deposit	Surface preparation	Max 0.12m	0.24–0.28m
49	Deposit	Topsoil (mixed)	0.38m	0.28–0.66m
51	Deposit	Subsoil (mixed)	0.44m	0.66–1.10m
61	Deposit	Natural geology	Unknown	1.10m–

Discussion

No archaeological features were identified in Trench 6 and no finds were recovered.

A number of modern features were not allotted contexts due to their 20th-century date. The modern features included a concrete foundation, a drain cut and associated access chamber/manhole. An area of ‘scarring’ was probably created by demolition or construction of 19th- or 20th-century buildings.

At the top of the sequence of machined deposits there was a 0.16m-thick concrete surface **47**. A 0.12m-thick layer of crushed brick preparation **48** beneath the concrete may have derived from demolition of 19th-century houses. At the east end of the trench, mid-grey gritty sandy silt **49** contained moderate amounts of brick fragments and other dumped items, and was considered to be an extensively disturbed pre-existing topsoil. It typically measured 0.38m deep. At the base of the machined deposits there was a lighter mid-brown sandy silt deposit **51** with occasional fragments of brick and other dumped material. It was thought that deposit **51** represented subsoil contaminated with demolition materials from 19th-century and subsequent developments.

The natural geology **61** at the base of Trench 6 was orange sand and gravel.

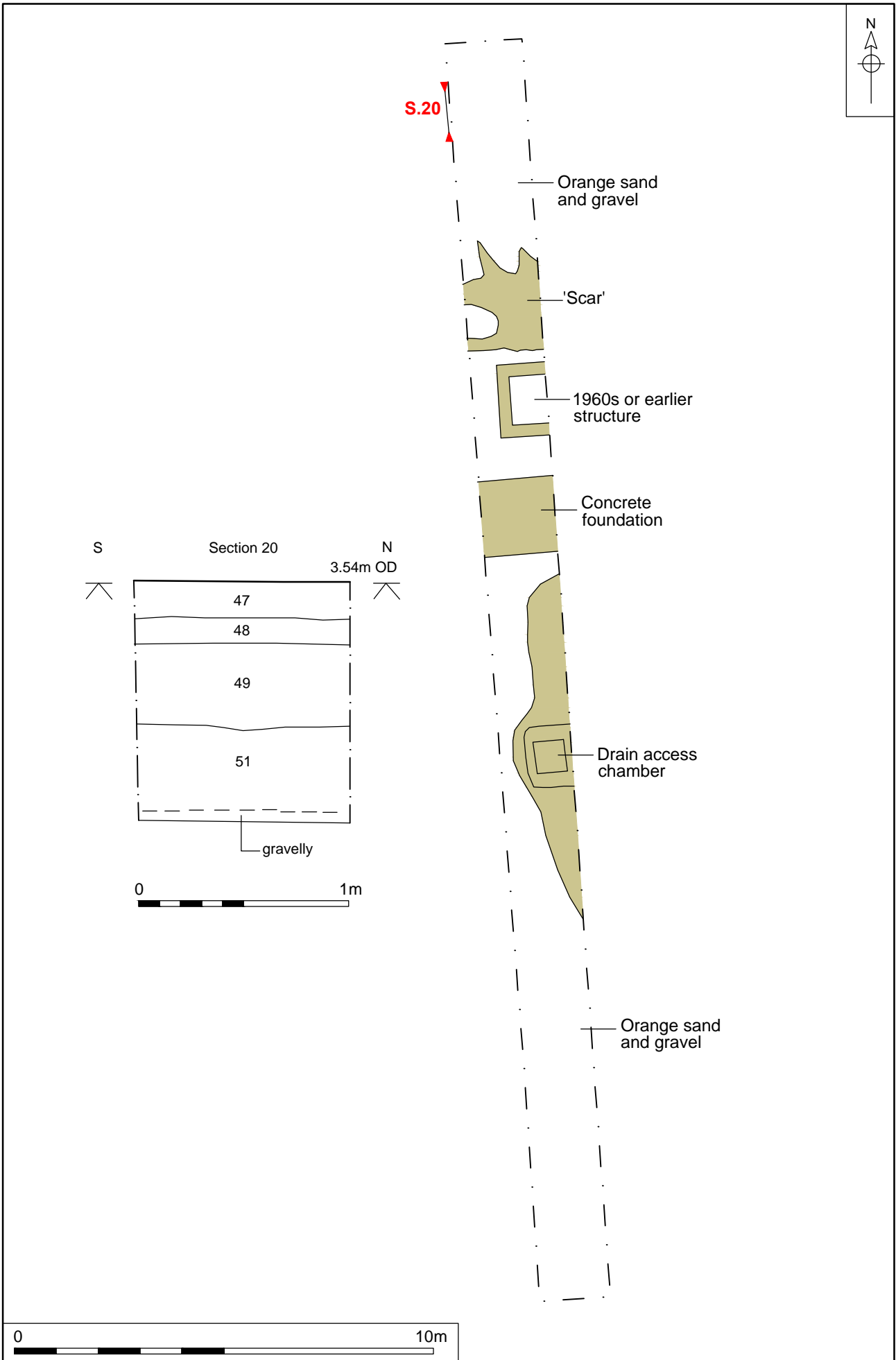



Figure 8. Trench 6, plan and section. Scale 1:125 and 1:25

Trench 7				
			Figures 2, 6; Plate 9	
			Location	
			Orientation	–
			East end	622119 309168
			West end	622123 309169
			Dimensions	
			Length	4.00m
			Width	4.00m
			Average depth	0.90m
			Levels	
East top	4.27m OD			
West top	4.27m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
29	Cut	Waste pit (not excavated)	Unknown	0.90m–
30	Deposit	Fill of pit 29	Unknown	0.90m–
31	Cut	Waste pit	0.36m	0.90–1.26m
32	Deposit	Fill of pit 31	0.36m	0.90–1.26m
48	Deposit	Preparation/demolition	0.36m	0.14–0.50m
49	Deposit	Topsoil (mixed)	0.40m	0.50–0.90m
54	Deposit	Fill of modern ‘scar’	–	0.90m–
56	Deposit	Turf and recent garden soil	0.14m	0.00–0.14m
Discussion				
<p>Two 19th-century waste pits were recorded in Trench 7.</p> <p>An area of irregular ‘scarring’ in the base of the trench, probably created during demolition of 19th- or 20th-century buildings, was not recorded due to its nature and recent date.</p> <p>At the top of the sequence of machined deposits there was a 0.16m-thick turf layer 56, which consisted of dark brown humic slightly sandy silt. A layer 48 of crushed brick and mortar mixed with some sandy silt and a thicker layer of mortar and crushed brick at the base probably derived from demolition of 19th-century houses in that area of the site. Below 48 there was a mid-grey gritty sandy silt deposit 49, which contained moderate amounts of brick fragments and other dumped items. This was 0.42m thick and probably a modern reworking of the pre-existing topsoil.</p> <p>Pit 29 was located in the southeast corner of Trench 7 and had an irregular shape in plan. It extended at least 2.27m east–west x 1.49m north–south and beyond the width of the evaluation trench. Pit 29 was not excavated because of its evidently recent date: finds recovered from the top of its dumped, gritty, dark grey sandy silt fill 30 comprised fragments of brick, tile, glass, metal and other typical 19th-century waste items. Pottery of late 18th–19th century date was collected.</p> <p>Pit 31 was recorded a short distance north of pit 29 and was oval-shaped. It extended 1.40m northwest–southeast x 1.10m northeast–southwest x 0.36m deep. The pit had a concave side and base and was filled by a dump of gritty, dark grey sandy silt with frequent fragments of pottery, brick, tile, glass, metal and other 19th century waste material, a sample of which was retained. The pottery from pit 31 is spot dated to the mid–late 19th-century.</p>				


Trench 7


The light brown sandy silt fill **54** of the modern 'scar' was allocated a context number in order to identify a fragment of modern frogged brick, kept in order to demonstrate its very recent date.

The natural geology **61** at the base of Trench 7 was orange sand and gravel.



Plate 9. Trench 7, pit 31, looking northeast

Trench 8				
		Figures 2, 6		
		Location		
		Orientation	–	
		East end	622085 309173	
		West end	622081 309173	
		Dimensions		
		Length	4.00m	
		Width	4.00m	
		Average depth	1.00m	
		Levels		
East top	4.42m OD			
West top	4.41m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
47	Deposit	Concrete surface	0.20m	0.00–0.20m
48	Deposit	Surface preparation	0.10m	0.20–0.30m
49	Deposit	Topsoil (mixed)	0.32m	0.30–0.62m
51	Deposit	Subsoil (mixed)	0.38m	0.62–1.00m
61	Deposit	Natural geology	Unknown	1.00m-
Discussion				
<p>No archaeological features were identified in Trench 8 and no finds were recovered.</p> <p>A large drain cut on the south side of the trench was not recorded further because of its evident recent date.</p> <p>At the top of the sequence of machined deposits there was a 0.20m-thick concrete surface 47 which overlay a 0.10m-thick layer of crushed brick preparation 48 that was probably derived from demolition of 19th-century houses in the vicinity. Below deposit 48 there was a dark grey, gritty deposit of sandy silt 49, with moderate amounts of brick fragments and other discarded items. Deposit was 0.92m deep and probably a mixed form of the original topsoil. At the base of the machined deposits there was a light brown sandy silt deposit 51, which contained frequent gravel and occasional fragments of brick and other dumped material. Layer 51 represented an original subsoil, heavily disturbed by intrusive demolition materials of 19th-century and subsequent developments.</p> <p>The natural geology 61 at the base of Trench 8 was orange sandy gravel with three small irregular patches of grey clay.</p>				

Trench 9				
		Figures 2, 9; Plate 10		
		Location		
		Orientation	North–south	
		North end	622062 309179	
		South end	622064 309148	
		Dimensions		
		Length	30.00m	
		Width	1.80m	
		Average depth	1.08m	
		Levels		
North top	4.41m OD			
South top	4.66m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
19	Cut	Waste pit	Unknown	1.08m–
20	Deposit	Fill of pit 19	Unknown	1.08m–
21	Cut	Waste pit	Unknown	1.08m–
22	Deposit	Fill of pit 21	Unknown	1.08m–
23	Cut	Waste pit	Unknown	1.08m–
24	Deposit	Fill of pit 23	Unknown	1.08m–
25	Cut	Waste pit	0.40m	1.08–1.48m
26	Deposit	Fill of pit 25	0.40m	1.08–1.48m
27	Cut	Waste pit	Unknown	1.08m–
28	Deposit	Fill of pit 27	Unknown	1.08m–
47	Deposit	Concrete surface	0.20m	0.00–0.20m
49	Deposit	Topsoil (mixed)	Average 0.36m	0.20–0.56m
51	Deposit	Subsoil (mixed)	0.62m	0.56–1.08m
61	Deposit	Natural geology	1.08m	1.08m–
Discussion				
<p>Five relatively well-defined 19th-century waste pits were identified in Trench 9, one of which was excavated to provide a sample.</p> <p>Other late features were not context-recorded due to their modern date. The recent features included two 20th-century concrete foundations, and three areas of intrusive ‘scarring’, which were probably created by 19th- or 20th-century building demolition/construction. The scarring was particularly pronounced towards the south end of Trench 9.</p>				

Trench 9

At the top of the sequence of machined deposits, though only towards the north end of Trench 9, was a concrete surface **47**. Untypically, there was no preparation of crushed brick or hoggin below **47** at this location. Instead, there was a light grey (becoming mid-grey at the north end) gritty sandy silt **49**, which contained moderate amounts of brick fragments and other discarded material. Deposit **49** was 0.36m–0.50m thick and was interpreted as a disturbed form of the original topsoil. At the base of the machined deposits there was a light brown sandy silt **51** with occasional fragments of brick and other dumped items. Deposit **51** was considered to represent a subsoil, mixed with demolition materials from 19th-century and subsequent developments.

Towards the south end of Trench 9, sub-oval-shaped waste pit **19** extended 1.14m north–south x 0.61m east–west. Pit **19** had no relationship with any other features, although it did appear to truncate an area of ‘scarring’ of 19th-century date. The pit was not excavated. Its fill **20** was gritty, dark grey sandy silt with frequent fragments of pottery, brick, tile, glass, metal and other waste items of 19th-century date that were disposed of in the pit.

A second small waste pit **21** was situated towards the centre of the trench. It was not excavated, but it was oval in plan and extended at least 0.93m east–west (beyond the east trench edge) x 0.61m north–south. The fill **22** was dark grey, gritty sandy silt with some small fragments of brick, metal and glass.

A further, more irregular waste pit **23** was located almost immediately to the north of **21**. It extended at least 1.28m east–west (beyond the east trench edge) x 1.97m north–south. The fill **24** was dark grey, gritty sandy silt with some small fragments of brick, metal and glass, but it was not excavated.

A similar small oval-shaped waste pit **25** was situated c. 1.00m to the north of **23**. It was located wholly within the trench and measured 1.31m north–south x 0.67m east–west. The sides and base of the pit were concave and it was 0.40m deep. The fill **26** was gritty, dark grey sandy silt with frequent fragments of brick, tile, glass, metal and other 19th-century waste that had probably been dumped into the pit. Late 18th–mid-19th century pottery was recovered from fill **26**.

One further, unexcavated waste pit **27** was situated towards the north of Trench 9. It was sub-square and located wholly within the trench. The fill **28** was dark grey, gritty sandy silt with some small fragments of brick, metal and glass.

The natural geology **61** was orange sand and gravel with ‘dirtier’ and greyer patches.



Plate 10. Trench 9, pit **25**, looking west

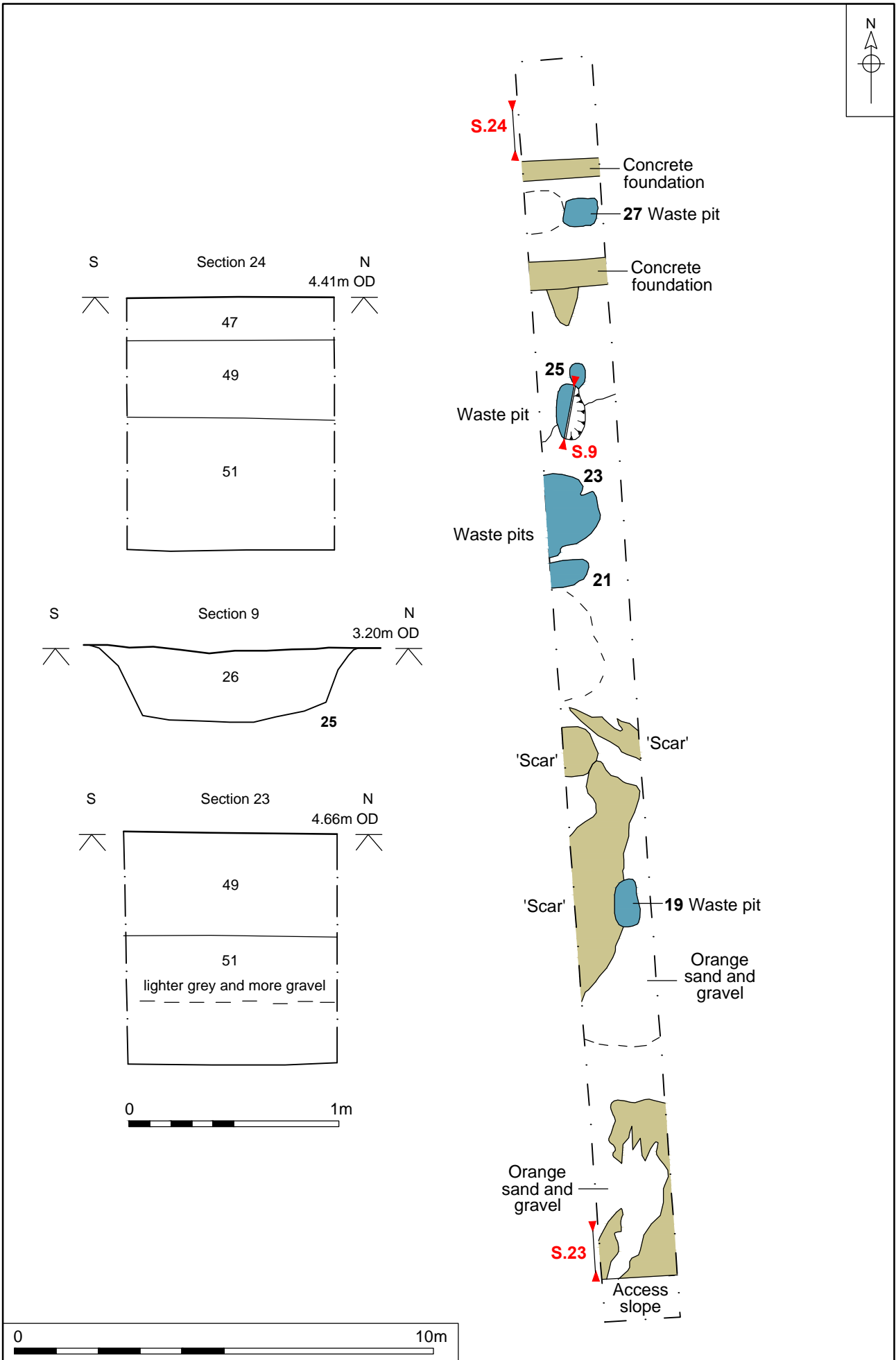




Figure 9. Trench 9, plan and sections. Scale 1:125 and 1:25

Trench 10				
			Figures 2, 6	
			Location	
			Orientation	–
			East end	622085 309158
			West end	622081 309157
			Dimensions	
			Length	4.00m
			Width	4.00m
			Depth	1.20m
			Levels	
East top	4.39m OD			
West top	4.39m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
47	Deposit	Concrete surface	0.20m	0.00–0.20m
49	Deposit	Topsoil (mixed)	0.60m	0.20–0.80m
51	Deposit	Subsoil (mixed)	0.40m	0.80–1.20m
56	Deposit	Turf and recent garden soil	0.20m	0.00–0.20m
61	Deposit	Natural geology	Unknown	1.20m–
Discussion				
<p>No archaeological features were identified in Trench 10 and no finds were recovered.</p> <p>A large drain cut on the south side of the trench was not recorded due to its evidently recent date.</p> <p>At the top of the sequence of machined deposits there was a turf layer 56 supported by humic garden soil 0.20m thick. Beneath the turf was dark grey, gritty sandy silt 49 with moderate amounts of brick fragments and other dumped material. This was 0.60m thick and was probably a disturbed form of the original topsoil. At the base of the machined deposits there was a light brown sandy silt 51, which contained frequent gravel and occasional fragments of brick and other dumped items. This was thought to represent an original subsoil, heavily contaminated by demolition materials from 19th-century and subsequent developments. Layer 51 was 0.40m thick at this point.</p> <p>The natural geology 61 at the base of the trench was orange sandy gravel, which was extensively mottled in this part of the site.</p>				

Trench 11				
		Figures 2, 10, Plate 11		
		Location		
		Orientation	East–west	
		East end	622129 309163	
		West end	622098 309160	
		Dimensions		
		Length	30.00m	
		Width	1.80m	
		Average depth	1.08m	
Levels				
East top	4.25m OD			
West top	4.41m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
33	Cut	Large pit	1.00m	1.08–2.08m
34	Deposit	Fill of pit 33	1.00m	1.08–2.08m
47	Deposit	Brick surface in concrete setting	0.20m	0.00–0.20m
48	Deposit	preparation	0.20m	0.20–0.40m
49	Deposit	Topsoil (mixed)	0.34m	0.40–0.74m
51	Deposit	Subsoil (mixed)	0.34m	0.74–1.08m
61	Deposit	Natural geology	Unknown	1.08m–
Discussion				
<p>A large pit found in Trench 11 may represent a 19th-century quarry pit.</p> <p>Later features were not allocated context numbers due to their recent date. The late features included a 20th-century concrete foundation and a drain cut. Soil-filled ‘scars’ were present, particularly in the east of the trench, which were created by demolition works for 19th- or 20th-century buildings. A gas pipe ran along the south edge of the trench and another ran north–south across the trench.</p> <p>At the top of the sequence of machined deposits there was a concrete-set brick floor 47 at the west end, which was 0.20m thick. A layer of crushed brick and mortar 48 was also present only in the west half of the trench, and was probably bedding for the brick floor. The crushed building materials were probably derived from demolition of 19th-century houses at or near to the evaluation site. At the east end of Trench 11 there was a mid-grey gritty sandy silt 49, which contained moderate amounts of brick fragments and other dumped items. This was darker to the east and thinned from 0.34m to 0.28m deep. Deposit 49 was interpreted to probably be a mixed form of the original topsoil. At the base of the machined deposits there was a light brown sandy silt 51 with occasional fragments of brick and other discarded material. Deposit 51 was thought to represent an original subsoil, heavily contaminated with demolition materials from 19th-century and subsequent developments. Several lenses of darker sandy silt were interleaved within deposit 51, as though ‘churned’, perhaps by actions connected with recent</p>				

Trench 11

building or demolition works. The silt lenses were also observed in plan as 'scars' in the surface of the geological deposits, particularly in the east of the trench.

Pit **33** was located in the west of Trench 11. It extended beyond the 1.80m-wide trench sides and measured 2.96m east–west. The visible part suggested an oval-shaped plan and the pit was 1.00m deep. The base was concave and the sides were regular and even to the west and steeper to the east. The pit had no relationship to any other features. A section was excavated through the centre of the pit and a small collection of finds indicates a 19th-century date for the feature. The fill **34** consisted of a thick deposit of dark grey sandy silt with lenses of sand that was probably dumped into the pit. Late 18th–mid-19th-century pottery was recovered from fill **34**, along with residual sherds of 10th–11th-century pottery.

The natural geology **61** at the base of Trench 11 was orange sand and gravel.



Plate 11. Trench 11, pit **33**, looking south

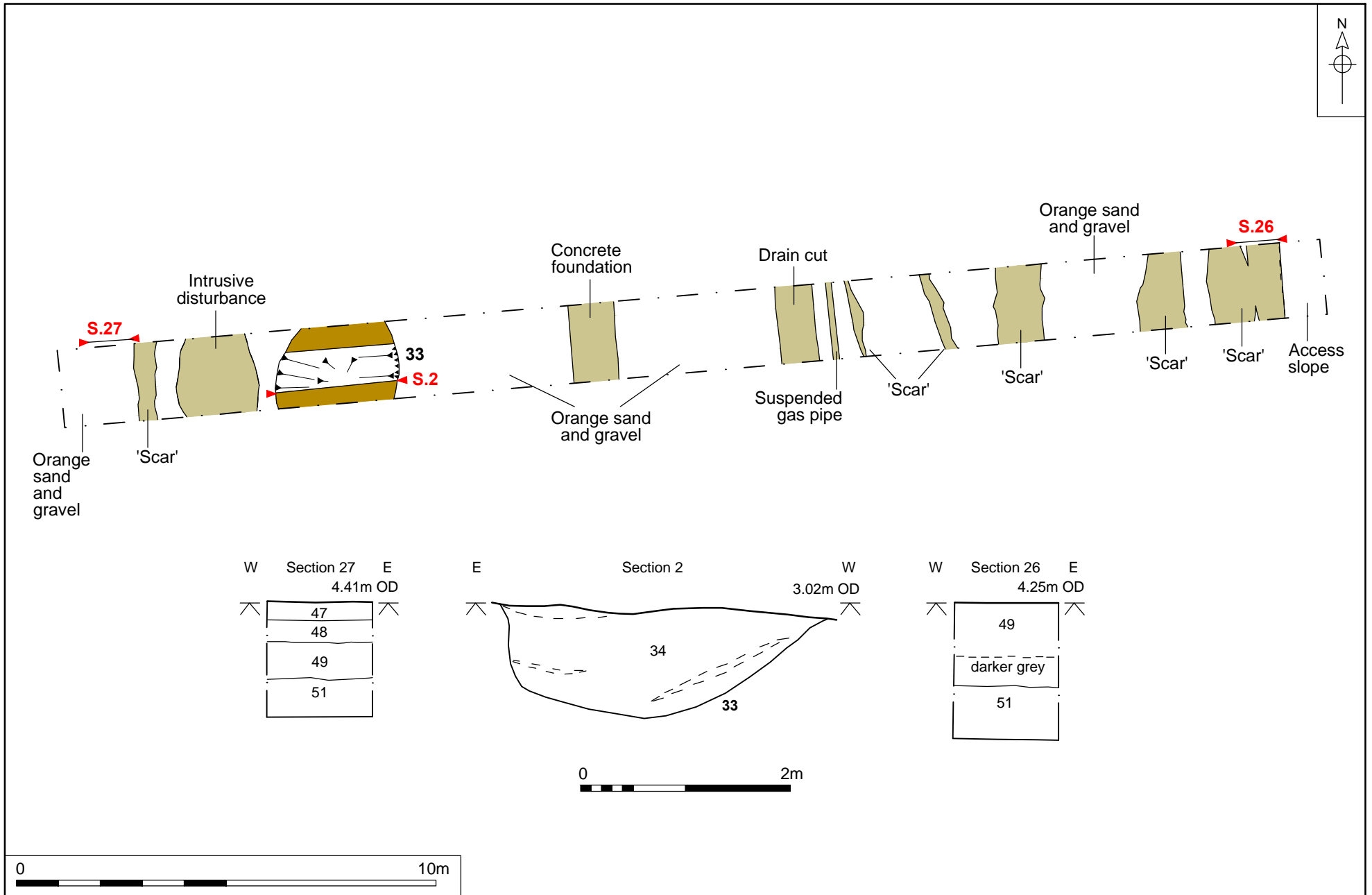


Figure 10. Trench 11, plan and sections. Scale 1:125 and 1:50

Trench 12



Figures 2, 11

Location

Orientation North–south and east–west (L-shape)

East end 622133 309141

West end 622121 309140

North end 622119 309150

South end 622120 309140

Dimensions

Length (total) 22.00m

Width 1.80m

Average depth 0.88m

Levels

East top 4.42m OD

West top 4.42m OD

Context	Type	Description and Interpretation	Thickness	Depth BGL
07	Cut	Waste pit	Unknown	0.88m–
08	Deposit	Fill of pit 07	Unknown	0.88m–
09	Cut	Waste pit	Unknown	0.88m–
10	Deposit	Fill of pit 09	Unknown	0.88m–
47	Deposit	Brick floor	0.10m	0.00–0.10m
48	Deposit	Surface preparation	0.20m	0.10–0.30m
49	Deposit	Topsoil (mixed)	0.46m	0.30–0.76m
51	Deposit	Subsoil (mixed)	0.12m	0.76–0.88m
61	Deposit	Natural geology	0.88m–	0.88m–

Discussion

Two 19th-century waste pits were recorded, but not excavated in Trench 12.

Later features were also identified, but were not allocated context numbers due to their recent date. The late features included a 20th-century concrete beam foundation and a suspended gas pipe. Areas of surface ‘scarring’ were present, particularly in the centre of the trench, which were thought to be caused by construction or demolition of 19th- or 20th-century buildings.

At the top of the sequence of machined deposits at the north end of Trench 12 there was a 0.10m-thick brick floor 47 set on builder’s sand. It lay above a 0.20m-thick layer of bedding 48. In the south of the trench this surface preparation was only 0.12m thick. Towards the top of the sequence in the east part of the trench there was a mid-grey, gritty sandy silt 49, which contained moderate amounts of brick fragments and other discarded items. Layer 49 measured 0.28–0.34m, thinning in the east. It was interpreted as probably a mixed and degraded form of the pre-existing topsoil. At the base of the machined deposits there was a light brown gritty and gravelly sandy silt 51 with occasional fragments of brick and other waste. This was considered to represent a subsoil disturbed by demolition activity from 19th-century and subsequent developments.

Trench 12

Pit **09** was located near the centre of Trench 12. It fell wholly within the trench, was circular in plan and measured 0.60m in diameter. The pit was not excavated due to its recent date. The fill **10** was dark grey, gritty sandy silt with some small fragments of brick, metal and glass that most likely had been dumped into the pit.

A second waste pit **07** was situated immediately to the south of **09**. It measured 0.83m east–west and at least 1.12m north–south, continuing beyond the south side of the trench. It had a dark grey, gritty sandy silt fill **08**, which contained a small quantity of late 18th–19th-century pottery.

The natural geology **61** at the base of Trench 12 was orange sand and gravel.

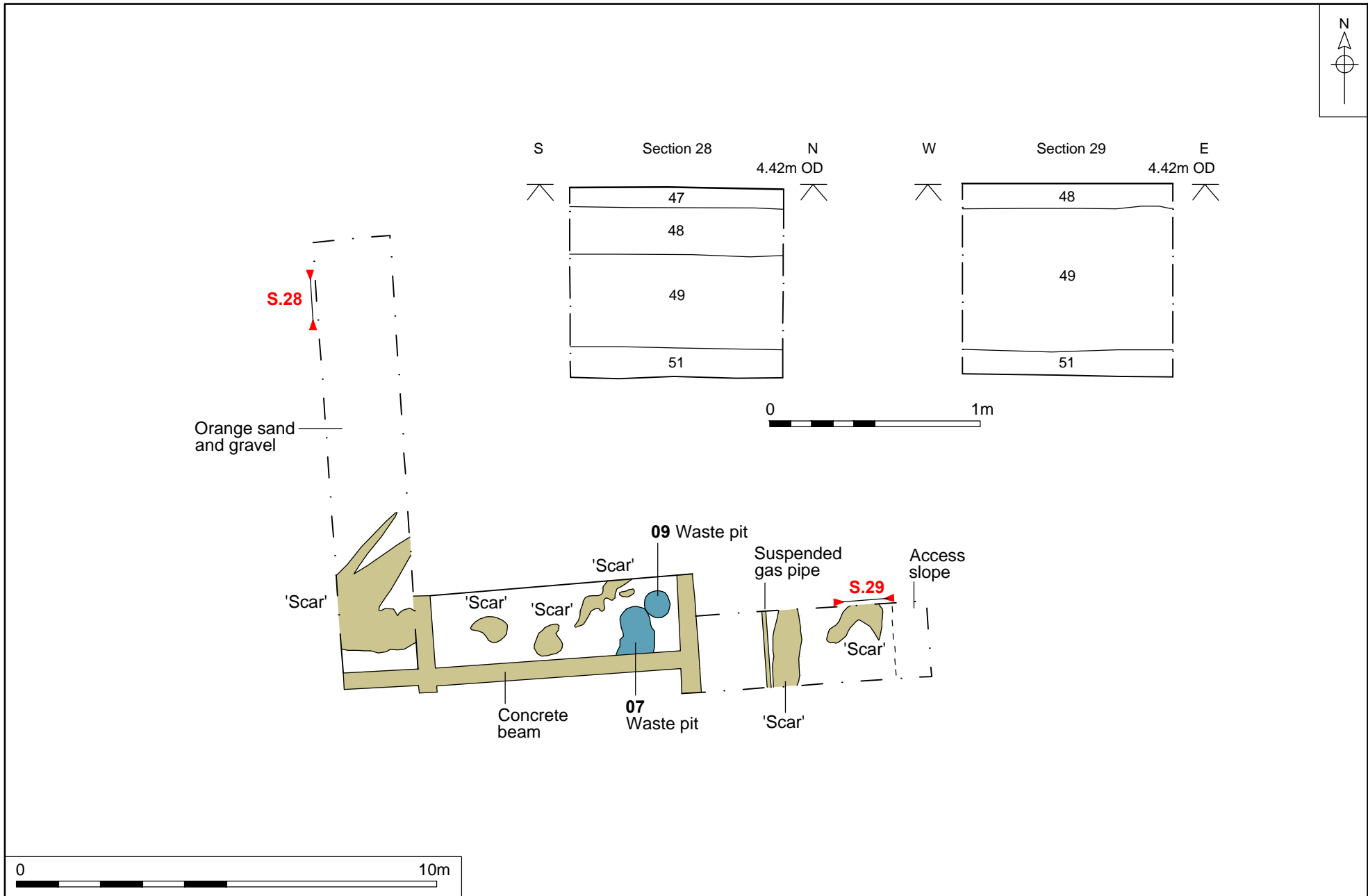



Figure 11. Trench 12, plan and sections. Scale 1:125 and 1:25

Trench 13				
			Figures 2, 12, Plates 12, 13	
			Location	
			Orientation	East–west
			East end	622075 309138
			West end	622045 309134
			Dimensions	
			Length	30.00m
			Width	1.80m
			Average depth	0.96m
			Levels	
East top	4.22m OD			
West top	4.98m OD			
Context	Type	Description and Interpretation	Thickness	Depth BGL
11	Cut	Waste pit	Unknown	0.96m–
12	Deposit	Fill of pit 11	Unknown	0.96m–
13	Cut	Waste pit	Unknown	0.96m–
14	Deposit	Fill of pit 13	Unknown	0.96m–
15	Cut	Waste pit	0.56m	0.96–1.52m
16	Deposit	Fill of pit 15	0.56m	0.96–1.52m
17	Masonry	Small structure	0.10m	0.96–1.06m
18	Deposit	Backfill of structure 17	0.10m	0.96–1.06m
47	Deposit	Concrete surface	Max 0.26m	0.00–0.26m
48	Deposit	Surface preparation and demolition deposits	0.20m	0.26–0.36m
49	Deposit	Topsoil (mixed)	0.60m	0.36–0.96m
61	Deposit	Natural geology	Unknown	0.96–
64	Cut	Waste pit	0.40m	0.96–1.52m
65	Deposit	Fill of pit 64	0.40m	0.96–1.36m
Discussion				
<p>Four waste pits and a small structure filled with broken glass and other rubbish, all of likely 19th-century date, were identified in Trench 13.</p> <p>Other late features were not context-recorded due to their recent date. The modern features comprised two 20th-century concrete foundations and a ceramic drain pipe with associated trench cut. Other areas of disturbance were noted, particularly in the west of the trench, all of</p>				

Trench 13

which were most likely created by activities associated with construction and demolition of 19th- or 20th-century buildings.

At the top of the sequence of machined deposits there was a thick concrete surface **47**. It was 0.26m thick at the east end and 0.12m thick at the west end. It lay above a layer of crushed brick surface preparation **48**. At the east end **48** was only 0.20m thick, whereas at the west end it was 0.48m thick. Towards the top of the sequence at the east end of the trench there was a mid-grey, gritty sandy silt **49** with moderate amounts of brick fragments and other waste materials. Layer **49** measured 0.60m deep at the east end and 0.34m at the west end. It was thought to represent a disturbed and modified form of the original topsoil. At the base of the machined deposits there was a light brown gritty and gravelly sandy silt **51** with occasional fragments of brick and other waste. This was believed to represent a subsoil, now extensively contaminated with demolition materials resulting from 19th-century and subsequent developments.

Pit **15** was situated towards the centre of the trench but was not excavated due to its evident recent date. It was circular in plan with a diameter of 0.60m. The fill **16** was dark grey, gritty sandy silt.

Waste pit **11** was situated immediately to the south of pit **15**. It measured 0.83m east–west x at least 1.12m north–south, extending beyond the south trench edge. The dark grey, gritty fill **12** contained moderate amounts of brick fragments, metal and glass shards.

Located **c.** 1.00m west of pit **11**, another waste pit **13** was oval in plan and measured 0.95m north–south x 0.92m east–west x 0.56m deep. The sides were steep and regular and concave on the north side. The fill **14** was light grey sandy silt, which contained frequent fragments of slate, brick, shell and late 18th–19th-century pottery.

A smaller waste pit **64** was truncated on its south side by pit **13**. Pit **64** was sub-circular in plan and its remaining part measured 0.43m east–west x 0.30m north–south. It had steep concave sides and base. The single fill **65** was loose, gritty, ashy and sandy silt, which included frequent shells (mussels and whelks), tile, and pottery and brick fragments.

Three sides of a small (probably square or rectangular) masonry structure **17** were situated in the centre of Trench 13. The structure extended 1.78m east–west x 1.46m north–south. It consisted of narrow south, east and west walls constructed of small, roughly hewn flints, with some fragmentary brick bonded by creamy mortar. The structure had no obvious bonding pattern. The fill **18** in the centre of the structure contained brick, tile, pottery, slate and shells, although glass fragments were the most frequent inclusion. Late 18th–mid-19th century pottery was recovered from fill **18**.

The natural geology **61** at the base of Trench 13 was orange sand and gravel.

Trench 13



Plate 12. Trench 13, pits **13** and **64**, looking southwest



Plate 13. Trench 13, structure **17** and backfill **18**, looking west

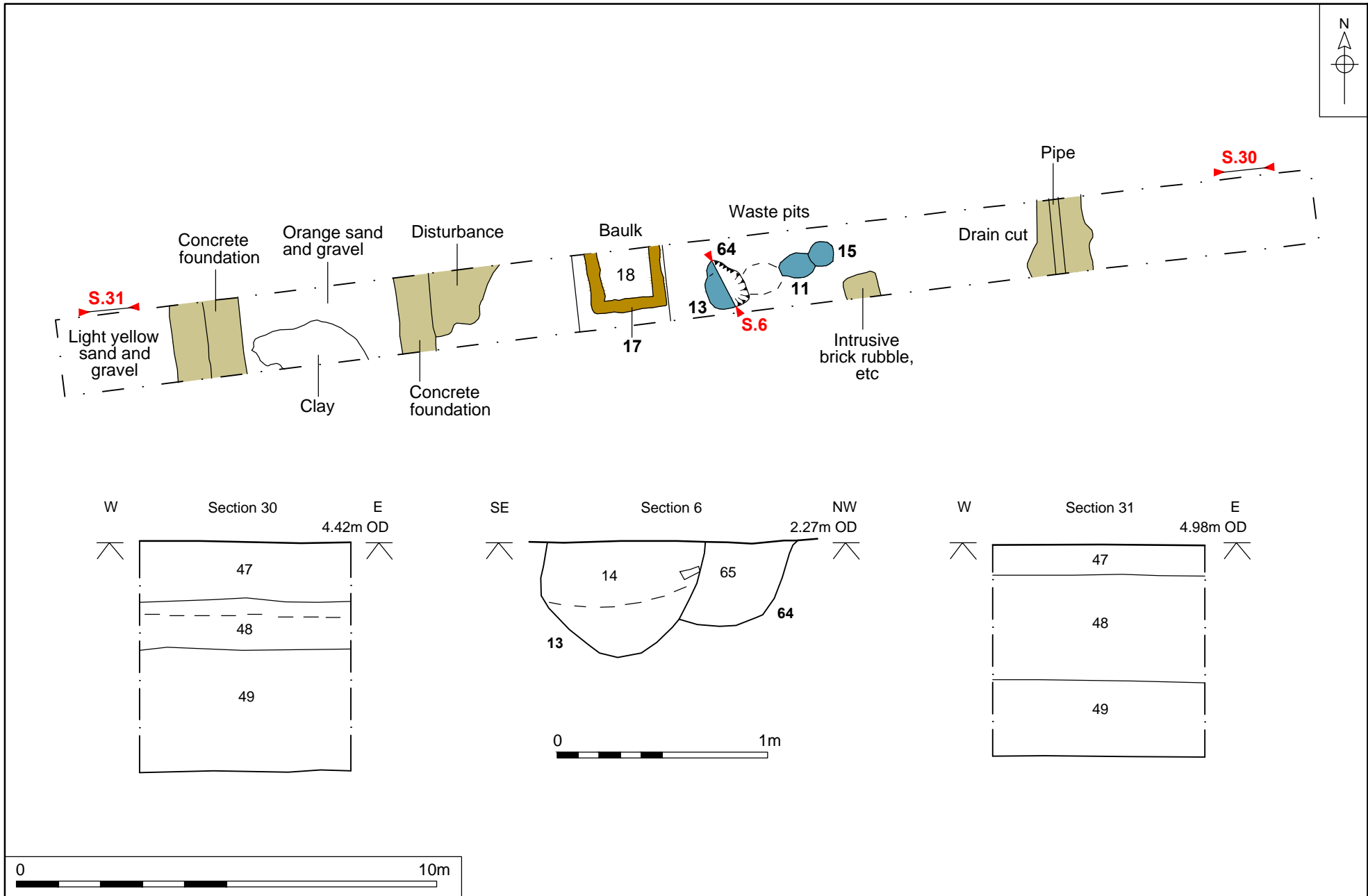


Figure 12. Trench 13, plan and sections. Scale 1:125 and 1:25

ARCHAEOLOGICAL FINDS

- 75 The archaeological materials were washed, dried, marked and bagged and were recorded by count and weight. Data was entered onto a Microsoft Excel spreadsheet, which forms part of the project archive. A discussion of each material type is given below. Appendix 2a comprises a list of all archaeological materials found by the evaluation in context number order.

Pottery

Introduction

- 76 Ninety-two sherds of pottery (3,331g) were recovered from twelve contexts. Table 2 provides a summary of the quantification by fabric. A summary catalogue by context is provided in Appendix 3 and the full catalogue is available as a Microsoft Access database in the archive.

Description	Fabric	Date Range	No	Wt/g	EVE	MNV
Thetford-type ware	THET	10th–11th c.	7	111	0.10	7
Thetford Ware (Grimston)	THETG	L 10th–11th c.	1	18		1
<i>Total Late Saxon</i>			8	129	0.10	8
Late medieval and transitional	LMT	L 14th–16th c.	16	494	0.27	13
Langerwehe Stoneware	GSW2	L 14th–15th c.	2	17		2
Raeran/Aachen Stoneware	GSW3	L 15th–16th c.	8	206		8
Dutch redwares unglazed	DUTU	L 14th–17th c.	1	49		1
Local early post-medieval wares	LEPM	16th c.	2	52	0.15	1
Glazed red earthenware	GRE	16th–18th c.	1	13		1
<i>Total late medieval/early post-medieval</i>			30	831	0.42	26
Pearlware	PEW	L 18th–M 19th c.	5	142		3
Refined white earthenwares	REFW	L 18th–20th c.	26	774	1.12	22
Yellow Ware	YELW	L 18th–20th c.	5	91	0.23	5
Porcelain	PORC	18th–20th c.	10	176		7
Late slipped redware	LSRW	18th–20th c.	1	34		1
English Stoneware	ESW	19th–20th c.	5	596	1.00	4
German stoneware	GSW	19th–20th c.	2	558		1
<i>Total modern</i>			54	2371	2.35	43

Table 2. Pottery quantities by fabric

Methodology

- 77 Quantification was carried out by sherd count, weight and estimated vessel equivalence (EVE). The minimum number of vessels (MNV) in each context was recorded, but cross-fitting was not attempted unless particularly distinctive vessels were observed in more than one context. A full quantification by fabric, context and feature is available in the pottery archive. All fabric codes were assigned from the author's post-Roman fabric series, which includes East Anglian and Midlands fabrics and imported wares. Medieval and later wares were identified following Jennings (1981). Methods follow Medieval Pottery Research Group (MPRG)

recommendations (MPRG 2001), and form terminology follows MPRG classifications (MPRG 1998).

Pottery by period

Late Saxon (10th–11th century)

- 78 Eight sherds of Thetford-type ware, including one of Grimston type, were residual finds in two post-medieval pit fills **04**, **34**. Most fragments are undiagnostic body or flat base sherds, but there is one rim of a medium jar (Dallas 1984, type 'AB') with a type 4 rim (Anderson 2004) of later 10th–11th-century date.

Late medieval and early post-medieval (15th–16th century)

- 79 Thirty sherds of broadly 15th–16th-century pottery were recovered, mostly from pit fill **04**.
- 80 Local earthenwares dominate the group, particularly LMT, and include four sherds of a large bowl, a handle from a jug with reduced surfaces, and a jar rim sherd with a horizontal thumbed handle. Most sherds have at least small traces of greenish glaze, some are fully glazed on one surface. A local early post-medieval copper-green glazed chafing dish is represented by two rim sherds with cordons and cut-out decoration. One body sherd of GRE (broadly dated to the 16th–18th centuries) was recovered from pit fill **34**, but is in a fairly coarse fabric and has only sparse glaze internally, suggesting that it is probably of 16th-century date.
- 81 Imported wares comprise a fragment of a Dutch-type unglazed cauldron with a rod-section handle, and body and base sherds of German stoneware mugs and jugs from Langerwehe and Raeren/Aachen.

Modern wares (18th–19th century)

- 82 Refined wares form the largest group in the assemblage. The whitewares are most frequent and include transfer-printed and stencil-spongeware decorated plates, bowls, a jug and a chamber pot. An undecorated preserve jar rim is also present. Transfer printed designs include the ubiquitous willow pattern, as well as floral and foliate designs. Some sherds have overglaze decoration, suggesting a relatively early date. Porcelains are all British/European types and include two fragments of Staffordshire-type figurines (a dog and an unidentified piece), a dish with a flaring rim and pink lustre decoration with a transfer print of a church, a dish/saucer with a hand-painted overglaze vine, a cup with willow pattern decoration, and an egg cup. There are several fragments of yellow ware bowls, one decorated with slip bands.
- 83 Utilitarian wares of 18th–19th-century date include a slipped redware bowl base, and several stoneware bottles. Most of the latter are probably English. One has an impressed label in the form of crossed codd bottles containing the words 'NORWICH & YARMOUTH' below 'TRADE MARK' and around a monogram of the letters 'H SON & CO', all above 'REGISTERED'. Hunt Son & Co were a Norwich ginger beer manufacturer located on St Stephen's Street until c.1890 (Roberts 2010). A mid-late 19th-century German stoneware mineral water bottle also has impressed labels, comprising 'SELTERS' in a ring around a lion rampant, above 'HERZOGTHUM NASSAU', and just below the handle '[Nu]m 124' in script, the latter being the bottle manufacturer's number (Lockhart 2011, after Schulz et al. 1980).

Pottery by context

- 84 Table 3 shows the distribution of pottery by context/feature, with spot dates.

Context	Fill of	Type	Fabric	Fabric date range
04	03	Pit	THET LMT LEPM GSW2 GSW3 DUTU	16th c.
08	07	Pit	ESW PORC	L 18th–19th c.
14	13	Pit	PEW REFW PORC YELW ESW	L 18th–19th c.
18	-	Layer	PEW PORC	L 18th–M 19th c.
25	25	Pit	ESW	19th c.
26	25	Pit	REFW YELW LSRW PORC	L 18th–19th c.
30	29	Pit	REFW	L 18th–19th c.
32	31	Pit	GSW REFW PORC	M–L 19th c.
34	33	Pit	THET THETG GRE PEW	L 18th–M 19th c.
38	37	Pit	YELW	L 18th–19th c.
44	43	Pit	REFW	L 18th–20th c.
54	-	Unstratified	REFW	L 18th–20th c.

Table 3. Pottery fabric distribution by context, with spot dates

- 85 The majority of pottery was recovered from pit fills. Stratified contexts were all of recent date.

Discussion

- 86 Whilst there is some residual material which may relate to earlier activity at or near to the evaluation site, most of the pottery dates to the later 18th and 19th centuries. Pit **03** appears to be of 16th-century date (although brick, roof and floor tile fragments from it may suggest a later date). Pits **03** and **33** contained Late Saxon ceramics disturbed from earlier contexts elsewhere. All wares are typical of their periods in Norwich assemblages. Although some utilitarian vessels are present, there is a high proportion of table wares and drinking vessels of types found commonly on moderate–high status sites across the city.

Brick and Tile

Introduction

- 87 Forty-three fragments of brick and tile weighing 5,401g were collected from six contexts.
- 88 The assemblage was quantified (count and weight) by fabric and form. Fabrics were identified on the basis of macroscopic appearance and main inclusions. The width, length and thickness of bricks and floor tiles were measured, but roof tile thicknesses were only measured when another dimension was available. Form terminology follows Drury (1993). The archive catalogue comprises the results recorded in a Microsoft Access database.
- 89 Table 4 provides a summary of the quantities by form and a catalogue is included in Appendix 4.

Type	Form	Coder	No	Wt (g)
<i>Roofing</i>	Plain roof tile: medieval	RTM	10	652
		RTM?	3	57
	Plain roof tile: post-medieval	RTP	12	837

Type	Form	Coder	No	Wt (g)
		RTP?	1	21
	Pantile	PAN	4	446
	Chimney pot	CP	1	158
<i>Walling</i>	'Early' brick (after Drury 1993)	EB	8	1730
	'Later' brick" (after Drury 1993)	LB	1	167
	Modern brick	B	1	848
<i>Flooring</i>	Flemish floor tile	FFT	1	200
	Quarry floor tile	QFT	1	285

Table 4. Brick and tile quantities by form

- 90** Thirteen fragments of plain roof tile are probably of medieval date. They were recovered from pit fills **04** and **34**. The fragments generally have reduced surfaces and/or cores. Two have circular peg 'holes', which are not full-thickness. They are in a variety of fine, medium and coarse sandy fabrics, one with flint inclusions.
- 91** Post-medieval roofing tile includes fully oxidised examples in fine and medium sandy fabrics with a range of ferrous/argillaceous inclusions and some grog. Like the medieval roof tile, they were recovered from pit fills **04** and **34**. Fragments of post-medieval pantile, some with black sooty deposits, were collected from pit fills **08**, **14** and **44**. There is also one fragment of a post-medieval (probably 19th-century) chimney pot in a fine sand, ferrous and calcareous fabric with internal sooting, from pit fill **44**.
- 92** Eight fragments of 13th–15th-century 'Early' bricks in estuarine clays were collected from pit fill **04** (cf. Drury 1993, 163–4). All pieces with surviving bases have straw impressions. Drury (1993) suggests that those with straw-impressed bases may be of slightly later date (14th–15th century). Two pieces are complete in width and thickness and measure 105mm x 55mm and 107mm x 36mm, with one other fragment 46mm thick.
- 93** A single fragment of 'Later' brick in a medium sand, flint and ferrous fabric was recovered from pit fill **04** (cf. Drury 1993, 164–5). The thickness, 61mm, suggests a fairly late date for this piece, perhaps 19th century.
- 94** A piece of compressed shale brick of 19th- or 20th-century date was an unstratified find **55** from Trench 7. It measures 107mm x 64mm and has a frog containing a maker's mark, of which only the final letter 'R' is present. The base of the fragment is worn, suggesting it was used in flooring.
- 95** A piece of Flemish floor tile of 14th- or 15th-century date was found in pit fill **04**. It is glazed green with slight wear on the surface and is 30mm thick. Another floor tile with reduced surfaces and no trace of glaze, from the same pit fill, is probably a post-medieval quarry tile.

Discussion

- 96** Apart from one unstratified modern brick, all the brick and tile was recovered from pit fills, the majority from pits **03** and **33**.
- 97** The 'Early' bricks and medieval roof tiles found together in post-medieval and modern pits may represent the demolition of an earlier structure in the post-medieval

period. The types of late medieval brick and tile in the assemblage might suggest a church or moderate–high status structure was the source.

- 98 Fragments of post-medieval roof tile, floor tile and brick are all typical of the city, and are likely to represent the disposal of demolition waste.

Clay Tobacco Pipe

- 99 Five pieces of clay tobacco pipe weighing 16g were recovered from three contexts. The clay pipe was recovered from pit fills **14**, **34** and **40**. All of the pieces are undiagnostic, undecorated stems, which cannot be more closely dated than post-medieval.

Glass

Window glass

- 100 One piece of window glass was found in pit fill **34**. It is an iridescent curved piece of very light green post-medieval glass. There is one grozed edge and directional curves indicating it is of the crown process where the glass was spun during manufacture (Hicks 2006, 18).

Vessels

- 101 Three pieces of glass bottles or vessels were recovered from three contexts. The pieces were from pit **25**; fill of pit **30** and deposit within structure **18**.
- 102 One piece from **30** is a very light green glass bottle neck. The piece has no diagnostic features and by association with post-medieval pottery in the deposit from which it was recovered it can only be dated as post-medieval.
- 103 A piece from **18** is a bottle neck in brown glass with a modern plastic stopper screw fitting. The stopper has 'Steward & Patteson Ltd, Norwich' stamped into the top. Steward and Patteson was founded in 1793 at the Pockthorpe Brewery, Barrack Street, Norwich. Over time it was known by different names until in 1895 the firm was registered as Steward and Patteson Ltd. S & P continued to trade under that name until the final brew was made on 27 January 1970 (Holmes and Holmes 2011, 14–15).
- 104 The final piece of vessel glass is a complete light green bottle **25**. Stamped onto one side of the bottle are the words 'Hunt Son & Co's, Ginger Beer, Steamworks, Norwich & Yarmouth', on the other side is the company's trademark of two crossed Hamilton bottles. The company operated as a mineral water manufacturer from St Stephen's Street, Norwich until 1890 (Roberts 2010).

Other

- 105 A second piece from **18** is a fragment of curved white opaque glass, probably from a modern light shade.

Metal Finds

Introduction

- 106 Twelve metal objects and fragments were recovered by the evaluation. Seven pieces were of iron and five of copper alloy.

Iron

- 107 All of the seven pieces of iron recovered from pit fill **04** were nails, none of which can be closely dated, being a ubiquitous item in use over multiple periods. It is possible, however, that the nails were late medieval–post-medieval in date given the date of other objects recovered from the same context.

Copper alloy

- 108 Five objects of copper alloy were found from three contexts: pit fill **04**, deposit within structure **18** and metal-detected finds **53**.

Dress accessories

- 109 One object from **53** is a post-medieval unmarked four-hole utility button.
- 110 A second object from **53** is a domed copper-alloy button cap. There is a crown and anchor stamped on the surface encompassed in a rope circle. This configuration is indicative of Royal Navy buttons from around the 1900s (Colchester Treasure Hunting 2015).
- 111 A buckle plate was recovered from **04**. It has a D-shaped frame leading to a folded sheet plate with two parallel groves running along one side. Simple, D-shaped buckles cannot be closely dated as they were used on personal dress and horse equipment throughout the late medieval and post-medieval periods (Whitehead 1996, 16).

Numismatics

- 112 A solitary jetton was recovered from **04**. Its surface is heavily worn with traces of mortar on one side making the legend illegible. However, it is possible to discern a diamond lozenge on one side and a flag on the other, which suggests it is a Nuremberg 'ship-penny'-type jetton of c. 1450–1550 (British Museum/Portable Antiquities Scheme 2015, ref. BH-2255D2).

Other

- 113 A piece from **18** is a cast copper-alloy drop handle from an item of furniture. The handle is probably post-medieval–modern in date. There is one terminal with a pierced hole, two further pierced holes are on the front of the object. The underside is hollow and the front has moulded decoration. There is evidence of corrosion on the handle and possible wood adhering to the underside. This suggests that it has been resting on or has otherwise been in contact with organic material, whether from in its original form or a secondary source.

Metal finds conclusions

- 114 The metalwork from the evaluation is a varied assemblage and points to some domestic activity in the vicinity. It is predominately medieval–post-medieval in character, although the ironwork is undiagnostic and not intrinsically datable.

Stone

- 115 Three amorphous fragments of a grey stone were recovered from fill of pit **04**. The pieces are lava, of unknown date and speculative function or use.

Animal Bone

Methodology

- 116** The animal bone in the assemblage consisted of hand-collected remains. One environmental sample (of three tubs) for sieving through a 1mm mesh was taken, but any bone resulting from this was not available at the time of this report. All of the bone was identified to species wherever possible using a variety of comparative reference material. Where a complete identification to species was not possible, bone was assigned to a group, such as 'sheep/goat' or 'mammal' whenever possible. The bones were recorded using a modified version of guidelines described in Davis (1992).
- 117** Any butchering was recorded, noting the type such as cut, chopped or sawn, and the location of the butchering. A note was made of any burnt bone. Pathologies were recorded with the type of injury or disease, the element affected and the location on the bone. Other modifications were recorded, such as any possible industrial or craft-working waste, or animal gnawing. Photographs were taken of elements of interest; some of these are shown below and a broader range of photographs is available in the digital archive.
- 118** Weights and total number of pieces counts were taken for each context, along with the number of pieces for each individual species present (NISP); these are given in Appendix 5. All of the information was recorded in a Microsoft Excel spreadsheet. A summary table of the faunal catalogue is in a table in the appendix, along with tables for measurements taken (following Von Den Dreisch 1976) and the tooth wear record (following Hillson 1992 and Levine 1982). The full catalogue is available in the digital archive.

The faunal assemblage

Quantification, provenance and preservation

- 119** A total of 14,782g of faunal remains, consisting of 439 elements was recovered by the evaluation. Bone was recovered from two contexts, both pit fills, with the vast majority from one pit fill.
- 120** The bone from pit **03**, fill **04** amounted to 99.9% of the assemblage, totalling 14,771g, of which, 3,900g was an equid skull and lower jaw. The remains from **04** were recovered alongside ceramics of medieval-post-medieval date range. Two pieces of bone (less than 0.1% of the assemblage) came from pit **33**, fill **34**, weighing 11g, found in association with post-medieval artefacts. Quantification of the faunal assemblage by context number, date range and weight can be seen in Table 5 and by element count in Table 6.

Context	Finds date range and weight (g)		Context total
	Medieval/post-medieval	Post-medieval	
4	14771		14771
34		11	11
<i>Total by date</i>	<i>14771</i>	<i>11</i>	<i>14782</i>

Table 5. Quantification of the faunal assemblage by context number, date range and weight in grams.

- 121 The bone in the assemblage is in very good condition, with good survival of a range of elements, including smaller bird bones, small mammal remains and normally fragile and porous neonatal remains. No burnt remains were recorded.

Context	Finds date range and number of pieces		Context total
	Medieval/post-medieval	Post-medieval	
4	437		437
34		2	2
<i>Total by date</i>	437	2	439

Table 6. Quantification of the faunal assemblage by context number, date range number of pieces.

Species and modifications

- 122 At least eight species were identified. The remains are dominated by those of equid, along with numerous bones of cattle, sheep/goat and pig. Three species of bird were identified and rabbit was also seen. Some remains were too fragmented and lacking in diagnostic zones to identify to species, and these have been recorded as either 'mammal' or 'bird'. Quantification of the faunal assemblage by context, species and NISP is presented in Table 7.

Species	Context and NISP		Species total
	04	34	
Bird	3		3
Bird - fowl	9		9
Bird - goose	5		5
Bird - pigeon	1		1
Cattle	29		29
Equid	80		80
Mammal	275		275
Pig	10		10
Rabbit	1		1
Sheep/goat	24	2	26
<i>Total</i>	437	2	439

Table 7. Quantification of the faunal assemblage by context number, species and NISP.

Equid

- 123 The dominant feature of this assemblage is the equid remains in pit fill **04** (Plate 14). There is a substantial amount of one equid, consisting of the complete (and well-preserved) skull, mandible, left and right femurs, left and right tibias, left and right calcanei and tail, the left scapula, a hoof, numerous vertebrae, and ribs. The left metatarsal and associated carpals, which are all fused together, are also present for this animal. There is also a left tibia from another equid, which is slightly smaller than the main individual.



Plate 14. Skull and lower jaw of incomplete equid skeleton from fill **04** of pit **03**

- 124** The main equid was an elderly individual. Tooth wear was recorded following Hillson (1992) and Levine (1982), which suggests the equid was c. 25 years old. Metrical data taken from several of the long bones and the skull indicate the animal had a shoulder height in the range of 13.9 to 15.5 hands high, with a mean height of 14.7; this height range suggests an animal of the size of a large pony or a small horse.



Plate 15. Equid metatarsal from fill **04** of pit **03**, showing fusing of the carpals to the proximal end of the metatarsal

- 125** The equid had a range of pathologies. The left metatarsal shows some severe arthritic changes at the proximal end of the bone and this bone, along with all the carpals at the proximal end, are fused together with the arthritic growth (Plate 15). The upper and lower teeth of the animal show extensive wear (see Plate 14), some below the gum line; the wear into the gums may have caused or at least contributed to the presence of periodontal disease, which is present in both upper and lower jaws. The teeth also show enamel hypoplasia, which would indicate that this individual suffered some dietary or perhaps environmental stress as a juvenile. Considering the severity of the arthritis in the lower leg, the vertebrae show relatively

few changes, with just a few signs of arthritis present. A little arthritis is also visible on the tibias. There are strong muscle attachments on the tibias and femurs, which are seen with animals used for traction.

- 126 The equid shows some butchering. There are some fine knife cuts on the skull, on either side of the nasal area and there are cuts on the front of the mandible, including on the condyle, all of which suggest skinning. Some of the ribs show clear chop marks, which would suggest the carcass was at least partially divided or opened. There are no clear butchering marks on any other bones. Canid gnawing was seen on one talus, which would suggest that there was some scavenger activity. The equid had been buried in a relatively small pit measuring c. 1.46m wide x 0.52m deep, so it is quite likely that there may have been problems fitting such a large mammal into the space without some butchering of the carcass. The relatively shallow space of the pit for the burial of the remains of a large mammal would mean that some parts of the animal, such as the lower legs and feet, may have been near the surface and easily accessible to scavengers, perhaps resulting in the gnawing of one lower leg bone.

Cattle, sheep/goat and pig

- 127 Cattle, sheep/goat and pig were all recorded in context **04**, with two further bones from sheep (a radius fragment and a tooth) in context **34**. In context **04**, the numbers for cattle (NISP 29) and sheep/goat (NISP 24) were similar. The cattle produced elements from at least three individuals and bones from most parts of the body, suggesting they were processed and disposed of in a small area. The ages of the cattle ranged from adult to neonatal remains, the latter suggesting local breeding. The sheep/goat produced bones from a minimum of three animals, with juveniles of a few-months old to an adult over 4-years old. The elements of the sheep/goat consist of most parts of the carcass, including a sheep horn core, but a notable lack of foot bones, which may be due to a recovery bias or perhaps the foot bones were left with the skin for processing elsewhere. The pig remains consist of a juvenile of a few months of age and neonatal remains, again suggesting local breeding for pigs.

Bird

- 128 Three species of bird were identified. Most of the bone came from fowl, with one large and one small bird represented, possibly male and female or different breeds of chicken. Adult and juvenile goose bones are present, which have been butchered. One humerus from a juvenile pigeon or dove was also found. All of the birds could have provided meat, the geese and fowl may have supplied eggs, and feathers are provided by geese. Some butchering was seen on the goose and fowl remains, but given that birds are often cooked whole, there is often little need for butchering on avian remains.

Small mammal

- 129 A single tibia from a rabbit was found in **04**. The tibia had been chopped mid-shaft, attesting to the animal's use for meat, and perhaps for fur.

Animal bone conclusions

- 130 The equid burial appears to be that of an aged working animal with many health problems. Butchering was seen on some of the equid bones, the types and locations of which would suggest the animal was skinned and partly dismembered. The animal was probably partially dismembered to make it easier to fit into the disposal

pit. It is possible that the animal had been partly butchered to use some of the meat for either human consumption or, more likely, food for dogs. The animal had suffered a variety of pathologies and may not have been deemed worth eating. Equid meat would sometimes be used for feeding dogs, especially working dogs (Wilson and Edwards 1993), and there is one lower limb bone that shows gnawing, so at least some parts of the equid were available for feeding dogs or perhaps just available or accessible (even temporarily) for scavenging. The equid burial, close to Norwich city (Lower Heigham suburb) is of interest, as such burials of complete large mammals are rare, with most equid remains in the city consisting of isolated skinning or butchering waste. Other known partial skeletons of equids in Norwich are a partial burial of some non-butchered ribs, vertebrae, one scapula and one humerus at Greyfriars (Moreno-Garcia 2007), and those seen from the Castle Mall excavations (Albarella et al. 2009), both of which were very young animals (possibly neonatals), a sign of city births, rather than possible food waste. An incomplete skeleton of an equid was discovered at Muspole Street in Norwich (Curl 2015), which was that of an aged animal, also with a range of age- and work-related pathologies. It is interesting to note that the equid at Muspole Street also had a congenital problem with the lower teeth, with similar spacing in the pre-molars, this could possibly suggest that the equid from Goldsmith Street and Muspole Street were related and perhaps suggests a relatively small breeding population of equids in this part of Norwich at the time.

- 131 The mature age of the equid and the pathologies seen indicate an animal kept for working. The pathology seen on the equid lower leg suggest a life of traction (probably cart pulling) and subsequent strain on the legs. While there is no direct evidence for the death of the horse, the teeth are worn into the gums in places and there is evidence of infection in the gums and the animal would have found eating painful, probably contributing to its demise.
- 132 The age ranges for the cattle and sheep/goat suggest a range of uses, with breeding, milk production, meat and eventually by-products such as skins and horn. The young ages of the pigs and lack of adults for this species is not surprising for a species primarily kept for meat.
- 133 The bone preservation at the evaluation site is very good, with small elements surviving in good condition. There is potential for the recovery of further remains of the main horse in this assemblage should further archaeological work take place, and the potential for further pathological specimens that can provide more information on the health and husbandry of the domestic and working stock in the city. There are several other species in the assemblage, including bones from smaller neonatals, birds and small mammals, which can provide evidence of breeding in the city, additional information on diet, and environmental evidence. For any future work at this site it is recommended that samples are taken from suitable deposits for sieving with a 1mm mesh to maximise the recovery of smaller bones.

Shell

- 134 Four shells weighing 28g were recovered from three contexts. The only species represented was oyster. The shell was recovered from pit fills **04**, **14** and **34**.
- 135 The shell remains are probably food waste and can offer little further information. The shells have been discarded.

Environmental Evidence

Introduction and method statement

- 136 The evaluation recorded a large pit **03** containing a high density of bone fragments and other remains of possible 16th-century date. A sample for the evaluation of the content and preservation of the plant macrofossil assemblage was taken from the pit fill **04**.
- 137 The sample was processed by manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in the table in Appendix 6. Nomenclature in the table follows Stace (2010). All plant remains were charred. Occasional modern fibrous roots were also recorded.
- 138 The non-floating residue was collected in a 1mm mesh sieve and will be sorted when dry. Any artefacts/ecofacts will be retained for further specialist analysis.

Results

- 139 The assemblage is relatively large (i.e. circa 0.3 litres in volume), and although largely composed of charcoal/charred wood fragments, other plant remains are also recorded. These include oat (*Avena* sp.), barley (*Hordeum* sp.) and rye (*Secale cereale*) grains, possible fragments of indeterminate large pulses (Fabaceae) and seeds of small legumes, grasses (Poaceae) and campion (*Silene* sp.). Most are quite well-preserved, although occasional cereal grains are puffed and distorted, probably as a result of combustion at high temperatures. The charcoal includes several large and robust fragments >10mm in size and other plant macrofossils comprise pieces of charred root or stem (including possible fragments of heather (Ericaceae) stem) and indeterminate buds and culm nodes.
- 140 Other remains are also recorded, including possible culinary detritus (namely bone fragments, eggshell and fish bones), small pieces of coal and black porous and tarry residues, with the latter probably being residues from the combustion of the coal.

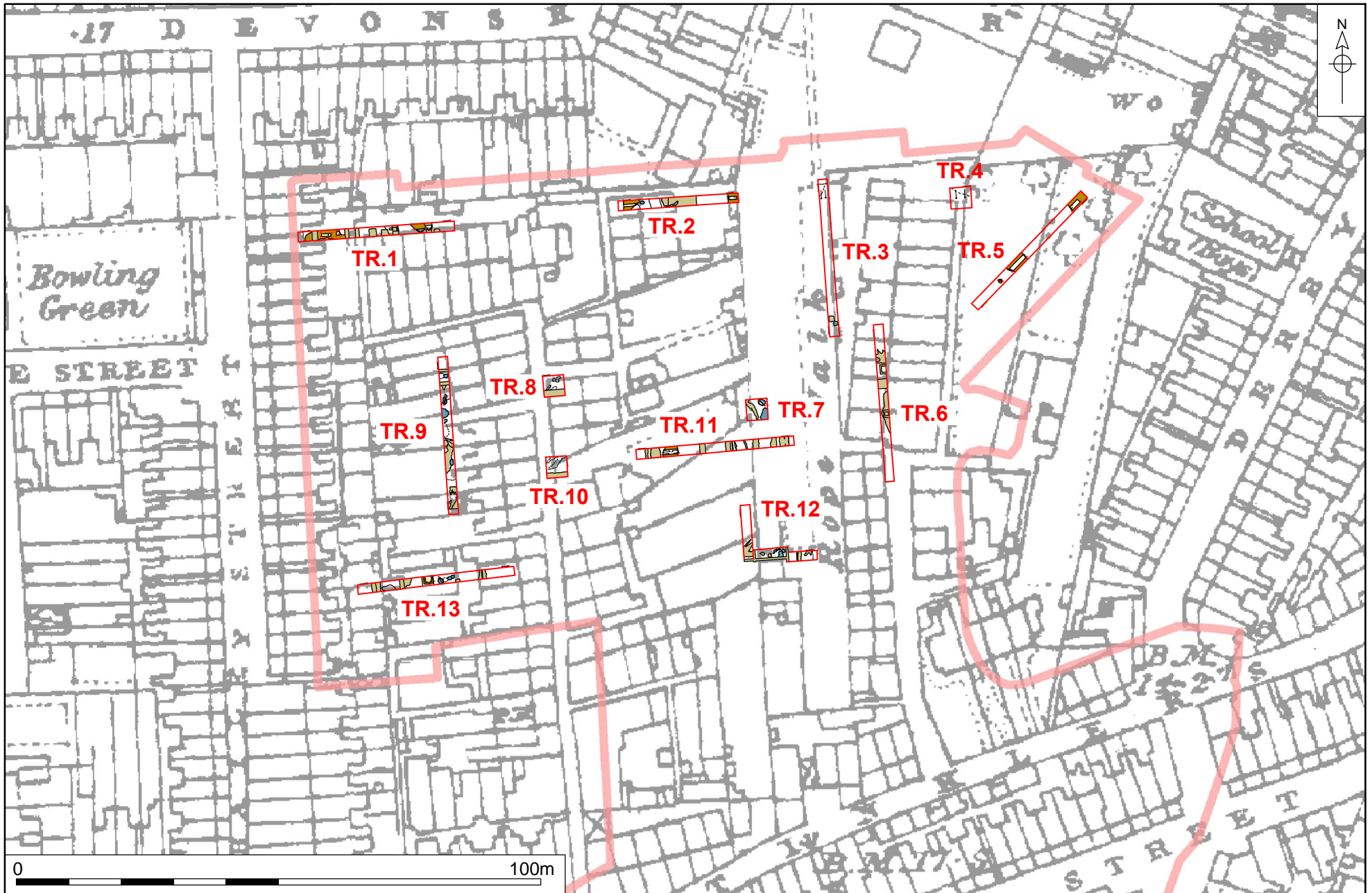
Conclusions and recommendations for further work

- 141 In summary, although this assemblage is somewhat limited in composition, it would appear most likely that the remains are all derived from domestic hearth waste. The cereals and large pulses were probably accidentally charred during culinary preparation, with other food residues comprising the bone fragments, eggshell and fish bones. The weed seeds may well be present as flooring materials or tinder/kindling, and it is assumed that the charcoal, coal and heather are remnants of fuel used in the hearth. Heather was certainly favoured for such a use as it was readily available, it ignited easily and it maintained an even, high temperature throughout combustion.
- 142 On the basis of a single assemblage, it is difficult to make recommendations for a future sampling strategy should further archaeological interventions be planned. However, as it is apparent that well-preserved plant remains are present in the archaeological horizon, it is suggested that additional samples of 20–40 litres in volume are taken from all dated features if further excavations are undertaken.

DISCUSSION

Figure 13

- 143** The current site evaluated by NPS Archaeology is perhaps one of the largest plots made available for development on the west edge of Norwich city centre for some years, and as such provided the potential to examine the archaeology and history of the area, particularly in regard to the suburban medieval development of Lower Heigham. However, considering the large size of the site the evaluation at Goldsmith Street recorded only a relatively small amount of archaeological features, and provided limited evidence of medieval activity.
- 144** The evaluation demonstrated there has been substantial truncation to the site, observed as widespread ‘scarring’ of the underlying geology. The depth of the reworked topsoil **49** and subsoil **51** reduced this somewhat in places, with larger and deeper features (where present) surviving, with only superficial/smaller features having probably being truncated and lost entirely. It is reasonable to assume that the evidence recovered by the evaluation is representative of the degree of truncation and the survival of archaeological deposits across the development site as a whole.
- 145** Pit **03** is the most notable feature found by the evaluation. It consists of a shallow waste pit, which may have been filled in the 16th century (though it also contained earlier (probably residual) and later (perhaps intrusive) material). It largely contained items of domestic refuse, with butchered bones of several animals (including an aged horse), hearth waste, later medieval bricks (potentially from disturbed medieval buildings in Lower Heigham), and broken ceramics. Knife marks on the bone illustrated that horse had been skinned, which may indicate that the hide had been used, possibly in tanning, although it may have been removed in preparation for butchering for human or animal consumption. The 16th-century date of the pit suggests that the early suburban settlement at Lower Heigham was beginning to spread further out by this time. The pit was probably situated behind a late medieval property, which fronted Heigham Street, or another smaller lane. Though unstratified, a Nuremburg Jetton dated to 1450–1550, ties in with the 16th-century date for the pit.
- 146** Pit **01**, though undated and difficult to interpret, is also of interest. It appears unusual in that it lacks any of the later 18th–20th century debris widespread across the site, which might suggest an earlier date, perhaps in line with pit **03**. Based on the lack of archaeological materials it is considered not to have been a waste pit. As the pit is steep-sided, and the local water-table is high (it was reached during excavation of the pit) it might be considered that the pit served to collect groundwater, and may have had a variety of uses, including possibly industrial uses, such as in tanning. The 20th-century church of St Barnabus, with its associated hall lies immediately beyond the site to the northeast, but it is difficult to imagine a context in which the pit might be associated with the church. An alternative interpretation is that the pit is actually of more recent date. It is known that a Second World War bomb fell in close proximity to the location of the pit, and it is entirely feasible that the pit is in fact a bomb crater.
- 147** Pit **33**, situated at the centre of the site also lacked numerous finds, and is probably not a waste pit. The few items recovered suggest that it dates to the late 18th–mid-19th century, though it did contain a small amount of residual 10th–11th-century



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Figure 13. Trench locations in relation to 1st Edition Ordnance Survey Map. Scale 1:1000

pottery derived from an unknown location. One possible origin for this pottery is from the manuring of agricultural land, which may have been the predominant land use prior to the urbanisation.

- 148 Several other late 18th–19th century waste pits were found in Trenches 3, 7, 9, 12 and 13, of which a sample was excavated. These appear to be divided between two general locations. The pits in Trenches 9 and 13 on the west side of the site may have been located to the rear of 19th-century terraced houses fronting either Bailey Street (now Goldsmith Street) or Greyhound Opening, which formerly continued north through the evaluation site. The pits in Trenches 3, 7 and 12 are located in a wide area identified on the 1884–5 Ordnance Survey town plan of Norwich as *Rope Walk*, which ran north–south between Russell Street and Midland Street (then Tinkler’s Lane) (Old Maps 2015). Traditionally rope walks were used for laying out manufactured ropes, and it is possible this practice was carried out here.
- 149 Three potential quarry pits **39**, **41** and **43** of likely 19th-century date were situated in Trenches 1 and 2 in the northwest of the site. The pits are situated where terraced houses are depicted on the 1st Edition Ordnance Survey map (Norfolk County Council 2015b), so are likely to date to either pre-construction or post-demolition of the houses. The earlier date is thought more likely for the pits in Trench 1: pits **39** and **41** may have been dug in the course of constructing the buildings. Pit **43** appears to be later (20th century) and could date to the period after the terraced houses were demolished. As two Second World War bombs struck the site close to Trench 2, the pit may even be associated with explosion/fragmentation damage.
- 150 The archaeological evaluation has usefully added to research regarding the extent of Norwich’s medieval suburban development at Lower Heigham. Pit **03** (and possibly **01**) perhaps represents activity at the periphery of Lower Heigham. Allowing for the fact that the evaluation site has sustained widespread late post-medieval/modern truncation, the lack of pre-18th–19th-century features over much of the area appears to delimit of the late medieval suburb to the northeast corner of the site. Unfortunately, pit **03** alone cannot usefully refine the chronology or status of the suburb. The available evidence may suggest, however, that Lower Heigham spread largely along the east end of Heigham Street in a ribbon-like development. Some degree of confidence can be placed on these conclusions due to the large area sampled by the evaluation and the absence of earlier archaeological features.
- 151 Historically, the majority of the evaluation site appears to have been located in an area given over to fields between Dereham Road and Heigham Street. The presence of subsoil **51** across the site may suggest that the area was cultivated over many years prior to the 19th-century development of Greyhound Opening. William Faden’s map of Norfolk 1797 indicates that, aside from development along Heigham Street (Lower Heigham), the area was largely open (Barringer 1989). By the time of Bryant’s map of 1826, further development had occurred along Midland Street and Dereham Road (Barringer 1998). The houses of Greyhound Opening, shown on the 1840s Tithe map appear to be new at that time, and the first permanent housing to occupy the evaluation site (NRO reference DN/TA 723). All significant disturbance to the site dates since that time.
- 152 Recommendations for further archaeological mitigation work (if required, based on the evidence presented in this report) will be made by Norfolk County Council Historic Environment Service.

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Appendix 1a: Context Summary

Context	Category	Cut Type	Fill Of	Description	Period
01	Cut	Pit		Pit	Med/post-med.
02	Deposit		01	Fill of 01	Med/post-med.
03	Cut	Pit		Pit	Med/post-med.
04	Deposit		03	Fill of 03	Post-medieval
05	Cut	Pit/post-hole		Pit or post-hole	Post-medieval
06	Deposit		05	Fill of 05	Post-medieval
07	Cut	Pit		Pit	Post-medieval
08	Deposit		07	Fill of 07	Post-medieval
09	Cut	Pit		Pit	Post-medieval
10	Deposit		09	Fill of 09	Post-medieval
11	Cut	Pit		Pit	Post-medieval
12	Deposit		11	Fill of 11	Post-medieval
13	Cut	Pit		Pit	Post-medieval
14	Deposit		13	Fill of 13	Post-medieval
15	Cut	Pit		Pit	Post-medieval
16	Deposit		15	Fill of 15	Post-medieval
17	Masonry			Small 19th-century structure	Post-medieval
18	Deposit			Deposit in structure 17	Post-medieval
19	Cut	Pit		Pit	Post-medieval
20	Deposit		19	Fill of 19	Post-medieval
21	Cut	Pit		Pit	Post-medieval
22	Deposit		21	Fill of 21	Post-medieval
23	Cut	Pit		Pit	Post-medieval
24	Deposit		23	Fill of 23	Post-medieval
25	Cut	Pit		Pit	Post-medieval
26	Deposit		25	Fill of 25	Post-medieval
27	Cut	Pit		Pit	Post-medieval
28	Deposit		27	Fill of 27	Post-medieval
29	Cut	Pit		Pit	Post-medieval
30	Deposit		29	Fill of 29	Post-medieval
31	Cut	Pit		Pit	Post-medieval
32	Deposit		31	Fill of 31	Post-medieval
33	Cut	Pit		Pit	Post-medieval
34	Deposit		33	Fill of 33	Post-medieval
35	Cut	Pit		Pit	Post-medieval
36	Deposit		35	Fill of 35	Post-medieval
37	Cut	Pit		Pit	Post-medieval
38	Deposit		37	Fill of 37	Post-medieval
39	Cut	Pit		Pit	Post-medieval
40	Deposit		39	Fill of 39	Post-medieval
41	Cut	Pit		Pit	Post-medieval
42	Deposit		41	Fill of 41	Post-medieval
43	Cut	Pit		Pit	Post-medieval
44	Deposit		43	Fill of 43	Post-medieval
45	Cut	Pit		Pit	Post-medieval
46	Deposit		45	Fill of 45	Post-medieval
47	Deposit			Concrete and tarmac	Post-medieval
48	Deposit			Surface preparation	Post-medieval

Context	Category	Cut Type	Fill Of	Description	Period
49	Deposit			Topsoil with dumping	Post-medieval
50	Deposit			Top 0.50m of dumping	Post-medieval
51	Deposit			Subsoil with dumping	Post-medieval
52	Deposit			Lower subsoil	Post-medieval
53	U/S Finds			metal detected finds	Post-medieval
54	U/S Finds			lower soil at east end of Trench 2	Post-medieval
55	U/S Finds			brick from 'scar' in Trench 7	Post-medieval
56	Deposit			Turf	Post-medieval
57	Deposit			Fill of 39	Post-medieval
58	Deposit			Fill of 39	Post-medieval
59	Deposit			Fill of 39	Post-medieval
60	Deposit			Fill of 39	Post-medieval
61	Deposit			Natural geology	-
62	Deposit			Fill of 01	Post-medieval
63	Deposit			Fill of 01	Post-medieval
64	Cut			Waste pit	Post-medieval
65	Deposit			Fill of 64	Post-medieval

Appendix 1b: Feature Summary

Period	Category	Total
Post-medieval	Pit	22

Appendix 2a: Finds by Context

Context	Material	Qty	Wt	Period	Notes
4	Animal bone	3	3,900g	Unknown	Horse's head
4	Animal bone	434	10,871g	Unknown	
4	Ceramic building material	33	3,906g	Medieval/post-medieval	
4	Copper alloy	1	0.7g	Post-medieval	Jetton; SF4
4	Copper alloy	1	3.1g	Post-medieval	Buckle plate; SF5
4	Iron	7	182g	Unknown	Nails
4	Lava	3	158g	Unknown	
4	Pottery	29	818g	Post-medieval	15th–17th c
4	Pottery	6	102g	Late Saxon	10th–11th c
4	Shell	2	12g	Unknown	Oyster; discarded
8	Ceramic building material	2	84g	Post-medieval	
8	Pottery	2	30g	Post-medieval	17th–20th c
14	Ceramic building material	1	33g	Post-medieval	
14	Clay Tobacco pipe	1	2g	Post-medieval	Stems
14	Pottery	16	572g	Post-medieval	17th–20th c
14	Shell	1	11g	Unknown	Oyster; discarded
18	Copper alloy	1	9g	Post-medieval	Draw handle; SF1
18	Glass	1	32g	Modern	Light shade
18	Plastic/glass	1	53g	Modern	Bottle top and stopper 'Steward & Patteson Ltd, Norwich'
18	Pottery	4	31g	Post-medieval	18th–20th c
25	Glass	1	435g	Post-medieval	Bottle; Hunt Son & Co, Ginger Beer, Steamworks, Norwich & Yarmouth, Trademark Registered
25	Pottery	2	409g	Post-medieval	Bottle; Hunt Son & Co Trademark; 19th c. (pre-1890)
26	Pottery	5	76g	Post-medieval	18th–20th c
30	Glass	1	17g	Post-medieval	Bottle neck
30	Pottery	4	103g	Post-medieval	18th–20th c
32	Pottery	2	558g	Post-medieval	Selters Herzogthum Nassau; 1850–1900; stoneware; water container
32	Pottery	11	514g	Post-medieval	18th–20th c
34	Animal bone	2	11g	Unknown	

Context	Material	Qty	Wt	Period	Notes
34	Ceramic building material	5	86g	Post-medieval	
34	Clay tobacco pipe	3	10g	Post-medieval	Stems
34	Glass	1	3g	Post-medieval	Vessel glass
34	Pottery	2	24g	Late Saxon	10th–11th c
34	Pottery	4	24g	Post-medieval	16th–19th c
34	Shell	1	5g	Unknown	Oyster; discarded
38	Pottery	1	41g	Post-medieval	18th–19th c
40	Clay tobacco pipe	1	4g	Post-medieval	Stems
44	Ceramic building material	2	491g	Post-medieval	
44	Pottery	2	16g	Post-medieval	18th–20th c
53	Copper alloy	1	0.8g	Post-medieval	Button; SF2
53	Copper alloy	1	1.5g	Post-medieval	Button cap; SF3
54	Pottery	2	10g	Post-medieval	18th–20th c
55	Ceramic building material	1	854g	Post-medieval	

Appendix 2b: Finds Summary

Period	Material	Total
Late Saxon	Pottery	8
Medieval/post-medieval	Ceramic building material	33
Post-medieval	Ceramic building material	11
	Clay tobacco pipe	5
	Copper alloy	5
	Glass	3
	Pottery	84
Modern	Glass	1
	Plastic/glass	1
Unknown	Animal bone	439
	Iron	7
	Lava	3
	Shell	4

Appendix 3: Pottery

Context	Fabric	Form	Rim	No	Wt/g	Fabric date range
04	THET			5	96	10th-11th c.
04	THET	medium AB jar	4	1	9	10th-11th c.
04	LMT			11	242	15th-16th c.
04	LMT	bowl	complex	4	169	15th-16th c.
04	LMT	handled jar	complex	1	83	15th-16th c.
04	GSW2			2	17	L.14th-15th c.
04	GSW3			8	206	L.15th-16th c.
04	DUTU	cauldron		1	49	L.14th-17th c.
04	LEPM	chafing dish	complex	2	52	16th c.
08	ESW			1	20	17th-19th c.
08	PORC			1	10	18th-20th c.
14	REFW			4	111	L.18th-20th c.
14	REFW	bowl	cavetto	1	7	L.18th-20th c.
14	REFW	jug?	plain	1	17	L.18th-20th c.
14	REFW	preserve jar	beaded	1	26	L.18th-20th c.
14	PEW			1	113	L.18th-M.19th c.
14	YELW			1	8	L.18th-19th c.
14	YELW	bowl	flaring	2	32	L.18th-19th c.
14	ESW			1	27	17th-19th c.
14	ESW	bottle		1	140	17th-19th c.
14	PORC	dish	flaring	1	66	18th-20th c.
14	PORC	figurine		2	25	18th-20th c.
18	PEW			1	18	L.18th-M.19th c.
18	PORC	dish/saucer	everted	3	13	18th-20th c.
25	ESW	bottle	beaded	2	409	19th c. (pre 1890)
26	REFW			1	3	L.18th-20th c.
26	YELW			1	10	L.18th-19th c.
26	PORC	cup		2	29	18th-20th c.
26	LSRW	bowl		1	34	18th-19th c.
30	REFW			1	22	L.18th-20th c.
30	REFW	bowl?	flaring	1	10	L.18th-20th c.
30	REFW	chamber pot	flat everted	2	71	L.18th-20th c.
32	GSW	bottle	beaded	2	558	c. 1850-1900
32	REFW			3	46	L.18th-20th c.
32	REFW	plate	everted	7	435	L.18th-20th c.
32	PORC	egg cup		1	33	18th-20th c.
34	THET			1	6	10th-11th c.
34	THETG			1	18	10th-11th c.
34	GRE			1	13	16th-18th c.

Context	Fabric	Form	Rim	No	Wt/g	Fabric date range
34	PEW	plate	everted	3	11	L.18th-M.19th c.
38	YELW	bowl	flat everted	1	41	L.18th-19th c.
44	REFW			2	16	L.18th-20th c.
54	REFW	bowl?	flaring?	1	2	L.18th-20th c.
54	REFW	plate	everted	1	8	L.18th-20th c.

Appendix 4: Brick and Tile

context	form	fabric	no	wt/g	abr	L	W	T	peg	mortar	glaze	comments	date
04	RTM	msf	1	37	+							buff with red core	med
04	EB	est	1	573			105	55				strawed	13-15
04	EB	est	1	485			107	36				strawed	13-15
04	EB	est	1	179				46				strawed	13-15
04	LB	msffe	1	167	+			61					19+
04	FFT	fs	1	200				30			G		14-15
04	QFT	fs	1	285				30				reduced surfaces	pmed
04	RTP	fs	8	682					1 x R	1 msca, 1 ms thin			pmed
04	RTP	msfe	1	60	+								pmed
04	RTP	fsfe	1	67	+					thin		flake	pmed
04	EB	est	5	493	+					thin		2 strawed	13-15
04	RTM	fs	2	125								reduced	med
04	RTM	cs	1	88									med
04	RTM?	ms	3	57	+			c.9-10				all v thin	med?
04	RTM	fs	5	379					2 x R			reduced surfaces and/or core; peg holes not full thickness	med
08	PAN	fsfe	2	84								blackened/sooted surface	pmed
14	PAN	fsfe	1	33						thin		blackened/sooted surface	pmed
34	RTP	fsgcp	1	17	+								pmed
34	RTP?	fsfe	1	21	+							fairly soft, poss earlier	lmed/pmed?
34	RTP	fsg	1	11								pink	pmed

context	form	fabric	no	wt/g	abr	L	W	T	peg	mortar	glaze	comments	date
34	RTM	cs	1	23									med
44	PAN	fs	1	329									pmed
44	CP	mscfe	1	158								sooted inside	pmed
55	B	comp	1	848			107	64				frogged, ...R mark, base v worn - used in floor?	19-20

Appendix 5: Animal Bone

Appendix 5A. Catalogue of the faunal remains

Listed in context order. The full recording, with additional counts, is available in the digital archive.

Key:

NISP = Number of Individual Species elements Present

MNI = Minimum Number of Individuals

Age – ad = adult, j = juvenile (older than 1 month), Neo = less than one month

Element range – ul = upper limb/wing, ll = lower limb/leg, f = foot bone, r = rib, v = vertebrae, pel = pelvis, scap = scapula, sk = skull, mand = mandible, t = tooth, hc = horn core,

Butchering = c = cut, ch = chopped

Ctxt	FNo	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Ch	C	Skin	Path	Comments
4	3	43 7	1477 1	Equid	80	8 0			2	sk, mand, ul, ll, f, scap	7	4	*	6	incomplete dist-articulated skeleton of a large pony/small horse aged c.25-30yrs. Skull/mand Wt=3900g
4	3			Cattle	29	2 7		2	2	ll, ul, f, t, mand, hc, v, +	1 2				range of limb, foot and head bones including horn frags, skinned and butchered
4	3			Sheep/goat	24	1	2		3	ll, ul, scaps, hc, pel, mand, v					4 scaps, pel adult mand (4yrs+) and juv mandibles, sheep horncore, sag chopped vertebrae
4	3			Pig	10		9	1	2	mand, f, ul, scap	4	2			neonatal humerus, rest are from individual several months old
4	3			Bird - Goose	5	4	1		2	ll, ul	3				carpometacarpus, humerus, tarsometatarsi (a + j)
4	3			Bird - Fowl	9	9			2	ul, ll	2				one large, one small fowl, femurs, humeri, coracoids
4	3			Bird - Pigeon	1		1		1	ul					humerus, small pigeon/dove
4	3			Bird	3										fercula, limb frags
4	3			Rabbit	1				1	ul	1				tibia, chopped mid-shaft leaving proximal half
4	3			Mammal	27 5										most large mammal fragments
3 4	3 3	2	11	Sheep/goat	2	2				t, ul	1	1			Lower molar 2, radius shaft

Appendix 5B. Measurements of the equid bones, following Von Den Driesch 1976

Context	Period	Type	Species	Element	Fusion	Side	GI	Bd	Dd	BatF	Bfd	SD
4	Med/PM	Pit	Equid	Tibia	f	l	355	75.6				43.8
4	Med/PM	Pit	Equid	Tibia	f	r	356	76.2				43.5
4	Med/PM	Pit	Equid	Femur	f	r	398	97.5	118.2			42.1
4	Med/PM	Pit	Equid	Femur	f	l	397	95.8	120.1			43.2
4	Med/PM	Pit	Equid	Metatarsal	f	l	277			47.1	50	34.7
4	Med/PM	Pit	Equid	Skull	n/a	c	565					
4	Med/PM	Pit	Equid	Tibia	f	l	348	70				39.2

Appendix 5C. Tooth wear following Hillson 1992 and Levine 1982.**Key:**

TWS = Tooth wear stage

Context	Type	Period	Taxa	Tooth No	Upper/Low	Side	Eruption	TWS	Comments
4	Pit	Med/PM	Equid	PM2	upper	right	e	4to5	
4	Pit	Med/PM	Equid	PM3	upper	right	e	4	
4	Pit	Med/PM	Equid	PM4	upper	right	e	4to5	
4	Pit	Med/PM	Equid	M1	upper	right	e	4	
4	Pit	Med/PM	Equid	M2	upper	right	e	4	
4	Pit	Med/PM	Equid	M3	upper	right	e	4	
4	Pit	Med/PM	Equid	PM2	upper	left	e	4to5	
4	Pit	Med/PM	Equid	PM3	upper	left	e	4	
4	Pit	Med/PM	Equid	PM4	upper	left	e	4to5	

Context	Type	Period	Taxa	Tooth No	Upper/Low	Side	Eruption	TWS	Comments
4	Pit	Med/PM	Equid	M1	upper	left	e	4	
4	Pit	Med/PM	Equid	M2	upper	left	e	4	
4	Pit	Med/PM	Equid	M3	upper	left	e	4	
4	Pit	Med/PM	Equid	PM2	lower	right	e	5	Space after PM2 and before PM3
4	Pit	Med/PM	Equid	PM3	lower	right	e	5	Space after PM3 and before PM4
4	Pit	Med/PM	Equid	PM4	lower	right	e	4to5	
4	Pit	Med/PM	Equid	M1	lower	right	e	4	
4	Pit	Med/PM	Equid	M2	lower	right	e	4to5	
4	Pit	Med/PM	Equid	M3	lower	right	e	5	
4	Pit	Med/PM	Equid	PM2	lower	left	e	5	
4	Pit	Med/PM	Equid	PM3	lower	left	e	5	
4	Pit	Med/PM	Equid	PM4	lower	left	e	4to5	
4	Pit	Med/PM	Equid	M1	lower	left	e	4	
4	Pit	Med/PM	Equid	M2	lower	left	e	4to5	
4	Pit	Med/PM	Equid	M3	lower	left	e	5	

Appendix 6: Environmental Results

Sample No.	1
Context No.	4
Feature No.	3
Feature type	Pit
Date	16th C.
Cereals and other potential crop plants	
<i>Avena</i> sp. (grains)	x
<i>Hordeum</i> sp. (grains)	xx
<i>Secale cereale</i> L. (grain)	x
Cereal indet. (grains)	x
Large Fabaceae indet.	xcotyfg
Herbs	
Fabaceae indet.	x
Small Poaceae indet.	x
<i>Silene</i> sp.	x
Other plant macrofossils	
Charcoal <2mm	xxxx
Charcoal >2mm	xxxx
Charcoal >5mm	xxx
Charcoal >10mm	xx
Charred root/stem	xx
Ericaceae indet. (stem)	x
Indet. buds	x
Indet. culm nodes	x
Other remains	
Black porous 'cokey' material	x
Black tarry material	x
Bone	x xb
Burnt/fired clay	x
Charred textile	x
Eggshell	xb
Fish bones	xx xb
Small coal frags.	xx
Small mammal/amphibian bones	x xb
Vitreous material	x
Sample volume (litres)	30
Volume of flot (litres)	0.3
% flot sorted	50%

Key to Table

x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens xxxx = 100+ specimens

coty = cotyledon fg = fragment b = burnt

Appendix 7: Historical Periods

Period	Date From	Date To
Prehistoric	-500,000	42
Early Prehistoric	-500,000	-4,001
Palaeolithic	-500,000	-10,001
Lower Palaeolithic	-500,000	-150,001
Middle Palaeolithic	-150,001	-40,001
Upper Palaeolithic	-40,000	-10,001
Mesolithic	-10,000	-4,001
Early Mesolithic	-10,000	-7,001
Late Mesolithic	-7,000	-4,001
Late Prehistoric	-4,000	42
Neolithic	-4,000	-2,351
Early Neolithic	-4,000	-3,001
Middle Neolithic	-3,500	-2,701
Late Neolithic	-3,000	-2,351
Bronze Age	-2,350	-701
Early Bronze Age	-2,350	-1,501
Beaker	-2,300	-1,700
Middle Bronze Age	-1,600	-1,001
Late Bronze Age	-1,000	-701
Iron Age	-800	42
Early Iron Age	-800	-401
Middle Iron Age	-400	-101
Late Iron Age	-100	42
Roman	42	409
Post Roman	410	1900
Saxon	410	1065
Early Saxon	410	650
Middle Saxon	651	850
Late Saxon	851	1065
Medieval	1066	1539
Post-medieval	1540	1900
Modern	1900	2050
World War One	1914	1918
World War Two	1939	1945
Cold War	1945	1992
Unknown	--	--

after English Heritage Periods List, recommended by Forum on Information Standards in Heritage available at: <http://www.fish-forum.info/inscript.htm>

Appendix 8: OASIS Report Summary

OASIS DATA COLLECTION FORM: England

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OASIS ID: norfolka1-177627

Project details

Project name	Goldsmith Street, Norwich
Short description of the project	NPS Archaeology was commissioned by NPS Group to undertake an archaeological evaluation prior to submission of a planning application to construct more than 100 new dwellings on a plot of land adjacent to Goldsmith Street on the west side of Norwich (TG 2211 0916).The proposed development site is 1.1ha in area. The archaeological evaluation was undertaken from 6-14 July 2015 and consisted of 13 trial trenches designed to sample 5% of the development. Notably, the work revealed a 16th-century waste pit in the northeast corner of the site. The pit contained large amounts of animal bone, including the skeleton of a horse, which may point to the tanning activities that are known to have been widespread in Lower Heigham. The activity represented by the archaeological feature is likely to be linked with early suburban growth outside Norwich's medieval city walls. A second, undated pit may also be of early origin, but because of the lack of dating evidence the possibility that it is part of an infilled crater resulting from Second World War bomb strikes cannot be ruled out. Evidence of bomb blast may have been detected elsewhere in the north of the site, but is difficult to identify with certainty. In other areas of the evaluation features of late 18th-19th-century date were identified, including waste pits and possible quarry pits likely to be associated with the small 19th-century development of Greyhound Opening. The lack of further elements of medieval and early post-medieval date may usefully help define the limits of the suburb of Lower Heigham to the northeast of the site, closer to Heigham Street, although the degree of truncation observed across the site-due to its recent land use and considerable redevelopment through the 20th century-may have destroyed evidence of prior activity.
Project dates	Start: 06-07-2015 End: 14-07-2015
Previous/future work	Not known / Not known
Any associated project reference codes	138289 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	PIT Post Medieval
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Post Medieval

Significant Finds	ANIMAL BONE Uncertain
Significant Finds	METAL Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	CLAY PIPE Post Medieval
Significant Finds	BRICK Post Medieval
Significant Finds	TILE Post Medieval
Methods & techniques	"Targeted Trenches"
Development type	Urban residential (e.g. flats, houses, etc.)
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application

Project location

Country	England
Site location	NORFOLK NORWICH NORWICH Goldsmith Street
Postcode	NR2 4QF
Study area	1.10 Hectares
Site coordinates	TG 2211 0916 52.6341624532 1.28275070115 52 38 02 N 001 16 57 E Point
Height OD / Depth	Min: 3.50m Max: 4.50m

Project creators

Name of Organisation	NPS Archaeology
Project brief originator	Norfolk Historic Environment Service
Project design originator	NPS Archaeology
Project director/manager	Peter Eric Crawley
Project supervisor	NPS Archaeology

Project archives

Physical Archive recipient	Norfolk Museums Service
Physical Contents	"Animal Bones","Ceramics","Glass","Metal","other"
Digital Archive recipient	NPS Archaeology
Digital Contents	"other"
Digital Media available	"Images raster / digital photography","Spreadsheets","Text"
Paper Archive recipient	Norfolk Museums Service
Paper Contents	"other"

Paper Media available "Context sheet","Miscellaneous Material","Photograph","Plan","Report","Section"

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

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Appendix 9: Archaeological Specification

01-04-16-2-1059



nps archaeology

**Archaeological Evaluation
Greyhound Opening, Goldsmith Street, Norwich
Written Scheme of Investigation**

**Prepared for
NPS**



NPS Archaeology

May 2015



www.nps.co.uk

Location	Greyhound Opening, Goldsmith Street, Norwich
District	Norwich
Planning reference	n/a
Grid reference	TF 2203 0915
Client	NPS

REVIEW CHECKLIST		
Completed by	Niall Oakey	01/05/15
Reviewed by	Jayne Bown	06/05/15
<i>Issue 1</i>		

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Archaeological Evaluation

Written Scheme of Investigation

1. Introduction

- 1.1 Planning permission is being sought for 105 dwellings with associated access, landscaping and amenity spaces on an area of land to the west of the historic core of Norwich (TF 2203 0915). Pre-application advice was sought from Norfolk Historic Environment Services (NHES) and a brief for evaluation by trial trenching was issued by them.
- 1.2 NPS has requested that NPS Archaeology produce a fee quote and this Written Scheme of Investigation for a programme of archaeological evaluation to satisfy the requirements of the NHES site-specific *Brief for Archaeological Evaluation by Trial Trenching at Greyhound Opening, Goldsmith Street, Norwich, Norfolk* produced on 31st August 2012 (Ref CNF42048).
- 1.3 The development area (hereafter “the Site”) is irregularly-shaped, 25,563 sq m in area and within a block bounded by Devonshire Street and Langley Walk to the north, Midland Walk and Mancroft Walk to the east, Dereham Road to the south, and Goldsmith Street to the west.
- 1.4 Existing evidence for activity on the Site is summarised in Sillwood 2015¹. Situated outside of the medieval city walls and historic core of Norwich and close to the early suburb of Lower Heigham, with the exception of a find of Roman coins from the vicinity of the Site and the putative existence of a Roman road close to the course of the modern Dereham Road, there is little existing evidence of activity in the area before the late Saxon and later periods. Heigham has yielded evidence of medieval horn-working and tanning and these noxious processes probably continued into the post-medieval period.
- 1.5 The Tithe Map of 1842 shows the central part of the site occupied by Greyhound Opening, a single north/south road lined with houses and gardens, but the general character is that of a small suburb surrounded by fields. In the later 19th and early 20th centuries the Site was infilled with terraces of houses around a north/south industrial property which derived its shape from use as a Rope Walk (1884 Ordnance Survey) and was successively a Timber Yard (1928, 1938 mapping), a Joinery Works (1956) and a Furniture Factory (1975). There was bomb damage on the Site in 1942-3 (resulting in some clearance of terraced housing) and an air raid shelter and possible air-raid precautions post was located in the north-eastern corner. In the later 20th century the northern part of the Site was cleared for the establishment of the Alderman Clarke Care Home (in place by 1961). The southern sector of the Site had been cleared of buildings by 1989 and the care home has also closed and been demolished.
- 1.6 No previous archaeological intrusions have taken place on the Site or in its immediate vicinity. However, 240m away excavations at 12 Heigham Street showed that well-stratified archaeological deposits of 15th and 17th-century date survived 2.20m below the modern ground surface².
- 1.7 The lack of existing information on the archaeological potential of the Site makes it difficult to identify how archaeological evaluation of the site will address regional

¹ Sillwood, R., 2015 *Desk-Based Assessment of the former Alderman Clarke Care Home, Goldsmith Street, Norwich, Norfolk* NPS Archaeology Report No 2015/1201 (unpublished).

² *Ibid* 23.

archaeological research objectives. However, it has the potential to address important questions on settlement morphology, the basic chronology and status of the suburb of Heigham, all priority research questions for regional urban archaeology.³ It may represent an opportunity to add to understanding the inter-relationship between towns and their hinterlands, together with contributing to identified research themes on “development of towns, changes in their internal layouts and housing densities, and their role as centres of supply and demand”.⁴ Evidence may also be recovered relating to the immediate and longer-term material response to damage to the housing stock from German bombing in the Second World War (e.g. demolition of unsafe buildings).

2. Aims

2.1 The Programme of Archaeological Work requested by NHES is required to recover, by archaeological evaluation, information relating to the extent, date, phasing, character, function, status and significance of the site. A determination of the state of preservation of any features, deposits and structures is also required.

2.2 The aims of the archaeological work may therefore be summarised as follows:

- i. To establish the presence or absence of archaeological remains within the proposed development area.*
- ii. To determine the extent, condition, nature, quality and date of any archaeological remains occurring within the Site and the possible impacts of the proposed development on them.*
- iii. Ensure that any archaeological features discovered during trial trenching are identified, sampled and recorded and, where it is desirable, recommendations for their preservation in situ are made.*
- iv. To establish, as far as possible, the extent, character, stratigraphic sequence and date of archaeological features and deposits, and the nature of the activities which occurred at the Site during the various periods or phases of its occupation*
- v. To establish the palaeoenvironmental potential of subsurface deposits by ensuring that any deposits with the potential to yield palaeoenvironmental data are sampled and submitted for assessment to the appropriate specialists.*
- vi. To explore evidence for social, economic and industrial activity.*
- vii. To disseminate the archaeological data recovered by the evaluation in the form of a report which will provide a basis for any decisions regarding further archaeological intervention and mitigation proposals should they be necessary.*

3. Method Statement

3.1 Introduction

3.1.1 A three-stage evaluation strategy will be undertaken to assess the archaeological potential of the proposed development site. The stages of this strategy may be summarised as follows.

³ Ayers, B. 2000, “Anglo-Saxon, Medieval and Post-Medieval (Urban)” in Brown, N. and Glazebrook, J. (ed.) *Research and Archaeology: a Framework for the Eastern Counties*, 2. *Research agenda and strategy* East Anglian Archaeology Occ. Paper **8**, 30

⁴ Medlycott, M. (ed.) 2011 *Research and Archaeology Revisited: A Revised Framework for the East of England* East Anglian Archaeology Occ Paper **24**, 70.

- i. *Trial Trenching.* Machine and manual excavation will be employed to investigate the presence, condition, character and date of any subsurface archaeological deposits and features occurring within the Site. Any archaeological features identified will be cleaned and sample excavated to determine function, form and relative date.
- ii. *Post-fieldwork Processes.* The drawn and written stratigraphic/structural record will be cross-referenced and analysed to provide a synthesis of the results of the work. The cleaning and cataloguing of any artefactual and ecofactual materials recovered will be carried out throughout the duration of the fieldwork. The finds will be cleaned, marked and packaged in accordance with the archive requirements of the Norfolk Museums Service (NMS).
- iii. *Report and Archive.* The report will describe the results of the window sampling and trial trenching with data presented in tabular, graphic and appendix form. Copies of the reports will be submitted to the client and to NHES.

3.1.2 The procedures and methodology for each of the stages outlined above are described in detail below.

3.2 Trial Trenching

- 3.2.1 Trial trenching will be concerned with establishing the condition, character and date of any subsurface archaeological features and deposits present. Guidelines set out in the documents *Standard and Guidance for an Archaeological Field Evaluation* (Chartered Institute for Archaeologists 1994, revised 2001 and 2008) and *Standards for Field Archaeology in the East of England* (Gurney 2003) will be followed.
- 3.2.2 Nine trenches measuring 30m x 1.8m, two of 10m x 1.8m and four of 4m x 4m will be excavated to provide a c.5% sample of the Site, the trenches located (within constraints) to address ground disturbance from the planned development (see figure).
- 3.2.3 The trenches have been arrayed across the Site to provide comprehensive coverage, concentrated in areas where the new buildings will be located. The two 10m x 1.8m trenches in the southern part of the Site are targeted on the only planned areas of development in this sector, the remainder being designed as open ground retaining existing trees. Trenches have been positioned to avoid known services (information provided by the client) and the canopies and root systems of trees, together with collated World War II bomb impacts⁵. The final locations of some trenches may be determined on the basis of surface or below ground obstructions and Health and Safety considerations.
- 3.2.4 The trenches will be set out by NPS Archaeology and CAT-scanned prior to excavation. A qualified EOD Engineer using a specialist magnetometer to clear the ground ahead of the excavator bucket will maintain Unexploded Ordnance (UXO) Safety.
- 3.2.5 Excavation will be by mechanical excavator fitted with a toothless bucket in 100mm spits until natural geological ground or archaeological deposits are identified.
- 3.2.6 Initial excavation will be undertaken to the top of any undisturbed archaeological deposits or the surface of the underlying natural deposits, whichever is the highest. If neither is encountered it may be necessary to excavate to a maximum depth of 1.2m below the present ground surface in line with Health and Safety legislation for trenches with

⁵ MACC International Limited, 2015 *Unexploded Ordnance Desk Study. Goldsmith Street, Norwich NR2 4QF, Annex A*

unsupported sides. If further depth of excavation is required, the trench sides will need to be shored.

- 3.2.7 If the deposits within the trenches are thought to extend too deep to evaluate safely or below the likely level of any development impacts a hand auger may be used to retrieve information about the nature of the lower deposits.
- 3.2.8 The trenches will be fenced using Netlon high-visibility fencing and appropriate warning signage will be displayed.
- 3.2.9 Spoil from the trenches will not be removed from site. The trenches will not be backfilled by NPS Archaeology until agreement to do so is given by NHES. This backfilling will not attempt consolidation or compaction over and above that possible with a mechanical excavator. Full surface reinstatement will not be attempted, but all trenches will be left in a safe condition.
- 3.2.10 Exposed surfaces and all archaeological features and deposits will be excavated by hand and screened by metal detector. The metal detector will be utilised to scan excavated spoil and *in situ* horizons with the operator ensuring that it is used in a correct fashion. All artefactual and ecofactual materials will be collected and bagged by context.
- 3.2.11 Detailed strategies for levels of sampling of buried soils, structures, pits, post-holes and ditches will be determined on site. Allowance will be made for total recovery where appropriate; percentage sampling will apply in areas where complex stratified deposits are encountered. Buried soils will be sampled by sieving to determine artefact densities. In general, the feature/deposit sampling strategy will be employed throughout the evaluation in accordance with the document *Standards for Field Archaeology in the East of England* (Gurney 2003).
- 3.2.12 All archaeological deposits, features and layers will be assigned individual context numbers and recorded on standardised forms employing the NPS Archaeology's *pro forma* recording system. The records will include full written, graphic and photographic elements with site and context numbering compatible with the Norfolk Historic Environment Record numbering system. Plans will be made at a scale of 1:50, with provision for 1:20 and 1:10 drawings. Sections will be recorded at scales of 1:10 and 1:20 depending on the detail considered necessary. A photographic record in black and white and digital will be maintained of all archaeological deposits, layers and features to record their characteristic and relationships. Photographs will also be taken to record the progress of the evaluation.
- 3.2.13 Human remains will be left *in situ* unless otherwise instructed by NHES. If any human remains or burials are encountered which must be removed an application for a Licence for the Removal of Human Remains will be made in compliance with the 1857 and 1981 Burial Acts and within all relevant Ministry of Justice guidelines. Backfilling of features containing human remains will be done manually to ensure that the remains are appropriately protected from any damage or disturbance.
- 3.2.14 Soil samples for palaeoenvironmental materials will be collected if suitable sealed and well-dated deposits are encountered. Standard 10 litre bulk soil samples, column or monolith samples and Kubiena tins will be collected from such deposits as appropriate, in consultation with the Historic England Regional Advisor for Archaeological Science and other consultant environmentalists. In all instances, sampling procedures will follow the guidelines set out in the document *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2002). Full written, graphic and photographic sample records will be made using NPS Archaeology's *pro forma* recording system.

3.3 Post-Fieldwork Processes

- 3.3.1 The drawn and written stratigraphic/structural record will be cross-referenced and analysed to provide a synthesis of the results of the work.
- 3.3.2 The cleaning and cataloguing of any artefactual materials recovered will be undertaken on completion of the trial trenching. All retained materials will be cleaned, marked and packaged in accordance with the requirements of the NMS.
- 3.3.3 Post-fieldwork analyses will start upon completion of the finds processing and will involve the identification and description of the artefactual materials recovered by the relevant specialists. In general, the following strategies will be employed in the analysis of the artefactual materials recovered:
- *Pottery*. Analysed to determine date and tabulated by context unit.
 - *Worked flint*. Sorted and tabulated by context unit.
 - *Metal artefacts*. Assessed for dating and significance, catalogued by context unit and where necessary conserved within four weeks of completion of fieldwork, in accordance with *UK Institute of Conservators Guidelines*.
 - *Faunal Remains*. Sorted and tabulated by context unit. Assessed for the potential for further analysis and for sieving for the recovery of smaller bird and fish bones.
 - *Environmental Samples*. Processed and assessed for content and significance.
 - Other categories of artefactual materials will be analysed in a similar fashion.
- 3.3.4 All finds work will follow the procedures set out in the document *Standards and Guidelines for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists 2001). Finds data will be entered on a spreadsheet to aid analysis and report preparation.

3.4 Report and Archive

- 3.4.1 At the completion of fieldwork an evaluation report will be prepared that presents the stratigraphic, structural, artefactual and environmental evidence and analyses, and a synthesis of the results of the trial trenching.
- 3.4.2 The report will present data in tabular, graphic and appendix form. A list of archive components generated by the work will also be included in the report. Copyright of the reports will be retained by NPS Archaeology.
- 3.4.3 Multiple copies of the report will be produced as appropriate and presented to the client, and three hard copies (plus a pdf) will be submitted to NHES within eight weeks of the completion of the fieldwork. An HER (Historic Environment Record) form will accompany the evaluation report and will include a reference to the archive and the intended place of archive deposition.
- 3.4.4 An online OASIS record will be initiated immediately prior to the start of fieldwork and completed when the final report is submitted to NHES. This will include uploading a pdf version of the final report.
- 3.4.5 A single integrated archive for all elements of the work will be prepared according to the recommendations set out in *Environmental standards for the permanent storage of excavated material from archaeological sites* (UKIC, Conservation Guidelines 3, 1984) and *Guidelines for the preparation of excavation archives for long-term storage* (Walker 1990), and in accordance with the NMS's own requirements for archive preparation, storage and conservation.
- 3.4.6 The archive will be fully indexed and cross-referenced. It will also be integrated with the NMS's Project accession number and the Norfolk Historic Environment Record numbering system. Deposition of the archive and finds (by prior agreement with the landowners) will take place after completion of the final report and confirmed in writing to

the NMS. A full listing of archive contents and finds boxes will accompany the deposition of the archive and finds. If NMS are not making new archive accessions and there is no confirmation of when new archives will be accepted, NPS Archaeology reserves the right to make alternative arrangements,

- 3.4.7 All archaeological materials, excepting those covered by the *Treasure Act, 1996*, will remain the property of the landowners. NPS Archaeology will seek to reach a formal agreement with the landowners for the donation of the finds to the NMS.

4. Timetable

- 4.1 The timetable for fieldwork assumes that there are no major delays to the work programme caused by vandalism, repeated plant breakdown, restricted access, programme changes by the Client or major periods of adverse weather conditions.
- 4.2 It is estimated that the fieldwork will take three weeks with a team of eight archaeologists, dependent on archaeological remains present.

5. Staffing

- 5.1 The project will be co-ordinated by a Project Officer who will be dedicated to the project throughout its duration. The Project Manager will assume responsibility for all aspects of the project including finance, logistics, standards, health and safety, and liaison with the client and curators. The Project Officer will have substantial experience in trench evaluation and post-excavation analysis.
- 5.2 Other members of staff involved in the project will be seven Experienced Excavators and a Finds Co-ordinator. Experienced Excavator staff will have experience in urban excavation and experience with NPS Archaeology's *pro forma* recording system or similar systems. The Project Officer and/or Experienced Excavator staff will be experienced metal detector users.
- 5.3 NPS Archaeology staff associated with the project will be as follows:

Project Management	
Archaeology Manager	Jayne Bowne BA MCIfA
Project Manager	Niall Oakey MA BA

Project Staff	
Project Officer	John Ames MCIfA
Finds Officer	Becky Sillwood BA ACIfA
Experienced Excavators	To be nominated

- 5.4 NPS Archaeology reserves the right, because of its developing work programme, to change its nominated personnel at any time. This will be in consultation with Norfolk Historic Environment Service
- 5.5. The analysis of artefactual and ecofactual materials will be undertaken by NPS Archaeology staff or nominated external specialists. Nominated NPS Archaeology and external specialists and their areas of expertise are as follows:

5.5.1 Specialists used by NPS Archaeology

Specialist	Research Field
Andy Barnett	Metal-detectorist, Numismatic Items
Sarah Bates	Worked Flint
Fran Green	Palaeo-environmental Analysis
Julie Curl	Faunal Remains
Sue Anderson	Post-Roman Pottery, Ceramic Building Material
Debbie Forkes	Conservation
Val Fryer	Macrofossil analysis

6. General Conditions

- 6.1 NPS Archaeology will not commence work until a written order or signed agreement is received from the Client. Where the commission is received through an Agent, the Agent is deemed to be authorised to act on behalf of the Client. NPS Archaeology reserve the right to recover unpaid fees for the service provided from the Agent where it is found that this authority is contested by said Client.
- 6.2 NPS Archaeology has received information on services crossing the site from the client.
- 6.3 A 7.4 hour working day is normally operated by NPS Archaeology, although their agents may work outside these hours.
- 6.4 NPS Archaeology would expect the client to arrange suitable access to the site for its staff, plant and welfare facilities on the agreed start date.
- 6.5 NPS Archaeology would expect any information concerning the presence of TPOs and/or, protected flora and fauna on the site to be provided by the client prior to the commencement of works and accept no liability if this information is not disclosed. No excavation will take place within 8m or canopy width (whichever is the greater) of any trees within or bordering the site.
- 6.6 NPS Archaeology shall not be held responsible for any delay or failure in meeting agreed deadlines resulting from circumstances beyond its reasonable control. Such circumstances would include without limitation; long periods of adverse weather conditions, flooding, repeated vandalism, ground contamination, delays in the development programme, unsafe buildings, conflicts between the archaeological excavation method and the protection of flora and fauna on the site, disease restrictions, and unexploded ordnance.
- 6.7 Whether or not CDM regulations apply to this work, NPS Archaeology would expect the client to provide information on the nature, extent and level of any soil contamination present. Should unanticipated contaminated ground be encountered during the trial trenching, excavation will cease until an assessment of risks to health has been undertaken and on-site control measures implemented. NPS Archaeology will not be liable for any costs related to the collection and analysis of soils or other assessment methods, on-site control measures, and the removal of contaminated soil or other materials from site.
- 6.8 Should any disease restrictions be implemented for the area during the evaluation, fieldwork will cease and staff redeployed until they are lifted. NPS Archaeology will not be liable for any costs related to on-site disease control measures and for any additional costs incurred to complete the fieldwork after the restrictions have been removed.
- 6.9 NPS Archaeology will not accept responsibility for any tree surgery, removal of undergrowth, shrubbery or hedges or reinstatement of gardens. NPS Archaeology will endeavour to restrict the levels of disturbance of to a minimum but wishes to bring to the attention of the client that the works will necessarily alter the appearance of landscapes.

7. Quality Standards

- 7.1 NPS Archaeology fully endorses the *Code of Practice* and the *Code of Practice for the Regulation of Contractual Arrangements in Field Archaeology* of The Chartered Institute for Archaeologists. All staff employed or subcontracted by NPS Archaeology will be employed in line with The Chartered Institute for Archaeologists *Code of Practice*.
- 7.2 The guidelines set out in the document *Standards for Field Archaeology in the East of England* (Gurney 2003) will be adhered to. Provision will be made for monitoring the work

by NHES in accordance with the procedures outlined in the document *Management of Archaeological Projects* (English Heritage 1991). Monitoring opportunities for each phase of the project are suggested as follows:

- during Trial Trenching
- during Post-Fieldwork Analysis
- upon completion of the archive
- upon receipt of the Evaluation Report

7.3 A further monitoring opportunity will be provided at the end of the project upon deposition of the integrated archive and finds with the NMS.

7.4 NPS Archaeology operates a Project Management System. Most aspects of this project will be co-ordinated by a Project Officer who is responsible for the successful completion of the project. The Project Manager retains responsibility for the delivery of the project. The Archaeology Manager has the responsibility for all of NPS Archaeology's work and ensures the maintenance of quality standards within the organisation.

8. Health and Safety

8.1 NPS Archaeology will ensure that all work is carried out in accordance with NPS Property Consultants Limited's Health and Safety Policy, to standards defined in *the Health and Safety at Work, etc Act, 1974* and *The Management of Health and Safety Regulations, 1992*, and in accordance with the health and safety manual *Health and Safety in Field Archaeology* (SCAUM 2007).

8.2 The following site-specific documents have been provided to NPS Archaeology

- Delta-Simons Environmental Consultants Ltd 2008, *Summary Site Investigation Report. Desk Study and Sampling. Alderman Clarke Hostel, Greyhound Opening, Norwich* (unpublished client report);
- Delta-Simons Environmental Consultants Ltd 2009, *Report for New Development at Greyhound Opening, Norwich, Norfolk* (unpublished client report); and
- MACC International Limited 2015, *Unexploded Ordnance Desk Study. Goldsmith Street, Norwich NR2 4QF* (unpublished client report).

8.3 Advice was sought on the implications of the information contained in these documents and the following statement was received from James Harrison, Technical Director at Delta-Simons Environmental Consultants Ltd: "When working in soil, and related to Greyhound opening project we would recommend adoption of a minimum standard PPE provision".

8.4 NPS Archaeology will ensure that all work is carried out in accordance with NPS Property Consultants Limited's Health and Safety Policy, to standards defined in *the Health and Safety at Work, etc Act, 1974* and *The Management of Health and Safety Regulations, 1992*, and in accordance with the health and safety manual *Health and Safety in Field Archaeology* (SCAUM 2007).

8.5 A risk assessment and method statement will be prepared for the fieldwork. All staff will be briefed on the contents of the risk assessment and required to read it. Protective clothing and equipment will be issued and used as required.

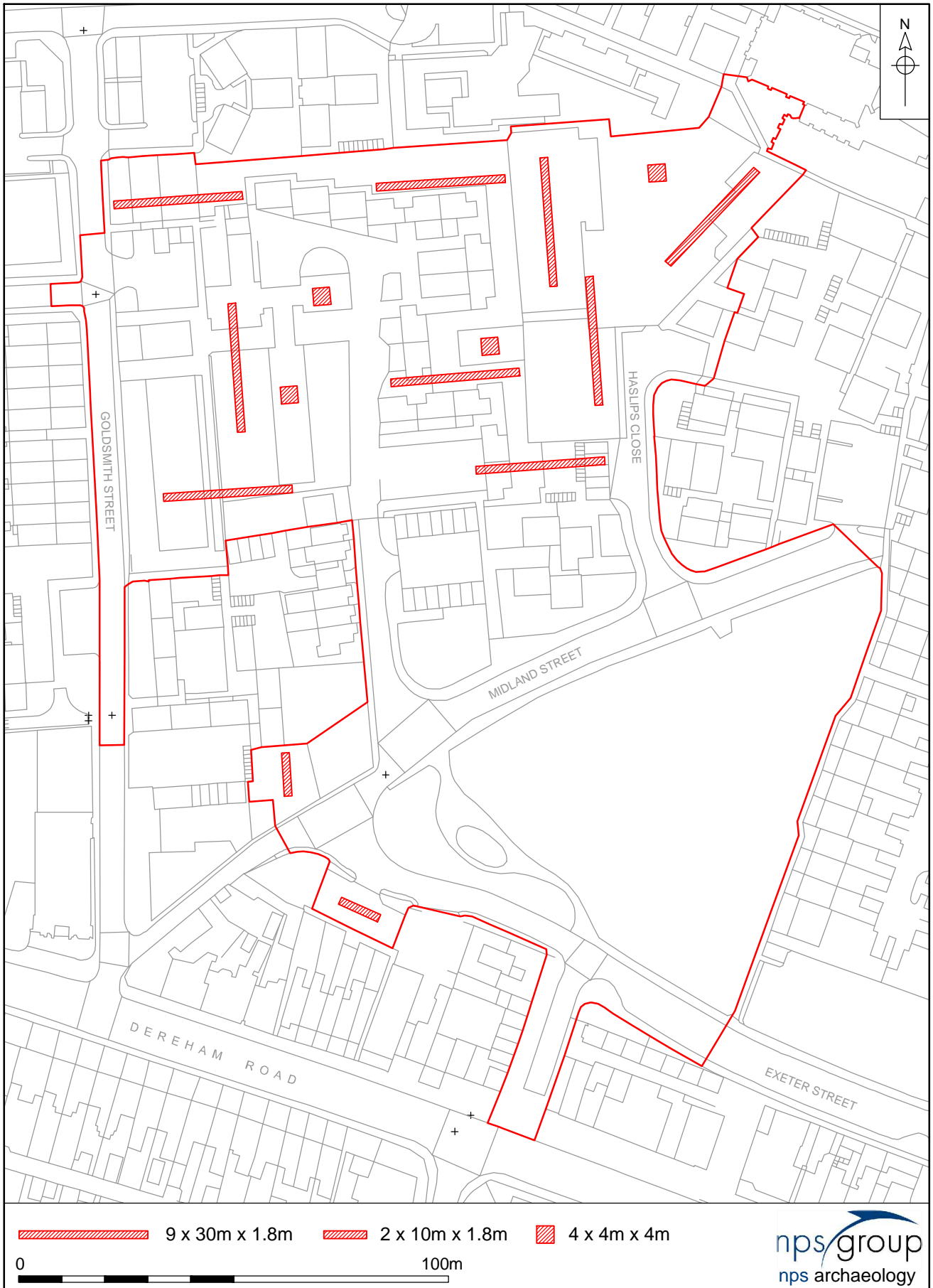
8.6 NPS Archaeology will provide copies of NPS Property Consultants Limited's Health and Safety policy on request.

9. Insurance

9.1 NPS Archaeology's Insurance Cover is:

Employers Liability	£ 5,000,000
Public Liability	£50,000,000
Professional Indemnity	£ 5,000,000

9.2 Full details of NPS Archaeology's Insurance cover can be supplied on request.



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01-04-16-2-1059 Goldsmith Street, Norwich. Location of evaluation trenches.
Scale 1:1250 at A4