22 Lendal, York

Archaeological Monitoring and Recording Report

York Archaeology

Report Number YA/2024/137

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KEY DOCUMENT INFORMATION

Project name	22 Lendal, York
Type of project	Monitoring and recording
YA archaeological code | financial code	9114 | 9114
National Grid Reference	SE 60135 51935
OASIS ID	yorkarch3-525378
Planning Reference	23/01599/FUL
Client	Togel Contractors
Report version no. and status	V1 final report
Author | Illustrator | Editor	P Howlett | B Price | K Smart
Report approved by | date	25/06/2024
Report number | date	YA/2024/137 | 25/06/2024
Filename	YA_9114_22_Lendal_WB _Report_V1

ABBREVIATIONS

AOD	Above Ordnance Datum
BGL	Below Ground Level
BFL	Below Floor Level
CBM	Ceramic Building Material
CYC	City of York Council
DPC	Damp Proof Course
NGR	National Grid Reference
NPPF	National Planning Policy Framework
WSI	Written Scheme of Investigation
YA	York Archaeology
YAT	York Archaeological Trust

SUMMARY

Between the 17th January and 8th March 2024 York Archaeology (YA) conducted a programme of archaeological monitoring and recording of all intrusive ground works in the basement area of, and alleyway adjacent to, the former Post Office, 22 Lendal, York (NGR SE 60135 51935) (Figures 1 & 2).

The work was undertaken for Togel Contractors to fulfil a variation to Planning Condition 2 (22/01109/FUL) set by the City of York Council (CYC) under planning reference 23/01599/FUL. This was due to the site's location within York's central historic core. The site lies within an area of archaeological importance outside of the Roman fortress which was used for commercial activity during the Roman period, and which has seen continuous development since that time. As a consequence, any groundworks have to potential to affect important archaeological deposits.

This report presents an overview of the primary results and the preliminary conclusions drawn from this investigation and incorporates details of other historical archaeological investigations in the vicinity.

Four trenches required archaeological excavation and a total of 15 piles/geotechnical interventions were monitored during the planned drainage and sub-station foundation groundworks (Figure 2).

Results consisted of evidence for the re-use of medieval limestone masonry in the footings of the old Post Office and evidence for earlier post-medieval walls. Within one of the basement's trenches Roman features such as floor or yard surfaces, stake and post holes and domestic dump deposits were found. A number of sherds of Roman pottery was recovered from these features.

Natural geological deposits consisting of sands and clays were encountered at between 9.55m and 9.62m AOD.

These results are summarised below and indicate the possible character and depths of archaeological deposits of Roman and later periods which may be encountered in this area. They will also contribute to a better understanding of the development of this part of York during the Roman period onwards when considered alongside other investigations in the vicinity.

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1 INTRODUCTION

1.1.1 Between the 17th January and 08th March 2024, York Archaeology (YA) conducted a programme of archaeological monitoring and recording of all intrusive groundworks in the basement area of, and alley way adjacent to, the former Post Office, 22 Lendal, York (NGR SE 60135 51935) (Figures 1 & 3).

1.1.1 The work was undertaken for Togel Contractors to fulfil a variation to Planning Condition 2 (22/01109/FUL) set by the City of York Council (CYC) under planning reference 23/01599/FUL, to comply with the National Planning Policy Framework (NPPF 2023, 211) which states:

"Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible73. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted."

1.1.2 The condition was imposed because the site is a Grade 2 listed building situated within York's historic core, inside an area of archaeological importance outside of the Roman fortress used for commercial activity during the Roman period. The area has seen continuous development since that time and, as a consequence, any intrusive structural or drainage groundworks may affect important archaeological deposits.

1.1.3 The site was formerly the Post Office building and is now being developed as a new restaurant. The archaeological works comprised the monitoring of all intrusive groundworks within the basement of the new development, and the excavation, recording and removal of any archaeological deposits encountered that may have impeded the scheme.

1.1.4 This report presents an overview of the results of this investigation and includes specific archaeological detail relating to each trench. The historical and archaeological background, and specialist assessments of the pottery, building materials, environmental samples and animal bone are also included.

2 SITE BACKGROUND

2.1 Location, Geology and Topography

2.1.1 The site is located in the former Post Office at 22 Lendal, York (Figure 1). The site is bounded by Lendal to the north and commercial properties to the west and south. An alleyway runs down the south-eastern side of the site, leading to Lendal Cellars. The height at the top of the alley is c.13.33m AOD. The works were located within the basement of the Former Post Office building at an approximate basement floor level of 10.30m AOD.

2.1.2 The underlying bedrock of the site as mapped by the British Geological Survey (BGS) is Sherwood Sandstone Group, which comprises sandstone formed in the Triassic and Permian periods (approximately 237 to 272mya). Superficial deposits mapped by BGS comprise the Alne Glaciolacustrine Formation, formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions.

2.1.3 To the south-west of the site, BGS records alluvium deposits consisting of clay, silt, sand and gravel. These are likely to represent the previous extent of the Ouse or material deposited during flooding events.

2.2 Archaeological and Historical Background

2.2.1 The following information is adapted from a YAT project design produced for the adjacent Guildhall site (Reeves and Milsted 2017/115a).

Roman

2.2.2 The River Ouse bank was probably located between 10.0m-30.0m closer to the present Coney Street in the Roman period (McRae 2013, 1) and it is believed that a former Roman bridge crossing lies under the Medieval Guildhall. The site is located immediately to the south-west of the Roman fortress defences, with the main gatehouse being located in St Helens Square. Evidence of Roman roads and structures have been found by the front of the fortress, along the Lendal/Coney Street/Spurriergate alignment, as well as running towards a former crossing over the Ouse, potentially under the medieval Guildhall.

Anglian / Anglo-Scandinavian

2.2.3 The earliest reference to Coney Street (which previously extended to include Lendal and Spurriergate) was in the mid-12th century, though it would have been part of the earlier Roman road network, which continued in use throughout the Anglian and Anglo-Scandinavian periods. It is possible that structures in the area also continued in use throughout these periods and therefore it is possible that small pockets of contemporary occupation may be present on site, or in the immediate vicinity. The street name Lendal has possible origins from the Old Norse for landing place (McRae 2013,2).

Medieval

2.2.4 An Augustinian Friary was established in 1272 and eventually extended across much of the development site, with the Guildhall, when built, acting as a boundary to the south-east of the complex. The friary was ultimately dissolved in 1538, but whilst in use, it would have comprised numerous individual buildings, structures and also a cemetery. The Guildhall is mentioned in mid-13th century texts, however it is unclear if the current building constructed

in the mid-15th century is in the same position as the earlier structure. It is probable that architectural fragments and stonework originating from these medieval buildings may be incorporated into the foundations of the Post-medieval developments at 22 Lendal and other buildings in the vicinity.

Post medieval

2.2.5 Speed's 1610 map of York shows houses fronting onto Lendal, and the Guildhall is depicted to the south. On Drake's 1736 map of York, the area from Lendal to the Ouse is shaded, depicting a built-up area. By 1852, an OS map depicts a Post Office occupying a much smaller area in the north-eastern part of the site. Buildings are shown fronting onto Lendal with a courtyard to the rear. The alley leading from Lendal towards the river is also shown.

Modern

2.2.6 The present building is a Grade II listed property dating to 1884 (List entry 1257470). The footprint of the building has been unaffected by the recent modernisation and development of the adjacent Guildhall and the alley way between 22 Lendal and the Mansion House is also still in use today.

2.3 Recent Archaeological Investigations in the vicinity

2.3.1 Recent archaeological works undertaken between 2012 and 2022 at locations in the immediate vicinity of 22 Lendal (Figure 2) have provided significant information regarding the archaeological deposits underlying this area and have provided guidance as to what evidence could be encountered within the area of this current investigation.

2.3.2 The following summary of these works (Table 1) and associated text is adapted from a report produced for the adjacent Guildhall site (Savine 2022).

Table 1: Contemporary Excavations in the Environs of 22 Lendal

Site Name	Year	Report Details	HER References
Excavations at Guildhall Yard	2012	Whyman, M, 2012. 'York 800: Excavations in Guildhall Yard'. *Northern Archaeology Today: York Archaeological Trust Magazine* **2**, 20-24.	EYO6016 SYO2830
The Hutments Site, The Guildhall, York Evaluation	2014	AOC Archaeology, 2015. *The Hutments Site, The Guildhall, York. Interim Archaeological Evaluation Report*. AOC Archaeology Group unpublished report.	EYO6255 SYO61856
Guildhall, Lendal (Hutments) Watching Brief	2016	AOC Archaeology, 2016. *Guildhall, York. Groundwork Investigation Archaeological Watching Brief Report*. AOC Archaeology Group unpublished report.	EYO625 SYO61856

Table 1: Contemporary Excavations in the Environs of 22 Lendal			
Site Name	**Year**	**Report Details**	**HER References**
York Mansion House	2016	Kendal, T and Savine B 2016 'Archaeological Investigations at the Mansion House, York, 2016/27'. Unpublished report; York Archaeological Trust.	EYO6304 SYO1896
City of York Guildhall Watching Brief and Excavation	2018	Coates, T, Kendal, K, Shaw, A and Smith, K 2020 'Archaeological Investigations at the City of York Guildhall. 2020/85'. Unpublished report; York Archaeological Trust.	EYO7786 SYO2502
City of York Guildhall Watching Brief	2019-20	Coates, T 2020. 'Archaeological Investigations at the City of York Guildhall 2019/164'. Unpublished report; York Archaeological Trust.	EYO7811 SYO2567
Former Post Office, Lendal	2022	Krawiec, K and Loffman, G 2022 'Archaeological Investigations at Former Post Office, 22 Lendal, York. YAT Assessment Report 2022/54 May 2022'. Unpublished report; York Archaeology.	EYO7974 SYO2830
Alley way between 22 Lendal and The Mansion House	2024	York Archaeology, Project 9487 Excavation of electrical service trench to link cables to 22 Lendal basement sub-station (report pending)	

Excavations at Guildhall Yard, YAT 2012. NGR SE 6012 5191. HER reference EYO6016, SYO2830.

2.3.3 Three locations were investigated in and around York's medieval Guildhall by YAT in July 2012. Trench 1 was located in the Mansion House cellar, Trench 2 to the north of the Guildhall on the southern side of Common Hall Lane, and Trench 3 in Guildhall Yard, between the rear of the Mansion House and the main entrance to the Guildhall.

2.3.4 Trench 1 was a one metre^2 trench which revealed that the brick floor of the cellar was laid directly onto foundation material over a 0.10m thick layer of cobbles set in clay at 0.4m BGL, 11.21m AOD, which may have been an early cobble surface, possibly part of either Roman Road 2 or Road 10 as designated by the RCHME (RCHMY 1962, 3). These cobbles overlaid 'natural' deposits: laminations of silt and clay laid down towards the end of the last glaciation about 10,000 years ago. No dating evidence was recovered from Trench 1 although the level of the cobbles is close to that of a probable Roman road exposed during underpinning works carried out at the Mansion House in 2016 (Whyman 2012, 20-24).

2.3.5 Trench 2 involved the excavation of a trench located along the southern wall of Common Hall Lane, a medieval covered lane below the Guildhall which led to a riverside water gate opening to the River Ouse. Results from this trench showed that the current Guildhall was constructed

from more than one phase of construction with the earliest 13th century masonry perhaps part of an earlier Guildhall building (Whyman 2012, 24).

2.3.6 Trench 3 was located in the Guildhall common Hall yard at 10.00m AOD. This excavation proved that underneath Guildhall Yard lay a well-stratified archaeological sequence extending back, within the depth of the excavated area, to the 12th/13th centuries (Whyman 2012). Residual Roman material was retrieved from medieval structural, levelling, pit and surface deposits down to approximately 8.80m AOD. Yard surfaces were followed by walls that may have been part of a chapel and/or a *maison dieu* constructed at the same time as the Guildhall. A series of post-medieval surfaces and floors were present below demolition deposits related to the construction of the Mansion House and a cobbled yard (Whyman 2012, 22).

The Hutments Site, the Guildhall, York Evaluation Project, AOC Archaeology Group 2014-15. NGR SE 6012 5191. HER reference EYO5577, SYO1538.

2.3.7 In 2014 AOC Archaeology Group carried out an excavation at the former Hutments site, adjacent to the north-western side of the Guildhall North Annexe, centred at NGR SE 6008 5191. Two trenches were opened and excavated to depths ranging from 1-1.3m with further 1m^2 test pits at the base. The excavations exposed archaeological remains including possible medieval walls at 8.72-9.89m AOD, post-medieval horticultural features at 10.29m AOD, and a rubble pathway at 10.08m AOD with extensive dumping and raising of ground levels at the top of the depositional sequence (AOC 2015).

2.3.8 In addition to the trenches a series of five boreholes were monitored, all of which were located within the trenches. All five boreholes contained a significant depth of archaeological deposition, the top of which was recorded between 9.28-10.25m AOD, sloping down from north-east to south-west. The thickness of archaeological deposits increased on that alignment, from 2m at the north-east to 4.45m to the south-west. Alluvial deposits containing preserved organic material was present in boreholes located closest to the river, at depths of between 4.83-6.05m AOD. Borehole 1, which was closest to the river, encountered a below-ground obstruction at 7.95m AOD, suggesting built structures are present on the site at depth (Jackson-Slater and Krawiec 2020, 9).

2.3.9 York Archaeological Trust have incorporated the AOC Archaeology Group borehole survey data into deposit modelling covering the area of the North Annexe and former Hutments site (Jackson-Slater and Krawiec 2020).

Guildhall, Lendal (Hutments) Watching Brief, AOC 2016. NGR SE 6008 5191. HER reference EYO6255, SYO61856.

2.3.10 Additional site investigation works were carried out by AOC Archaeology Group at the Guildhall in 2016. The works involved hand excavation of three test pits and the drilling of six boreholes, some in the former Hutments site and others south of the Guildhall in space adjacent to the South Range (AOC 2016). The site was centred on NGR SE 6008 5191.

2.3.11 The test pits were dug to depths ranging from 1.4-1.7m BGL, revealing post-medieval made ground (AOC 2016).

2.3.12 Data gathered from the boreholes in the former Hutments area has again contributed to the deposit modelling produced by York Archaeological Trust (Jackson-Slater and Krawiec 2020). Up to 3m thickness of waterlogged and organic deposits were identified, the accumulation of which was thought to be associated with riverside activity or settlement (AOC 2016, 18). The

accumulation material was subsequently overlain by demolition and levelling layers dating from the late medieval to post-medieval periods (Jackson-Slater and Krawiec 2020, 9).

2.3.13 Similar results were seen in the boreholes near the South Range of the Guildhall. Intriguingly several fragments of 10th-11th century pottery were present within a 1.3m thick organic deposit lying 4.1m below ground level (5.12-6.42m AOD) within Borehole 1 (AOC 2016, 18). This material was thought to be characteristic of gradual accumulation, implying sustained activity in this part of the river margin at that time.

York Mansion House, YAT 2016. NGR SE 6013 5191. HER reference EYO6304, SYO1896.

2.3.14 In 2016 a programme of renovation was undertaken by City of York Council at the Mansion House, St. Helen's Square, York (NGR SE 6013 5191). The underpinning of basement wall foundations in four places was included in that work, during which York Archaeological Trust carried out a watching brief (Kendal and Savine 2016, 1).

2.3.15 Below the Mansion House foundations an early medieval pit and a sequence of Roman road surfaces were identified. The presence of a Roman road at this location suggests confirmation of the route of RCHME designated Road 10 (RCHMY 1962, 3) at a point where the road is projected to run between the *porta praetoria* and the river crossing linking the fortress and the civilian settlement (Addyman 2015, Sheet F).

2.3.16 Above the natural sand and clay a sequence of compacted sand, gravel, pebbles, cobbles and mortar was observed, suggesting a well-used and periodically repaired and maintained road dating to the 1st to 2nd century. Three potential road surfaces were identified: Context 2016 at a height of 10.6m AOD, Context 2013 at 10.82m AOD and Context 2011 at 11.01m AOD. A possible floor surface relating to potential roadside activity was also recorded in this area. However, no dateable evidence was recovered, so whether that activity is contemporary with the road during the Roman period or later is uncertain.

2.3.17 Combining sections recorded from the underpinning pits (UP 1-3) with that from Trench 1 of the 2012 excavations detailed above (Whyman 2012, 22) provides an informative, north-east to south-west aligned profile displaying the top of naturally-occurring deposits and the archaeological deposits overlying them.

2.3.18 Across the area above the medieval pit deposits large volumes of loose sand and cobbles may originally have been road make-up disturbed by later activity such as the construction of the Mansion (Kendal and Savine 2016, 5-7).

City of York Guildhall Watching Brief and Excavation, YAT 2018. NGR SE 6005 5193. EYO7786, SYO2502.

2.3.19 Archaeological works at the guildhall commenced in January 2018 with excavation at the proposed location of a lift pit in the North Annex building. Following completion of that work a watching brief was maintained on the excavation of 13 engineering pits designed to investigate the foundations of the North Annex building. The site was centered on NGR SE 6005 5193 (Coates *et al*. 2020, 1-2).

Lift pit

2.3.20 The lift pit trench measured 3.84 x 2.36m and was dug to a depth of 1m from the existing ground level, there a height of 11.08m AOD. Only post-medieval deposits were encountered,

the earliest of which appear likely to be linked with horticultural or garden activities. Overlying these soils was a demolition or levelling deposit that extended up to 10.5m AOD (Coates *et al*. 2020, 15), a level that corresponds to a compacted rubble pathway encountered during excavation of the neighboring Hutments site by AOC in 2014 (AOC 2015).

2.3.21 Disarticulated human bone was recovered from near the base of the lift pit. This deposit was thought to relate to landscaping undertaken around the time that the Lendal street frontage was being redeveloped around 1714; indeed, other finds date this deposit to the late 17th or early 18th century. The presence of human bone here, approximately 10m south-east of the nearest in situ medieval burial encountered during work on the North Annex Excavation Area 2 provides some indication of the extent of landscaping activity across the former friary graveyard (Coates *et al*. 2020, 15-16).

Engineering pits

2.3.22 The engineering pits were positioned across the area being redeveloped, some in the external Hutments area up against the neighboring boatyard buildings to the north and others within the standing North Annex building. Consequently, they varied greatly in size and depth due to the space available for excavation machinery to operate, but generally ranged from 1-3m long and 0.5-1m wide.

2.3.23 In the former Hutments area little apart from the 19th century boatyard, boathouse walls and post-medieval made ground was observed, which extended to at least 7.75m AOD at the south-western end of the site. Inside the North Annex building the scope for deep investigation was much more limited. A stone layer or footing was found in EP6 at around 9-9.7m AOD, but otherwise made ground, equivalent to that observed externally, was all that was encountered (Coates *et al*. 2020, 11 and 16).

City of York Guildhall Watching Brief, YAT 2019–20. NGR SE 6008 5191. EYO7811, SYO2567.

2.3.24 These works were wide ranging, including a watching brief on demolition of part of the North Annex building and ground reduction within it, demolition of other structures on site, excavation of underpinning pits around the North Annex Tower, excavation of a crane base pit and other ancillary works across the site (Coates 2020, iii).

2.3.25 Little of archaeological significance was observed during most elements of the works. The vast majority of deposition related to post-medieval landscaping and garden activity. The exception to this was the discovery of metalled surfaces below the South Range (Ibid, 7).

The South Range

2.3.26 Piling works in the South Range exposed what was probably the top of natural glacial deposits, comprising laminated sandy silty clay sloping down north-east to south-west from a height of 9.37m AOD to 9.21m AOD. Above were a series of deposits containing a range of 2nd to 4th century pottery types starting with a 0.36m thick deposit of mid-brownish grey silty clay that served to raise and level off the ground, presumably in preparation for the laying of a compacted sand and cobble surface. The first surface was supported on a thin layer of clay that acted as bedding for a 75mm thick cobble surface which extended to 9.66m AOD. Directly above was a 30mm thick layer of sand and gravel, perhaps either trample or even a layer of bedding material for a second cobble surface. The second surface contained a substantial dark grey sandy silt component along with the cobbles, distinguishing it from the more

consolidated uniform surface below. It was 0.16m thick, extended to 9.82m AOD, and a silver *denarius* (SF2) dating to AD 119-22 was recovered from it (Ibid, 7-8).

2.3.27 The composition of the cobble surfaces is comparable to those seen in the Mansion House underpinning pits, particularly the two lower surfaces in UP3 which, located approximately 30m north of the South Range surfaces, were also almost exactly 2m higher. The surfaces under the South Range were very close to the speculated junction of RCHME Roads 2, 5 and 10 (RCHMY 1962, 3), as projected by the most recent appraisal of road layouts across Roman York in 2015 (Addyman 2015, Sheet F). Both surfaces slope very slightly down to the south-west but are otherwise quite different in terms of their composition. The earlier surface was much more compact, consistent and of better quality than the thicker later one whose relatively high silt content may be the result of prolonged use and abrasion.

Former Post Office, Lendal, YAT 2022. NGR SE 6012 5191. HER reference. EYO7974, SYO2830.

2.3.28 The 2021 works involved the excavation of two small core hand pits measuring 0.4m in diameter and 1m deep followed by drilling of one windowless sample borehole, WS02. A single cable percussion borehole, CP01, was drilled in 2022. The site was centered on NGR SE 6012 5191 (Krawiec and Loffman 2020, 1).

2.3.29 The boreholes produced some informative data regarding the heights of solid and superficial geological deposition and overlying anthropogenic material including evidence of a potential timber structure. It should be noted that the heights recorded are estimates based on the ceiling to floor measurements referenced against a known height in the street on Lendal.

2.3.30 The underlying bedrock was encountered at approximately -6.37m AOD, above which superficial geological deposits of soft mid-orange brown silty sands with gravel extended a further 5m to -0.87m AOD. The naturally occurring deposits were overlain by a series of typically silty clays, often containing building materials, including CBM, sandstone and limestone, in CP01 at depths of -0.87 to 3.43m AOD, 4.63 to 5.13m AOD and 5.68 to 8.63m AOD and in WS02 at 3.51 to 4.2m AOD and 7 to 7.19m AOD. Heartwood timber was also found to be present in several deposits in WS02, -0.4 to 0.83m AOD, 1.14 to 1.2m AOD, 1.3 to 2.05m AOD, 2.19 to 2.6m AOD, and 5 to 5.18m AOD (Ibid, 4-5).

2.3.31 The results of this borehole exercise are somewhat anomalous in comparison to known structures and deposits in the vicinity. At the former Post Office site, the top of naturally-occurring deposits was identified at a depth nearly 9m lower than where it was exposed in Excavation Area 2 of the Guildhall excavation in 2020, the north-eastern end of which was only 20m and 40m west of WS02 and CP01 respectively. The position of CP01 appears likely to have been within the immediate vicinity of substantial Roman masonry walls and a stone-built drain encountered during construction of the Lendal Post Office in 1883 (RCHMY 1962, 61). The top of that structure was recorded at approximately 1.7m below the ground level at that time. This would be at approximately 12.6m AOD, assuming that no significant change in the height of the street has occurred since, which now stands at around 14.3m AOD in that area. The top of CP01 has been estimated at 11.13m AOD, indicating that construction of the Post Office in the 19th century must have removed much, if not all, of the Roman masonry structure observed at that time.

2.3.32 The depths of archaeological deposition exposed within the boreholes are clearly far in excess of broadly corresponding deposits seen locally. It may convincingly be proposed that the boreholes had been drilled into deep intrusive features, almost certainly wells. Water strikes

in CP01 confirm an attainable source of ground water, while the presence of well-preserved timber at intervals between 5.18m and -0.4m AOD in WS02 hints at a solidly constructed and well-preserved well lining, not dissimilar to a number of Roman wells found elsewhere in York, for example a late 2nd to 3rd century timber lined well excavated at Skeldergate in 1973 (Carver *et al*. 1978, 50).

3 AIMS AND OBJECTIVES

3.1 General Aims

3.1.1 The aims of the watching brief were:

- To record the archaeological resource during development within the specified area using appropriate methods and practices
- To determine the extent, condition, character, importance and date of any archaeological remains present.
- To provide information that will enable the remains to be placed within the local, regional and national context and for the assessment to reveal the significance of the archaeology of the proposed area.
- To provide information which will help enable the local authority to determine any requirements for further archaeological mitigation that may be needed for the site.
- To create an ordered archive for deposition with York Archaeology archives.

3.2 Objectives

3.2.1 In order to achieve the aims stated above, the objectives of the watching brief were:

- To monitor any intrusive groundworks undertaken as part of the development.
- To produce a written and digital record of archaeological deposits encountered during intrusive groundworks.
- To retain any finds and take samples where these will aid the interpretation of archaeological deposits encountered.
- To produce a clear and concise watching brief report detailing the results of the work.

3.3 Research Objectives

3.3.1 The watching brief provides an opportunity to contribute to local and regional research themes and objectives. Questions of potential relevance to the site parallel those raised during the adjacent Guildhall excavations of 2020 (Savine 2022) and other contemporary investigations and are as follows:

- Due to the location of the site near the river, is there any evidence of the ground being built up in the form of made ground and levelling deposits?
- Is there evidence of re-development of this area during the later Roman period?
- Are there any surviving Roman structures below 22 Lendal?
- Is there any evidence of the medieval Augustinian friary on which the building may be sat on, in the form of structural remains or burials? If so, can that evidence be incorporated into the understanding and interpretation of the 2020 Guildhall work as well as the development of the 22 Lendal site?
- Is there any evidence of the buildings previous use as the Post Office?
- Is there any evidence of earlier medieval or post-medieval structures within the footprint of the site and how do they compare with the current street plan?

4 METHODOLOGY

4.1 Excavation Methodology

4.1.1 The work was carried out in accordance with the approved WSI (Birtles 2024) and the principles of the Chartered Institute for Archaeology (CIfA) *Standard for Archaeological Monitoring and Recording* (CIfA 2023), *Code of Conduct* (CIfA 2022) and all other relevant standards and guidance.

4.1.2 Four trenches required archaeological excavation and a total of 15 piles/geotechnical interventions including one window sample were monitored and recorded during the planned drainage and sub-station foundation groundworks (Appendix 5, Figure 7).

4.1.3 Due to the nature of the basement floor the top layer of concrete was removed with a road saw and small hand operated machine breaker, after which hand digging by the groundworkers could commence in all basement trenches. This was followed by hand digging and recording of any archaeological features as required. In Trench 2 the post-medieval wall foundations were also removed down to 0.80m BFL with the aid of a hand breaker after being suitably recorded.

4.1.1 In Trench 3 machine removal of topsoil and overburden down to archaeological deposits or natural subsoil was carried out using a toothless ditching bucket. However, due to the nature of the ground the upper layer of concrete substrate for the York paving was removed with a small road saw and small machine breaker, after which a toothless bucket could be used. The post-medieval walls encountered in Trench 3 were removed by machine after being photographed and recorded. Machine excavation of this trench down to c 2.10m BGL continued with steel props and shuttering in place.

4.1.2 In Trench 4, due to the adjacent piles being obstructed at levels between 1.0 to 6.0m BFL, it was deemed necessary to check for archaeological structures that may have been obstructing the piling. The trench was subsequently increased in size from its original 1.30m long by 1.10m wide to an extended 2.0m long by 1.50m in order to investigate the area beside the pile locations (Figure 7).

4.1.3 After a programme of geotechnical investigation by Egniol Consulting Ltd (Appendix 5), the decision was later made by the Togel project management team that a slab foundation for the intended sub-station was the solution to the inadequate piling in this area. All archaeological features within this area of the basement were contained within the footprint of Trench 4, having been truncated by the Post Office foundations and drainage. As the archaeology had already been recorded and excavated down to the natural geological deposits by the attending archaeologist; the monitored manual excavation of the underlaying natural deposits down to the planned sub-station foundation depth (C1.30m BFL) was carried out by the Togel groundwork team.

4.1.4 All groundwork was observed by the monitoring archaeologist and the schedule was not unduly delayed. However, Health and Safety considerations took priority and where safe access to the trenches and archaeological features was not possible or was impeded, care was taken to adjust the methods by which the archaeology could be safely and accurately recorded in accordance with the best practices outlined in 4.1.1 above.

4.2 Recording Methodology

4.2.1 All aspects of the recording of the watching brief were conducted in accordance with the Chartered Institute for Archaeologists' *Code of Conduct* (CIfA 2022), the *Standard for Archaeological Monitoring and Recording* (CIfA, 2023) and the WSI specification (Birtles 2024).

4.2.2 All recording was undertaken on YA pro forma sheets and followed the York Archaeology Recording Manual (YA 2023). All excavated contexts were registered and given unique numbers relating to each trench. A stratigraphic record was created for each trench and all context attributes were noted including details of location, composition, shape, dimensions and relationships, and contexts were cross-referenced to other contexts. Representative section drawings were drawn at 1:10 and 1:20 as appropriate.

4.2.3 The contexts recorded in the second stage of excavation in Trench 4 were stratigraphically and physically linked with those from the initial stage of excavation, with additional context numbers allocated as required (Appendix 2, Table 3).

4.2.4 A comprehensive photographic record was made where archaeological features were encountered. Digital photographs were taken with a DSLR camera in both Raw and JPG format, and as a supplement to archive photos taken with the DSLR camera a mobile phone camera set to high resolution was used to generate general working and reference photographs.

4.2.5 Lighting within the basement was reliant on portable LED tubes. This meant that during photography it was difficult to illuminate the trenches completely, resulting in unwanted shadows in several of the recorded photographs.

4.2.6 Environmental samples of the deposits were taken where deemed necessary and at the judgement of the attending archaeologist. Finds were retrieved and bagged by individual context number. Modern finds of little archaeological significance were noted and discarded on site.

4.2.7 Levels were based on the GPS height surveyed at the top of the alley between The Mansion House and 22 Lendal. The proximity of buildings meant that a consistent satellite reading could not be obtained. The variation was between 13.25m AOD - 13.33m AOD. An average of 13.29m AOD was used as a basis to extrapolate heights down the alley and measure down to the internal basement floor from the threshold of the side access door to the basement floor.

4.2.8 The calculation was as follows –

- Top of Alley = 13.29m AOD
- Top of alley to basement door threshold = -1.67m = 11.62m AOD
- Basement door threshold down to basement concrete floor = -1.32m = 10.30m

4.2.9 A level of 10.30m AOD was used as the basement floor level during all recording and drawing.

4.3 Post-Excavation Methodology

4.3.1 All site records were ordered, checked for consistency, quantified and indexed according to YA standard practice. The field archive consisting of all primary written documents, plans, sections and photographs will be compiled in compliance with CIfA 2023. This will be stored

at YA Headquarters in York. The archive will be managed according to the National Conservation Service guidelines (2017). Two versions of this report will be held within the YA archives: A Pdf and a Microsoft Word document.

4.3.2 All site records for this excavation were digitised and are currently stored with York Archaeology under the project number 9114.

5 RESULTS

5.1.1 Over the site as a whole the characteristics of the basement floor and levelling deposits were uniform, varying only in depth. The glacio-fluvial deposits were also similar across all areas of the site. Archaeological features cutting the natural sands were clear. For this report, due to the commonality of these layers across the area their characteristics will be described in summary form only, with any significant variations noted. Detailed descriptions for these deposits and all contexts are available in the Context list (Appendix 2, Table 2).

5.2 Trench 1

5.2.1 Trench 1 (Figures 3 and 4, Plate 2) was approximately 5.20m long and extended along the south-western back wall of the building. The backfill of the trench down to 0.95m below the basement floor level (BFL), consisted entirely of wall construction cut backfill for the Post Office building. The trench depth was eventually extended down to approximately 1.30m BFL 9.0m AOD. However, its south-west facing section (Figure 5.2, Plate 3) did suggest that archaeological deposits were present within the stratigraphy to the north-west and this theory was proven with the excavation of Trench 4.

5.2.2 The earliest deposit seen was a small 0.50m by 0.50m area of medium sized cobbles C1011 in a clean yellow sand matrix in the base of the trench at 1.00m BFL, 9.30m AOD having been cut through by the wall foundations. These cobbles were deemed to be natural and were covered by a 0.25m thick, firm mid yellow-brown striated sterile sand of geological fluvioglacial origin C1012, whose upper horizon was 0.74m BFL c 9.66m AOD (Plate 3).

5.2.3 Over C1012 a 0.20m thick firm dark brownish grey clayey silt layer with occasional small cobbles C1007 was interpreted as an archaeological soil build-up or dump deposit possibly equivalent to C4019 in Trench 4. C1007 and C1012 were very obviously cut by a large stake or post hole [C1009] about 0.45m deep whose fill C1008 was a dark greyish-brown silty clay that also contained small cobbles. The upper horizon of C1007 was at 0.55m BFL, c 9.75m AOD. No dating evidence was found within the above deposits although the presence of small fragments of oyster shell within the posthole fill C1008 was noted (Figure 5.2).

5.2.4 There was a sterile 0.15m thick layer of laminated sands, clays and silt C1014, overlying C1007 on the western side. This was interpreted as deposition from a series of flood events.

5.2.5 Overlying C1014 were C1015, C1004 and C1001, a 0.45m thick sequence of post-medieval dump and levelling layers associated with the construction of the 0.10m (avge) thick concrete basement floor at 10.30m AOD. To the north-west these levelling layers also included re-deposited natural sands C1002, > 0.30 thick as seen in Figure 5.1.

5.2.6 Cutting through all of the above was the construction cut [C1006] and backfill C1005 for the brick-built manhole C1013 for the main drain leading out to the south-east through the former Post Office wall to the sewer in the alley way (Figure 5.2).

5.3 Trench 2

5.3.1 The original north-east to south-west aligned pipe trench was monitored to a maximum depth of 0.75m with no features other than made ground and levelling layers C1001, C1002 and C1004 exposed below the concrete basement floor C1000 (Figure 5.1). This original trench run (Plate 1) was subsequently abandoned and backfilled as unusable due to the presence of large

concrete wall foundations 1.20m deep at the south-western end below a bricked-up arch or fireplace obstructing the proposed pipe run (Plate 27).

5.3.2 The redesigned Trench 2 (Figures 3 and 4) was excavated to accommodate the relocation of the drainage pipe work and was situated approximately 4.0m to the north-west of its original line. This north-east to south-west aligned trench was excavated to a depth of 0.80m BFL, 9.50m AOD, and passed under corridor walls to meet the north-western end of Trench 1.

5.3.3 The earliest deposit encountered was C2026, a post-medieval dump deposit of extruded mortar or concrete approximately 0.15m thick at 0.65m BFL, 9.65m AOD. Overlying this was a distinct dump deposit of firm black sooty silt C2025 about 0.10m thick at 0.50m BFL, 9.80m AOD. In the north-east facing section (Figure 5.6, Plate 6) a mound of mixed dump deposit approximately 0.33m thick and 1.20m wide can be seen. These dumps of yellow sand, dark stoney silt C2008 and mortar C2009 were in turn overlaid by lenses of clay trample C2010 and re-deposited soft natural sands C2016, which was seen across the whole of the northern part of Trench 2 (Plate 5). It appears that prior to the construction of both the Post Office and earlier post-medieval walls in this area a landscaping of the original ground surface had occurred; levelling and re-depositing the natural sands before construction-related dumping had occurred. Undisturbed natural firm laminated sands were only seen in the base of the construction cut [C2023] for post-medieval wall C2021 (Figure 5.5, Plate 8).

5.3.4 The construction cut [C2023] for a post-medieval wall footing C2021 was not fully excavated, but was exposed down to 0.85m BFL, 9.45m AOD, the limit of excavation (Plate 4). This wall was on the same north-east to south-west alignment as Trench 2. At the northern end of the trench the wall end was seen and may have been the corner of a return to the north-west direction. C2021 was approximately 5.50m long and continued below the foundations of the corridor walls which cut into the upper surface (Figure 4, Plate 9).

5.3.5 At the base of the wall cut [C2023], wooden shuttering C2024 could be seen and had been used to retain the broken brick and cobble wall foundation C2027 within the soft sand. These were left in situ as they were below the level required for the new drainage pipework (0.80m BFL) (Figure 5.5, Plate 8).

5.3.6 On top of this foundation sat wall footing C2021 which was made up of four courses of brickwork and occasional small cobbles followed by a 10mm thick bitumen damp proof course and another brick layer before it had been truncated by the construction of the Post Office. At the south-western end the wall sat on re-used limestone blocks (Plate 9). The backfill C2022 of the wall construction cut consisted entirely of re-deposited natural sands.

5.3.7 Above the partially demolished wall a series of post-demolition trample C2020 and levelling deposits C2017, C2018 with an overall thickness of 0.35m extended across Trench 2. In these deposits a triangular fragment of roughly dressed magnesian limestone C2019 was found (Plate 7). No tooling was evident and its origins or date could not be determined.

5.3.8 The above deposits and wall structure had been sealed by the levelling C2002 and bedding deposits C2001 for the basement floor C2000, with no variation to that seen elsewhere in the basement.

5.3.9 No residual finds of Roman or medieval date were found in this area and no archaeological deposits earlier than the above post-medieval structures and deposits were encountered. It was clear that in this area, prior to the Post Office foundations and basement floor being

constructed, the earlier post-medieval wall foundations had been horizontally truncated then levelled with re-deposited natural sands and the dump deposits noted above.

5.4 Trench 3

5.4.1 Trench 3 (Figures 3 and 4, Plate 10) was located at the bottom of the alleyway between the Mansion House and 22 Lendal, immediately outside of the basement access door whose threshold was at 11.62m AOD, 1.32m above the internal basement floor level. It would provide access to the electric cabling route to the basement sub-station location via an access door. This trench measured 3.60m long and 1.60m wide. It was excavated to a depth of 2.60m (9.00m AOD) at its south-eastern end in order to access the main drain coming out from the basement and entering the central sewer below the alley surface. The stratigraphic profile at the south-western end of this trench was as follows (Figure 6, Plate 11).

5.4.2 The earliest deposit encountered was natural fluvioglacial sand C3016 as seen in the south-eastern end section of this trench at 2.00m BGL, 9.62m AOD. This material was very firm and laminated with thin orange-brown bands in its upper 0.10m horizon (Plates 11 & 12).

5.4.3 Above C3016 was C3013, a 0.10m – 0.20m thick layer of orange-brown small and medium pebbles in a gritty matrix. No dateable finds were recovered and C3013 was interpreted as a floor or path surface at 1.80m BGL, 9.82m AOD (Plate 12).

5.4.4 Truncating C3013 was a posthole C3015 0.40m at the top and cutting down though C3013 and C3016 to a depth of 0.76m. Health and safety concerns regarding the depth of the trench meant that the fill C3014 could not be sampled. However, it was seen to be a soft orange-brown clayey silt with traces of wood fragments. No dating evidence was found and this archaeological horizon was interpreted as a possible continuation of that seen in the basement Trenches 1 and 4 at 9.75m AOD (Plates 11 & 12).

5.4.5 The above archaeological horizon appears to have been truncated as a 0.50m thick layer of made ground C3008 containing post-medieval bottle glass and a single small medieval architectural limestone fragment covered it.

5.4.6 Above C3008 was a loose un-mortared layer of magnesian limestone blocks of varying size C3004. These were roughly tooled with traces of residual original mortar on them (Plate 13). They were interpreted as robbed out and re-used wall blocks from the nearby medieval Augustinian friary, acting as foundations for a post-medieval brick-built wall C3003, aligned in a north-east to south-west direction and diverging slightly from the outer wall line of 22 Lendal. Six courses of C3003, three bricks wide (0.36m) and roughly mortared were exposed in the centre of the trench at 0.55m BGL (11.10m AOD) (Plate 14).

5.4.7 The construction cut and fill [C3012] C3011 of the outer wall foundations for 22 Lendal were themselves truncated by the 1.15m deep and 0.88m wide cut [C3007] of a service trench running the length of the alley containing pipe work and cabling for a number of modern services including a lead water pipe, plastic gas pipe and high voltage electric cables. The loose backfill C3005 of this service trench contained large quantities of broken brick and small to medium sub-angular stones and limestone fragments as well as modern bottle glass fragments (Plate 11).

5.4.8 Capping all of the above was a 0.11m thick layer of concrete C3001 which was the bedding for the upper surface of York Stone paving C3000, at 11.62m AOD which extended up the west side of the alley to the exit out onto Lendal at approximately 13.29m AOD.

5.4.9 Finds of modern glass, metal and animal bone were not retained from Trench 3 (Plate 30).

5.5 Trench 4

5.5.1 Trench 4 (Figures 2 and 4) was located in the south-eastern corner of the basement and was placed to investigate the deposits in this area, prior to the installation of a sub-station foundation slab.

5.5.2 Initially, Trench 4 was rectangular and measured 1.30m long by 1.10m wide. Archaeological investigation stopped at 0.75m below the basement floor level at 9.55m AOD where undisturbed natural sands were encountered. The extended trench measured approximately 2.0m long, 1.50m wide and 0.78m deep, where natural deposits were also encountered. The main archaeological features encountered were as follows (Figures 4, 5.3 and 5.4).

5.5.3 The natural fluvioglacial deposits C4006 were seen at 0.75m BFL, 9.55m AOD and consisted of about 0.20m-0.30m of light yellow-brown firm sand overlying sandy clays. This deposit appeared to slope downwards towards the south-east (Plate 23).

5.5.4 Above C4006 was a distinct thin (0.05m) concreted and laminated layer of iron panned sand (Plate 21). This layer was covered by C4021, a 0.10m thick layer of 'dirty' and disturbed sand. There were no features in this material and it was understood to be the interface between the archaeological horizon and the superficial geology. The presence of iron panning suggests intermittent periods of waterlogging, which may account for some of the preservation noted in the environmental samples taken from layers above. The possibility of periods of waterlogging was also observed and noted in the laminated deposit C1014 in Trench 1.

5.5.5 The earliest archaeological feature was a stone surface which overlaid C4021. This surface C4020 (also recorded as C4031 and C4032) was truncated in places but generally extended across the full area of the trench and consisted of a 0.07m to 0.10m thick layer of small and medium cobbles and pebbles in a gritty sandy matrix at 0.56m – 0.60m BFL, 9.72m AOD. Fragments of animal bone, shell and pottery dating to 1st – 2nd century were recovered, and an environmental sample was taken (SA7) (Plate 19).

5.5.6 A fragment of 13th-16th century plain tile was recovered adjacent to the modern manhole construction cut [C4004] and is likely to be intrusive.

5.5.7 A layer of dump deposits C4019 overlaid the western edge of C4020 on the north-western side of the trench at 0.50m BFL, 9.80m AOD. These dumps had predominantly sunk down into the soft natural sand which was rising up in that area resulting in a 'pitted' underlying natural horizon (Plate 20).

5.5.8 C4019 was compact, mid-greyish brown sandy silt with dark grey patches and very distinct, in that numerous fragments of hazelnut shell and wood could clearly be seen alongside fish and animal bones (Plate 18). It averaged 0.10m in thickness and covered an area 1.04m long and 0.55m wide. Tip lines indicating multiple dumping events were evident (Plate 21). An environmental sample was taken (Sample No. 6) and three sherds of pottery dating to 1st – 2nd century were recovered. C4019 was interpreted as the deposition of domestic food waste to the north-western side of a floor or yard surface C4020 de-lineated by beam slot [C4016]/[C4027] (Figure 4, Plate 16).

5.5.9 Stratigraphically above C4019 and C4020 and similar in character and composition were contexts C4024 and C4018 (same as C4024) which were also pebble/cobble surfaces, possibly

representing later phases of floor or yard surface rather than roadway. C4018/C4024 was 1.46m long and 1.10m at its widest and approximately 0.13m thick and varied between 0.52 m - 0.58m BFL in the north-eastern part of the trench. Roman brick and Tegula fragments as well as amphora and samian ware pot fragments dating to the 1st – 2nd century were recovered (Plate 17).

5.5.10 On top of C4018/C4024 on the eastern side only was a 1.45m long, 1.0m wide and 0.10m thick layer of well-compacted dark greyish-brown and orange stained pebbles and cobbles C4017, at 0.49m BFL. This had the appearance of an upper floor surface. An environmental sample was taken (SA5) and animal bone alongside 13 sherds of Roman coarse ware of 1st to early 3rd century was recovered.

5.5.11 A number of small post and stake holes were cut through the above deposits at this level (Figure 4). Some, such as [C4033], [C4030] and [C4026], were voids left after the posts had rotted away. [C4026] appeared to be part of a board or partition slot [C4016]/[C4027] that was approximately 1.25m long and 0.15m - 0.45m wide and supported by cobbles and stones C4015/C4028. This partition was aligned north-east to south-west and potentially defined the edge of the upper cobble surfaces from the area of dumping noted above in C4019 (Plate 16). Organic remnants of C4029, a possible board in the base of the beam slot, were sampled (SA8). A thin 0.04m thick build of soil C4011 covered the western edge of these features.

5.5.12 Unlike the above small post and stake holes the flat base of a larger 0.40m long and 0.23m wide rectangular post hole [C4013] was seen to cut through surface C4017 to a depth of about 0.10m. The fill C4012 was sampled (SA4) and contained two Roman pot sherds as well as fragments of oyster shell and burnt limestone (Figure 4, Plate 15).

5.5.13 Above these features at 0.47m BFL, 9.83m AOD, in the south-eastern side of the trench, was a dark well compacted stoney surface C4008, 0.09m thick, from which animal bone and Roman pottery of slightly later 1st to late 3rd century date was recovered. This layer was in turn truncated by the probable base of a pit cut [C4010] about 0.10 m deep with a loose gritty stoney fill C4009, of greenish hue (Figure 4). This was the top of the early archaeological horizon and may represent the base of a medieval cess pit. No dating evidence was found and only animal bone was retrieved (SA1).

5.5.14 To the south-east the archaeological deposits were truncated by the Post Office foundations (Plate 22). The southern and south-eastern sides of the trench, and all of the deposits noted above on that side, were truncated by the construction cut [C4004] of the brick-built manhole (Figure 4, Plate 19). The overlying layers of basement floor foundation C4001 and concrete floor C4000 were as described in the other trenches.

5.5.15 It was also noted that 1.00m to the west of Trench 4 the basement foundations, below a basement roof support column, consisted of a re-used, large 0.94m^2 chamfered Roman or medieval architectural magnesian limestone block (Plates 20 & 26).

5.6 Piling and Ground Investigation.

5.6.1 A total of 15 pile and geotechnical interventions were monitored, including one window sample (Figure 7). Five of the original pile positions (Plate 25) that had been planned to support the sub-station base ground beams were obstructed and refused at depths between 1.10m and 11.0m BGL. As a result, a further programme of ground investigation was carried out between the 28th February 2024 to 1st March 2024 by Egniol Consulting Ltd using a cable percussion borehole rig. Percussion testing at 10 locations was carried out to assess the

ground characteristics and inform the client of alternative piling positions or structural amendments to the sub-station floor plan.

5.6.2 A 2.5m core sample was retrieved from position WSP09 using 1m sleeved liners (Plate 24). These were split on site, examined and the lithology recorded using the Troels-Smith (1955) system of sediment classification (Appendix 4). The results are described in Appendix 5. This sample confirmed the presence of stiff, compacted boulder clay at 0.70m BFL, overlaid by about 0.20m of soft clayey silt containing no archaeological material.

5.6.3 However, this phase of percussion testing encountered the same issues of refusal at depth. A slab foundation, over the area defined by the pile positions, was the solution presented by the client and, as noted above, this required the extension of Trench 4 to check the area for archaeological features.

5.6.4 Hand excavation into the natural geology by the Togel groundwork team took place to the required depth for this slab foundation as defined by the pile positions. The excavation revealed no further archaeological features that had not been truncated by historical construction or drainage activity.

5.6.5 No archaeological structures impeded the piles and the conclusion was that any refusals in the piling locations were due to one of three reasons:

- The percussion piling machine was too underpowered to achieve the desired depths through the compacted boulder clay.
- Some piles were located in the area of existing wall foundations which were stepped out some 0.40m at 0.80m BFL.
- Piles refusing at greater depths were encountering larger cobbles or boulders within the underlaying geological deposits.

5.7 Extended Alleyway Trench.

5.7.1 Between the 2nd and 18th April 2024 York Archaeology (YA) conducted a programme of archaeological monitoring and recording of intrusive ground works (Project code 9487) in the alley way running between 22 Lendal and The Mansion House, York. This work was required to expose the existing service trench C3007 running up the alley, as seen in Trench 3 (Figure 6), which contained the electrical cables that required re-routing to the new sub-station recently installed in the basement of 22 Lendal at the location of Trench 4.

Results

5.7.2 The results from this phase of work were similar to those seen in Trench 3 regarding the post-medieval structures uncovered and showed a continuation of the post-medieval brick wall lines and extensive re-use of medieval magnesian limestone masonry (Figure 3, Plate 28).

5.7.3 The trench was excavated to a maximum depth of 0.65m to 0.85m along its length to expose the service trench cables. The post-medieval wall structures were seen at between 0.50m – 0.75m BGL, and they were planned and recorded before removal by machine to the required formation depth.

5.7.4 The limestone blocks were removed from the trench, photographed and recorded (Plate 29). These blocks were not retained as they had no archaeological or architectural significance.

The interpretation was the same as that arrived at for the features observed in Trench 3, in that they were robbed out and re-used wall blocks from the nearby medieval Augustinian friary acting as foundations for post-medieval brick-built walls.

6 POTTERY ASSESSMENT

By David G. Griffiths

6.1 Introduction

6.1.1 In total, 67 sherds of pottery weighing 1185.3 grams (Table 4) were recovered during excavations at 22 Lendal, York (YA Project 9114). The assemblage included hand-collected material and sherds recovered through environmental processing; where this was the case, the sample number has been recorded (Excel sheet, Appendix 1). All of the material examined dated to the Romano-British period (Table 4), with most likely to date from the late 1st to early-mid 3rd centuries AD and a small quantity possibly dating into the 4th century AD (see Appendix 1 in the associated Excel spreadsheet). One fragment dated to the Romano-British period, but it was uncertain whether the item was pottery or ceramic building material (Table 4).

6.2 Methodology

6.2.1 All pottery was examined visually (by eye) and sorted into broad ware groups including amphorae, samian, other fine wares, coarse wares, and possibly mortaria, based on colour, hardness, fracture, and inclusion composition, as outlined in Tomber and Dore (1998, 6-8), and recorded, assessed, and analysed in accordance with national guidelines (CIfA 2014; Barclay *et al.* 2016). These ware groups were further refined by class and, where possible, preliminary fabric codes were assigned (see Appendix 1 in the associated Excel spreadsheet). This assessment was undertaken with reference to the Yorkshire Archaeological Research Framework's resource assessment (Roskams and Whyman 2005) and research agenda (Roskams and Whyman 2007).

6.2.2 Each class of pottery was quantified by count, weight, and estimated vessel equivalents (based on percentage of rim preserved). International imports, nationally distributed wares, and regional/local products were identified. Pottery sherds with diagnostic features which aid identification to vessel form were noted and recommended for illustration, as necessary; featured vessels are identified using a reference 'ID' code in the text based on the relevant entry row in Excel sheet, Appendix 1. A full archive record of all material is provided (see Appendix 1 in the associated Excel spreadsheet).

6.2.3 Assessment of pottery fabrics was undertaken using a low power microscope at X30 magnification with basic classification (for example reduced and oxidised wares, fine wares); imports and nationally distributed fabrics were assigned fabric codes where possible, based on The National Roman Fabric Reference Collection (Tomber and Dore 1998); reference is made to regional type series (for example Monaghan 1997; Leary 2021). Reference is also made to Swan's extensive study of The Roman Pottery of Yorkshire in its Wider Context (2002).

6.3 Results

6.3.1 The material assessed was in generally in fair to good condition.

Amphorae

6.3.2 In total, eight sherds of amphorae were recovered (Table 4). Four sherds were of Baetican (Southern Spanish) Dressel 20 amphorae, a type of vessel originally used for transporting olive oil to Britain in the 1st to mid- 3rd century AD; the remainder included two sherds of possible

Baetican/Southern Spanish origin, one sherd of possibly Southern Spanish origin, and a single sherd of a Campanian Black sand amphorae, likely a Dressel 2-4 type, used to transport wine from Italy in the 1st century AD.

Coarse ware/Amphorae

6.3.3 A small sherd (6g) of a possible coarse ware vessel or amphorae was recovered; the fabric was relatively fine and buff in colour, and possibly represented an imported vessel from Gaul.

Fine wares

6.3.4 In total, three sherds of fine wares were recovered, which included two sherds of imported samian ware, and one sherd of colour-coated ware (Table 4). The samian ware included one sherd of South Gaulish (fabric LGF SA, La Graufesenque), and one sherd possibly of East Gaulish origin (unknown source). The South Gaulish sherd was part of a flange from a Ritterling Type 12 bowl, dating approximately to AD40 to 80 (Webster 1996, 49). It was not possible to identify vessel form for the possible East Gaulish sherd. A very small sherd (0.3g) from a colour-coated ware beaker, of unknown source, was also recovered.

Coarse ware/Mortaria

6.3.5 A single sherd of either a coarse ware vessel or a mortarium was recovered; the fabric was an Ebor oxidised ware.

Coarse wares

6.3.6 In total, 53 sherds of Roman period coarse wares were recovered (Table 4). Most of the coarse ware sherds (44) represented oxidised wares, most of which were Ebor products, mostly jars, dating from the late 1st to early 3rd centuries AD (Monaghan 1997, 869-880), with others from the wider region. The other coarse wares included two sherds of black-burnished-type wares, six sherds of burnished reduced wares, which included a roulette decorated beaker possibly of Gaulish origin, and a lid produced in the Holme-on-Spalding Moor region of East Yorkshire, dating from the late 2nd to 3rd/4th centuries AD. In addition, a sherd from a lid-seated jar of unknown source and date, and a sherd of reduced rusticated ware, dating from the late 1st to early 2nd century AD were recovered. Of note was the base of a coarse ware strainer, with at least one hole pierced through the base (pre-firing of the vessel); these types of vessel are relatively rare in York, but Monaghan notes a similar example previously recovered from 10-12 Lendal (1997, 1022, Type YP, no. 4120).

6.3.7 The identifiable coarse ware forms were predominantly jars, with a roulette decorated beaker, a strainer, and a lid also recovered. There were no sherds that were definitely parts of flagons, which was notable. However, the assemblage was very small, and only limited conclusions may be drawn from the presence or absence of certain types.

Coarse ware/CBM

6.3.8 A small fragment weighing 11.4 grams was recovered, which may have been part of a vessel or an item of ceramic building material (Table 4).

6.4 Discussion

6.4.1 On initial assessment, much of the pottery had a relatively narrow date range, possibly restricted to the 2nd and into the early-mid 3rd centuries AD, with very few sherds of 3rd/4th century material (e.g. Holme-on-Spalding Moor products (Creighton 1999)). The pottery was recovered from twelve contexts (Table 5), with only three contexts containing more than ten sherds (context 4017 [n=13], context 4020 [n=17], and context 4024 [n=11]). Most of the assemblage represented coarse ware vessels, mostly produced in the York region (Ebor wares).

6.4.2 While there were few sherds dating to the early Roman period (late 1st to early 2nd century AD), the range of pottery provides evidence for an established connection with the continent and the supply of wine and olive oil to the site. A sherd of a Ritterling 12 bowl of South Gaulish origin, produced *c.* AD40 to 80 (Webster 1996, 49), a sherd of a Campanian Black sand amphorae (originally used to transport wine from Italy to Britain) dating to the 1st century AD, and the rim of an early, *c.* AD50 to 70, Dressel 20-type amphora from Southern Spain (Martin-Kilcher 1987, Beilage 1, similar to no. 31). Other vessels of early Roman date included the rim of a legionary-type jar (Monaghan 1997, 980, Type JA), and the body sherd of a rusticated jar (Monaghan 1997, 989, Type JR) with 'star' style decoration. Most of the assemblage represented Ebor products, produced in York from the late 1st to early-mid 3rd century AD (Monaghan 1997, 869-880); it was only possible to refine the dating for two Ebor vessels, the early Roman period legionary-type jar mentioned above, and the rim of a jar dating from *c.* AD160 to the early 3rd century (Monaghan 1997, 980, Type JB1).

6.4.3 Common pottery types dating from the mid- to late 3rd and 4th centuries, for example regional Crambeck and East Yorkshire calcite-gritted wares (e.g. Swan 2002, 70-73), and fine wares from the Lower Nene Valley, Cambridgeshire, were notably absent.

6.5 Conclusion

6.5.1 The Romano-British pottery from 22 Lendal, York, indicates human activity at the site during the Roman period, especially during the late 1st and 2nd centuries, with possibly lower levels of activity and/or occupation in the 3rd and 4th centuries. The presence of only one possible mortaria sherd is also of note, however the assemblage was very small. While only sixty-seven sherds were recovered, the pottery provides evidence for a number of continental sources for some vessels, including southern Spain and Italy (in the form of transport vessels for olive oil and wine), and fine wares from Gaul (e.g. samian ware). Vessel forms were mostly jars, however there was limited evidence for fine, table wares (e.g. samian and colour-coated wares). While the assemblage was very small, the presence of a wide range of local and imported Roman pottery was perhaps expected given the location of the site close to the fortress, and probably represents waste disposal of those living close to the fortress defences. The pottery assemblage is indicative that those who used and disposed of the vessels were firmly part of wider Romano-British life, with access to imported food and drink, and cooking, preparing, and consuming foodstuffs using a range of pottery vessels common in York during the period. The small size of the assemblage makes it difficult to hypothesize about the nature and function of the site, based on the pottery alone. However, when the pottery data is added to the extensive evidence of Roman period occupation in York, it may add, at least in some small way, to future interpretations about life in this major Roman settlement.

6.6 Recommendations

6.6.1 Full fabric and form analysis may help refine the chronology for some wares/types and subsequently those features/deposits. Further analysis of the amphorae sherds, where source is not certain, along with their illustration, is recommended, as they are potentially chronologically significant. The coarse ware strainer is a relatively rare type in York, and the vessel fabric is not common; further analysis and illustration is recommended. The assemblage is small and full analysis has limited potential for furthering our current knowledge of pottery production, use and/or trade in York. However, the remains of some amphorae and the coarse ware strainer (mentioned above) require further analysis. Illustration is recommended for seven vessels.

6.6.2 The pottery sherds are mostly in very good condition, with little evidence of post-depositional damage.

6.6.3 This report and associated data should be integrated into any site-wide grey literature or publication reporting and retained within the site archive.

6.6.4 A basic archive catalogue of material is provided (see Appendix 1 in the associated Excel spreadsheet).

7 BUILDING MATERIALS ASSESSMENT

By J.M. McComish

7.1 Introduction

7.1.1 Three sherds of ceramic building material (CBM) from archaeological works at 22 Lendal, York, were recorded to a standard YAT methodology (McComish 2024) on 24 April 2024. As so little material was present it did not merit an extensive report. The CBM is described below in relation to context, together with the date range for the sherd.

7.2 Results

7.2.1 The only original dimensions to survive were two thicknesses. All three sherds had clearly been re-used. The CBM was all typical for York in terms of the forms, fabrics and dimensions seen.

7.2.2 Context 4018 – Tegula 1st-4th century. Fabric R11. Thickness 28mm. Flange missing, part of a B6 lower cutaway (following the classification by Warry 2006, 61). Smoothed parallel to flange. Clearly re-used with mortar on the broken surfaces.

7.2.3 Context 4020 – Plain tile 13th-16th century. Fabric M1. Thickness 12mm. Smoothed parallel to edge then on a diagonal. Clearly re-used with mortar on the broken surfaces.

7.2.4 Context 4024 – Roman brick. Fabric R11. No original surfaces surviving. Clearly re-used with mortar on the broken surfaces.

7.3 Conclusion

7.3.1 This CBM was mainly of use to aid with the dating of the contexts concerned. It offered no further potential for research and was discarded.

8 ENVIRONMENTAL SAMPLES ASSESSMENT

By Charlotte Lucy Molloy

8.1 Introduction

8.1.1 Eight bulk environmental samples were taken from a range of surfaces, a layer, a deposit, a posthole, and a pit that were all broadly Roman in date. These samples were taken for the recovery of environmental remains such as plant macrofossils, wood charcoal, faunal remains and molluscan remains, as well as to assist finds recovery. The following report discusses the preservation of the charred plant macrofossils as well as the marine and terrestrial molluscs. It assesses their potential to inform on the local environment of the site and the local diet of the population at the site during the Romano-British period.

8.2 Methodology

8.2.1 Bulk samples <1> to <7>, ranging from 5 to 20 litres in volume, were processed by flotation using a 500µm mesh for the heavy residue and a 250µm mesh for the retention of the flot before being air dried. The heavy residues were passed through geological sieves of 8, 4 and 2mm apertures and sorted by hand for environmental and artefactual remains with finds incorporated in the relevant sections of this volume where they add further information to the existing finds assemblage. The residues were also scanned with a magnet to extract and quantify magnetic material. The ecofacts and artefacts from residues are tabulated (Tables 6 and 7). The flots were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded (Tables 8 and 9).

8.2.2 Bulk sample <8> was processed by wet sieving as the context was recognised as waterlogged prior to processing. The material was sieved through a 2mm and a 250 µm and the flots produced were retained wet.

8.2.3 Identification of the charred and waterlogged plant macrofossils was based on observations of gross morphology and surface cell structure and quantification was based on approximate number of individuals. Nomenclature for plants follows Zohary and Hopf (1994) for cereal and Stace (1997) for wild plants. Charcoal was not present in sufficient quantities (>3g from the >4mm fraction of the heavy residue) to be submitted for identification.

8.2.4 The marine shell was collected by hand from sample residues. These were identified to species using the author's reference collection. Nomenclature and habitat information for marine molluscs follows Barret and Yonge (1958) and Winder (2011). The marine mollusc shell is quantified and measured in Table 10 and various infestations are noted in Table 11.

8.3 Results

Charred plant macrofossils

8.3.1 Two of the samples contained poor to moderately preserved cereal remains. The sample from surface (4008) contained a single barley (Hordeum sp.) grain, three wheat (Triticum sp.) grains, and a rye (Secale cereale) grain, and the sample from posthole [4013] contained a small number of fragments of cereal grains that were too poorly preserved to be identified to species.

Waterlogged plant macrofossils

8.3.2 Six of the eight samples contained low to moderate quantities of poor to moderately preserved waterlogged plant macrofossils.

8.3.3 The two most taxonomically varied samples came from deposit (4011) and deposit (4019), directly above it. Both contained hazelnut (Corylus avellana) shell and creeping or meadow buttercup (Ranunculus acris/repens). The lower deposit contained a greater quantity of plant remains, and greater taxonomic variety. These included sedge (Carex sp.), raspberry (Rubus idaeus), blackberry (Rubus fructicosus), and sloe (Prunus sp.). The upper deposit also included pale persicaria (Persicaria lapathifolia).

8.3.4 Three of the sampled floor surfaces — (4008), (4020), and (4029) — contained, exclusively, small numbers of poor to moderately preserved hazelnut fragments. The sample from posthole [4013] also exclusively contained a small number of poorly preserved hazelnut fragments.

Marine molluscs

8.3.5 Four of the sampled contexts contained small quantities of moderately to well preserved Oyster (Ostrea edulis) shells. The shells from these four contexts weighed 329.6 g in total.

8.3.6 A minimum of three individual oysters were recovered from layer (4011) and floor surface (4020). From layer (4019) single, measurable left and right valves were recovered and from surface (4008) a single left valve was recovered. Small numbers of the shells from certain contexts included a small range of infestations such as sponge, Polydora hoplura.

8.4 Significance and Potential

Charred plant macrofossils

8.4.1 Barley, after wheat, appears to have been one of the main cereal crops grown in both the north east and elsewhere in England during the Roman period (Lodwick 2017, 16-17; Grieg 1991). Barley, wheat, and rye have been observed across several Roman sites in the immediate vicinity of this site in York. These include Coney Street (Kenward and Williams 1979) and the General Accident and Rougier Street excavations (Hall and Kenward 1990), and barley and wheat has been recorded slightly further afield and within the walls of the legionary fortress at Minster Garages (Molloy and Parker 2024) and south of the city at the rural site of Regency Mews (Molloy and Adams 2023). It was possibly exploited by the Roman inhabitants of the settlement to make various dishes, bake bread, or to brew beer. The charred cereal grains were present in very low quantities. It is possible that that they represent windblown/dispersed settlement waste from settlement activity in the near vicinity of this site during the Roman period.

Waterlogged plant remains

8.4.2 Several of the waterlogged plant macrofossils encountered potentially contribute towards understanding the environment in the vicinity of this site during the period in which layers (4011) and (4019) were formed. The presence of blackberry and raspberry suggest that the ground may have been shrubby. The presence of the buttercup and sedge suggest that the ground may have been occasionally damp which, given the site's proximity to the Ouse, is to be expected.

8.4.3 Several of the waterlogged plant macrofossils — namely hazelnut, raspberry, and blackberry — were edible and could have been exploited as food. These plants have been found in other Roman contexts in York. To better determine whether the waterlogged plant remains from these contexts represent plants that may have been exploited as food or simply flora from the immediate environment, further analysis of several of the waterlogged plant macrofossils would be necessary.

Marine molluscs

8.4.4 A single species, oyster, was present at this site. Given the quantities that the species is present in, across the four contexts that it was collected from, it is difficult to comment on whether or not they formed a key component of the diet of the local populace. The oyster was considered a valued food resource in the Roman period (Cool 2006). Moreover, the shells could be collected and recycled for variety of uses that could reduce the quantity preserved, such as making mortar, lime, cosmetics, shell tempered pottery, fertiliser, or calcium for neutralising soils (Winder 2015). Far greater quantities of oyster shell have been recovered from Roman contexts at York Guildhall (Russ *et al* 2022)

8.4.5 The shells reveal a little about the potential life cycle of the oysters. Oysters grow in estuaries or on the coast. As such, it is possible that these came from the Humber estuary. The measurable left valves appeared to be relatively large and mature. The measurable left valve from (4019) has evidence of a younger oyster growing on it. The former may, tentatively, represent evidence of mature oyster shells being recycled as cultch for young spats to grow on. A narrow range of infestations was present on some of the shells. These included barnacle scars, sponge infestations, and a Polydora hoplura blister.

8.4.6 A detailed synthesis of marine molluscan remains from the Romano British period in York, and the north in general, has at the time of writing not yet been attempted. However, the oysters from this site, as well as oysters and other marine molluscs from other Roman sites across the city, could make a valuable contribution to that work.

8.5 Recommendations for Further Work

8.5.1 It is recommended that the four samples that are marked on Table 8 as having some potential for further work with regards to waterlogged plant macrofossils are submitted for analysis. These are:

- Sample <3> from deposit (4011)
- Sample <6> from layer (4019)
- Sample <7> from surface (4020)

The analysis of this material may give greater insight into the environment in the vicinity of these layers and provide a clearer answer on whether or not some of the plants encountered might represent material that was exploited as food.

8.5.2 Moreover, the hazelnut shell from those samples and surface (4008) might prove suitable for C14 dating if that is required. The three samples noted above and sample **<1> from (4008)** have material that would prove suitable.

8.5.3 No further work is recommended on the charred plant macrofossils. They have been fully quantified and identified as part of this assessment and, therefore, this assessment of them and the data that accompanies it may be included in any future publication of this site.

8.5.4 No further work is recommended on the marine mollusc shell. They have been fully quantified and identified as part of this assessment and, therefore, this assessment of them and the data that accompanies it may be included in any future publication of this site.

9 ANIMAL BONE ASSESSMENT

By Dr Kris Poole

9.1 Introduction

9.1.1 A total of 47 animal bones recovered by hand collection and 248 fragments from environmental residues from the site were recorded. The remains were recovered from a series of contexts dating to the Roman period, mostly between the late 1st century and early 3rd century AD. Context types mostly consisted of surfaces, with bones also recovered from dumps of material and soil build up.

9.2 Methodology

9.2.1 Levels of preservation were recorded using Behrensmeyer's (1978) standards, with burning and gnawing also recorded. Butchery was recorded in detail, noting the butchery mark type (chop, cut, saw, shave) and its location on the bone. Attempts were made to identify all bone fragments to element and species, with some exceptions. Mammal ribs, vertebrae, skull fragments and long bone fragments not identifiable to species were classed as large-, medium-, or small-sized mammal (except for atlas and axis vertebrae, and the more durable/diagnostic parts of the cranium, namely the zygomatic, occipital, maxilla and horn core, which were identified to species). Ribs were only counted when the head was present. Apart from the calcaneii and astragali, carpals and tarsals were not recorded.

9.2.2 All identified fragments were recorded as individual specimens, with the exception of fresh breaks, which were refitted where possible, and counted as one element. Partial or complete skeletons were recorded as one specimen, with details of the elements present, completeness, measurements and so on noted. The zoning systems set out by Serjeantson (1996) were used to record elements.

9.2.3 Grant's methods (1982) were used for recording tooth wear in cattle and sheep (no pig mandibular teeth were present). For sheep/goat, these were converted into mandible wear stages defined by Payne (1973). Following Hambleton (1999, 65-65), absolute ages were used as defined by Payne (1973) for sheep/goat and Halstead (1985) for cattle (themselves based on Higham 1967). It should, however, be noted that dental eruption and attrition can be affected by factors such as nutrition, health, pathology, diet, and the composition of the soils upon which animals are grazed. As such, the 'absolute ages' are included simply as a guide to the broad age ranges of animals in the assemblage.

9.2.4 Bone fusion sequences for sheep/goat, cattle, pigs, equids and dogs were recorded as fused, fusing or unfused. For sheep/goats, cattle and pigs, these were grouped into a relative fusion sequence of early, middle and late fusing, in line with Reitz and Wing (1999, 76). Measurements were taken following von den Driesch (1976).

9.4 Results

Taphonomy

9.4.1 All of the bones were in good condition. No evidence of gnawing was observed and butchery was only observed on one bone, a cattle radius which had a shave mark along the medial side of the proximal end, probably from deboning. In addition, three cattle metatarsals and a cattle metacarpal appeared to have been smashed through in the middle of the shaft, probably from marrow extraction. Evidence of burning was limited to small, unidentifiable fragments recovered from the environmental residues.

Species

9.4.2 Only 25 hand-collected bones and seven from residues could be identified to species. Aside from the small mammal, bird, fish and amphibian remains (see small mammal, bird, fish and amphibian report), all of the remains were from domestic species (Tables 12, 13), of which only cattle and sheep/goat or sheep were represented.

Ageing

9.4.3 Due to the small sample size, ageing data were limited. A cattle mandible was from a young adult individual and a sheep/goat mandible derived from a 6-8-year-old animal. Almost all of the epiphyses present were fused, although an unfused sheep/goat distal metacarpal and an unfused sheep/goat distal femur indicate that at least some immature animals were represented in the assemblage.

Body-part patterns

9.4.4 The cattle bones were dominated by metapodials (metacarpals and metatarsals) and mandibles, with some skull fragments and a phalanx present. Sheep/goat bones were slightly more varied, with mandibles, pelvis, femur, scapula, a loose tooth and several metapodials present.

Metrics

9.4.5 Metrical data were extremely limited and do not provide any useful information regarding animal size or conformation.

9.5 Discussion

9.5.1 The very small size of the assemblage means that it offers little in terms of site interpretation. Cattle and sheep/goat bones would be expected in a Roman urban bone assemblage (O'Connor 1988). Both adult and immature animals were present, but in view of the small sample size this information cannot be interpreted further. Body part data for cattle show an emphasis on foot bones (and to a lesser extent mandibles), which could feasibly represent butchery waste and a number of these bones were exploited for their marrow. Even so, the numbers were small and these bones were found in a number of different contexts, meaning that we cannot confidently interpret these remains as dumps of butchery waste.

9.5.2 The Lendal assemblage can be compared with the slightly larger bone assemblage from the nearby Guildhall site (Poole 2023) which was dominated by cattle bones, with pig being the second most common species, followed by sheep/goat. At that site, there was also no clear

evidence of specialised carcass processing, with primary butchery waste and later stages of processing all represented. It is unclear whether the differences between that assemblage and the Lendal bones is a true contrast, or merely a result of the smaller sample size of the Lendal bones.

9.5.3 No further work is required on the Lendal assemblage and the material is not considered to hold future research potential. As such, discard is recommended.

10 SMALL MAMMAL, BIRD, FISH AND AMPHIBIAN REMAINS ASSESSMENT

Dr Hannah Russ MCIfA FSA

10.1 Introduction

10.1.1 Animal remains comprising mammal, bird, fish and amphibian (155 fragments, weighing 2.39g) were recovered from four bulk environmental samples taken during archaeological excavations at 22 Lendal, York (SE 60122 51937), by York Archaeology (Project 9114). Roman remains were expected at the site, given its location just outside *Eboracum* fortress and to the west of the main route into the town from the south (Birtles 2024). This report includes quantification of the assemblage recovered with identification at species level where possible and a discussion of the findings within their regional and chronological setting.

10.2 Methods

10.2.1 The animal remains were identified to element, side and to as low a taxonomic level as possible using the archaeology.biz reference collection and published and online identification guides (Cohen and Serjeantson 1996; Hillson 2003; 2005; Camphuysen and Henderson 2017). A taphonomic assessment of each fragment was undertaken, recording the presence and absence of butchery (specified as cut, chop and/or saw marks), burning and calcination, any evidence for animal activity (canid or rodent gnawing), any abnormal features or bone formation (pathology and non-metric traits), and surface preservation; any other surface modifications of note were also recorded. Fragments of bones that could be identified to element but not any specific species were grouped as far as possible using size and class categories (i.e., mammal, bird, fish). The weights of animal bone for all contexts were also recorded.

10.2.2 Fish length was estimated by comparison with reference specimens of known length using size categories as described by Cerón-Carrasco (2004). Estimation of sex for European eel was undertaken based on estimated fish length, with individuals estimated over 45cm in length being identified as likely females.

10.2.3 Results for all quantification were recorded in an electronic proforma in Microsoft Excel.

10.2.4 This analysis has been undertaken in line with published standards and guidelines (Baker and Worley 2019; CIfA 2014; 2021), a written scheme of investigation (Birtles 2024) and with reference to the Yorkshire Archaeological Research Framework (Roskams and Whyman 2005; 2007).

10.3 Results

10.3.1 A total of 155 vertebrate remains weighing 2.39g were recovered from four bulk environmental samples taken during archaeological excavations at 22 Lendal, York, Table 14. That material included the remains of medium- to small-sized mammal, small and tiny bird, fish and amphibian.

10.3.2 The mammal remains were extremely fragmentary and none could be identified any further than being generally consistent with medium- to small-sized mammals. Similarly, none of the bird remains could be identified further than ‘small’ and ‘tiny’ bird, Table 14. Fish remains included bones and scales representing three species: European eel (*Anguilla anguilla*),

Atlantic herring (*Clupea harengus*) and salmon or trout (*Salmo* sp.). A single vertebra from context 4017 was from a frog or toad (Anura).

10.3.3 The remains were all recovered from contexts that also contained Roman period pottery, with a focus for activity in the 2nd and early 3rd centuries AD (Griffiths 2024).

10.3.4 This report will focus on the fish remains recovered as the mammal, bird and amphibian remains contribute little to the understanding of human activity or past environmental conditions at the site.

Taphonomic assessment

Bone surface preservation and fragmentation

10.3.5 Bone surface preservation varied throughout the assemblage from 'good' (2) to 'poor' (4) on a scale of 1 to 5 from 'excellent' to 'very poor'. Most specimens had 'good' surface preservation, 69.0% by count (n=107). Fragmentation was moderate throughout the material; mammal and bird remains were extremely fragmentary, while fish and amphibian remains survived mostly as complete specimens.

Butchery

10.3.6 No evidence for butchery in the form of cut, chop or saw marks was observed.

Animal interaction

10.3.7 No evidence for carnivore or rodent gnawing activity was observed.

Pathology

10.3.8 No skeletal abnormalities possibly resulting from disease, injury or age were recorded.

Burning and calcination

10.3.9 No burnt or calcined bone was recovered.

Measurements

10.3.10 Several fish vertebrae were suitably complete such that measurements could be made for length estimation. However, in this case, length has been estimated by comparison with reference specimens of known total length.

Ageing and sexing

10.3.11 None of the eel remains represented individuals over 45cm in total length and as such no remains specifically represented females. No other remains could be used to estimate sex.

Fish remains

10.3.12 Fish remains (n=111) were recovered from the bulk environmental samples from three contexts: C4008 (sample <1>), C4012 (sample <4>), and C4019 (sample <6>), Table 14. In all three cases the fish remains were recovered alongside Roman period pottery. The fish remains

represented one marine species, Atlantic herring, and two migratory species, the European eel and salmon or trout.

10.3.13 Atlantic herring remains were present in the samples from contexts C4008 and C4019 and included a first vertebra from context C4008 and fish scales that were consistent with Atlantic herring from contexts C4008 (n=1) and C4019 (n=63). Atlantic herring is a marine fish that is common in the seas around the British coastline. Herring fishing was likely to be a seasonal activity linked to spawning behaviour that sees large numbers of herring shoaling in shallow coastal waters. While different shoals spawn at different times, it is usually focused in two periods in late autumn/early winter and late winter/early spring. While the Romans were famed for their preservation of fish as both whole fish and sauces (garum and similar), there is not strong evidence that this activity took place in Britain. Herring is an oily fish that spoils quickly after landing and as such its recovery from inland sites such as York might suggest that some form of preservation was taking place; however, a supply of fresh fish from the coast cannot be ruled out. The overall count of remains for herring likely overrepresents this species due to the recovery of fish scales; it is not likely that assemblages studied previously included fish scales, or that they were identified if they were recovered.

10.3.14 The European eel is a migratory fish that spends parts of its lifecycle in both freshwater and marine environments. Its fishing usually takes place during its freshwater phase or during its migration from freshwater to the sea for spawning. The site is located a short distance from the banks of the River Ouse, which runs through the modern city of York and where eels are present today. As such, the recovery of eel remains provides evidence for the fishing and consumption of eels likely sourced from the nearby river.

10.3.15 Finally, four re-fitting fragments of a single precaudal vertebra of a large salmon or trout (60-90cm in total length) were recovered from context 4008. The skeletal remains of native salmon and trout species in England are difficult to differentiate. Potential species include Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta trutta*) and brown trout (*Salmo trutta fario*). The Atlantic salmon and sea trout have similar migratory behaviours, living much of their lives in marine environments and returning to freshwater to spawn; their fishing usually takes place during their migration to freshwater for spawning. Brown trout, however, have a different lifecycle that does not include any period in a marine environment; spawning does, however, still usually involve a migration from lakes into tributary rivers or to areas further upriver for river dwelling populations. While brown trout could be fished during any time of year, spawning season provided an opportunity to fish more easily as large numbers of fish travelled upriver in a condensed period of time making them easy targets for fishers.

10.3.16 The three species represented are broadly consistent with those previously seen both in York (O'Connor 1988; Enghoff 2000; Russ 2023) and more generally in northern England (Locker 2007). The range of fish represented is lower than most York sites, but this is probably a result of small assemblage size (47 bones and 64 scales). The frequencies seen at 22 Lendal are most similar to those seen at Tanner Row in York where eel and herring are common and salmonids are present (O'Connor 1988), this is perhaps to be expected given the locations of the two sites on opposing banks of the River Ouse. However, Cyprinids (carp family fish) are noticeably absent at 22 Lendal, which is surprising given its location close to the river where these freshwater species would have been present and their presence in the fish bone assemblages from most Roman period sites in York (O'Connor 1988; Enghoff 2000), including the Guildhall located only c. 25m to the southwest of 22 Lendal (Russ 2023).

10.4 Conclusion

10.4.1 The fish remains from 22 Lendal provide an insight into the fishing practices and fish consumption at or close to the site during the Roman period; herring were transported from the coast, likely brought by boat via the River Ouse, while eels and salmon/trout were likely fished locally in the River Ouse, which passed close to the site. All could have been bought at local markets within the town. There is no evidence for the import or consumption of fish from the continent, which has been found at other sites in York including the Guildhall (Russ 2023) and potentially Tanner Row (O'Connor 1988).

Recommendations for future analysis and dissemination

10.4.2 No further work is recommended for the animal remains recovered from samples from 22 Lendal, York. This report and associated data should be retained within the site archive and integrated into any site-wide reporting or publication. The fish remains should be retained within the site archive, if possible, for potential future biochemical analyses.

11 DISCUSSION

11.1 Overview

11.1.1 Comprehension of the significance, age and context of the archaeological remains found at 22 Lendal in relation to the development of this part of Roman York and its subsequent change in later periods has been enhanced by the results of the work. This is especially the case when compared and considered alongside findings from the Guildhall yard and Mansion House cellars (Whyman 2012), the 2021 Guildhall work (Savine 2022), the 2020 ground investigation work (Jackson-Slater & Krawiec 2020) as well as any other work and historical evidence from elsewhere in the vicinity.

11.1.2 The site provides additional evidence that can contribute to the research questions noted in Section 3.3. These are discussed in 11.2 – 11.7 below.

Due to the location of the site near the river, is there any evidence of the ground being built up in the form of made ground and levelling deposits?

11.1.3 There is evidence within basement Trenches 1, 2 and 4 and alleyway Trench 3 of the ground being built up through the use of made ground, levelling deposits and the re-deposition of natural sands prior to the construction of the old Post Office in 1884.

Is there evidence of re-development of this area during the later Roman period?

11.1.4 There appears to be no surviving evidence of major re-development of this locality during the later Roman period.

11.1.5 The natural ground surface does not appear to have been landscaped to the extent seen in the Guildhall excavations (Savine 2022). However, the 9.37m upper horizon for the natural deposits noted at that site is consistent with what has been seen in Trenches 3 and 4 of 22 Lendal (9.55m – 9.66m).

11.1.6 The possible road surfaces noted in both the Mansion House 2016 work (Section 2.3.16) and South range of the Guildhall (Section 2.3.26) are at levels between 10.60m – 11.01m AOD: these are higher than that seen in Trench 4 of the current excavation where the upper horizon of such features is at 9.83m AOD.

11.1.7 The Roman pottery recovered from Trench 4 dates from the late 1st and 2nd centuries, with possible occupation and dumping activity into the 3rd to 4th centuries (Griffiths, section 6.4.2). The construction of the Post Office and associated services in the post-medieval period appears to have truncated the later archaeological deposits within the basement and outside in the alleyway trench.

Are there any surviving Roman structures below 22 Lendal?

11.1.8 There were no surviving Roman masonry structures below 22 Lendal. However, there is the possibility that, given the proximity of Roman walls found in 1883 on the site of the General Post Office (RCHMY 1962, 61; fig.50), the large block seen within the basement of 22 Lendal may have originated from a Roman structure.

11.1.9 The only evidence for earlier Roman features below 22 Lendal were within Trench 4, fortuitously located in the only area within the footprint of the basement where relatively

undisturbed archaeological evidence of Roman date survived within the scheme of the groundworks. However, the limited area of this trench restricts the conclusions that can be drawn from the available evidence.

11.1.10 The presence of a number of sherds of Roman pottery (60+) associated with features such as possible pebbled floor or yard surfaces, stake holes, postholes and dump deposits containing food waste such as hazelnut shells and fishbone, suggests possible domestic activity here during the earlier Roman period. The proximity of the south-western gate of the Roman fortress and the proposed line of its access road (RCHMY 1962, 61; fig.50) also suggests that the features seen in Trench 4 are related to roadside activity on the eastern side of the proposed road.

11.1.11 However, if the ground surface was at approximately 12.6m AOD (section 2.3.32) at the time of the Roman structures previously found at Lendal (RCHMY 1962, 61; fig.50) then the cobble and pebble surfaces seen within Trench 4 are potentially earlier and certainly not substantial enough to withstand the expected traffic along such a major access road to the fortress and therefore are more likely to relate to the possible domestic roadside activity described above (11.1.6). The caveat is that these surfaces may very well have been truncated and were originally more substantial at a higher level.

11.1.12 Although remnants of a pebble surface C3013 and associated posthole [C3015] were seen in the alleyway trench (Figure 6) no datable finds were recovered, therefore those features could not be determined to be definitively Roman in date. However, their levels are consistent with those seen in Trenches 1 and 4 and indicate that there is potential for surviving archaeology of medieval and/or Roman date in this area also.

Is there any evidence of the medieval Augustinian friary on which the building may be sat on, in the form of structural remains or burials? If so, can that evidence be incorporated into the understanding and interpretation of the 2020 Guildhall work as well as the development of the 22 Lendal site?

11.1.13 No intact structural remains or burials were found that related to the medieval Augustinian friary. However, worked Magnesian limestone blocks and some architectural fragments of medieval character were incorporated into both the foundations of the Post Office and the footings of earlier post-medieval walls as seen within both the basement and alley way trenches. It is likely that this reused material originated from robbing of the medieval Augustinian friary structure located to the immediate south-west of the site.

11.1.14 The absence of any burial evidence such as disarticulated human bones from the made ground deposits in this area may be indicative of either the complete historical truncation of any such pre-existing remains or that this area was outside the bounds of the Augustinian friary burial ground identified in the 2020 Guildhall work. It could also mean that this made ground material had been brought in from elsewhere.

Is there any evidence of the building's previous use as the Post Office?

11.1.15 The blocking of an archway of a possible fireplace probably relates to a phase of development during the building's previous use as a Post Office. No other specific evidence relating to such use was found.

Is there any evidence of earlier medieval or post-medieval structures within the footprint of the site, and how do they compare with the current street plan?

11.1.16 There was no evidence of earlier medieval structures. This is in contrast to those seen at comparable levels in the 2012 excavation of the trench located in the Guildhall common Hall yard at 10.00m AOD, which revealed 12th/13th century archaeology (Whyman 2012).

11.1.17 However, post-medieval wall foundations earlier than the Post Office building were seen in Trench 2 within the basement, while in the alleyway post-medieval brick walls on footings of re-used medieval limestone blocks, some of which were worked with traces of mortar on them, were seen to run at a slight easterly tangent to the line of the current eastern wall of 22 Lendal. Adding this information to similar findings from further monitoring of work up the alley at Lendal street (Howlett 2024) indicates a shift to the west of the alley way at the time of the construction of the Post Office in the 19th century and provides evidence of an earlier street plan and building layout of this area of Lendal which could be compared with historical maps for this area.

11.2 Conclusion

11.2.1 To conclude, it can be said that the archaeological features and the recorded depths where archaeological and geological deposits were encountered and recorded at 22 Lendal provide a better understanding of the surviving post-medieval, medieval and Roman archaeology and underlaying topography in this area.

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13 ACKNOWLEDGEMENTS

13.1.1 York Archaeology would like to thank Togel Contactors for their commissioning of the archaeological works and Steve Woods (Togel) alongside the Togel groundwork team for their help on site.

13.1.2 Also, thanks to Emma Small (Egniol) and Claire MacRae (City of York Council) for their assistance during the watching brief.

13.1.3 The following York Archaeology staff contributed to the project.

- The watching brief was carried out by P. Howlett and M. Vatylioti with help from A. Rickinson and E. Horton.
- The text was written by P. Howlett with illustrations prepared by B. Price, M. Hughes and M. Ilie.
- Specialist reports were written by D. G. Griffiths, J. M. McComish, C. L. Molloy, Dr K. Poole and Dr H. Russ.
- The project was managed by K. Foster and J. Goodchild and the post-excavation work was managed by J. Badger and K. Smart with administrative help from S. Hughes.

FIGURES

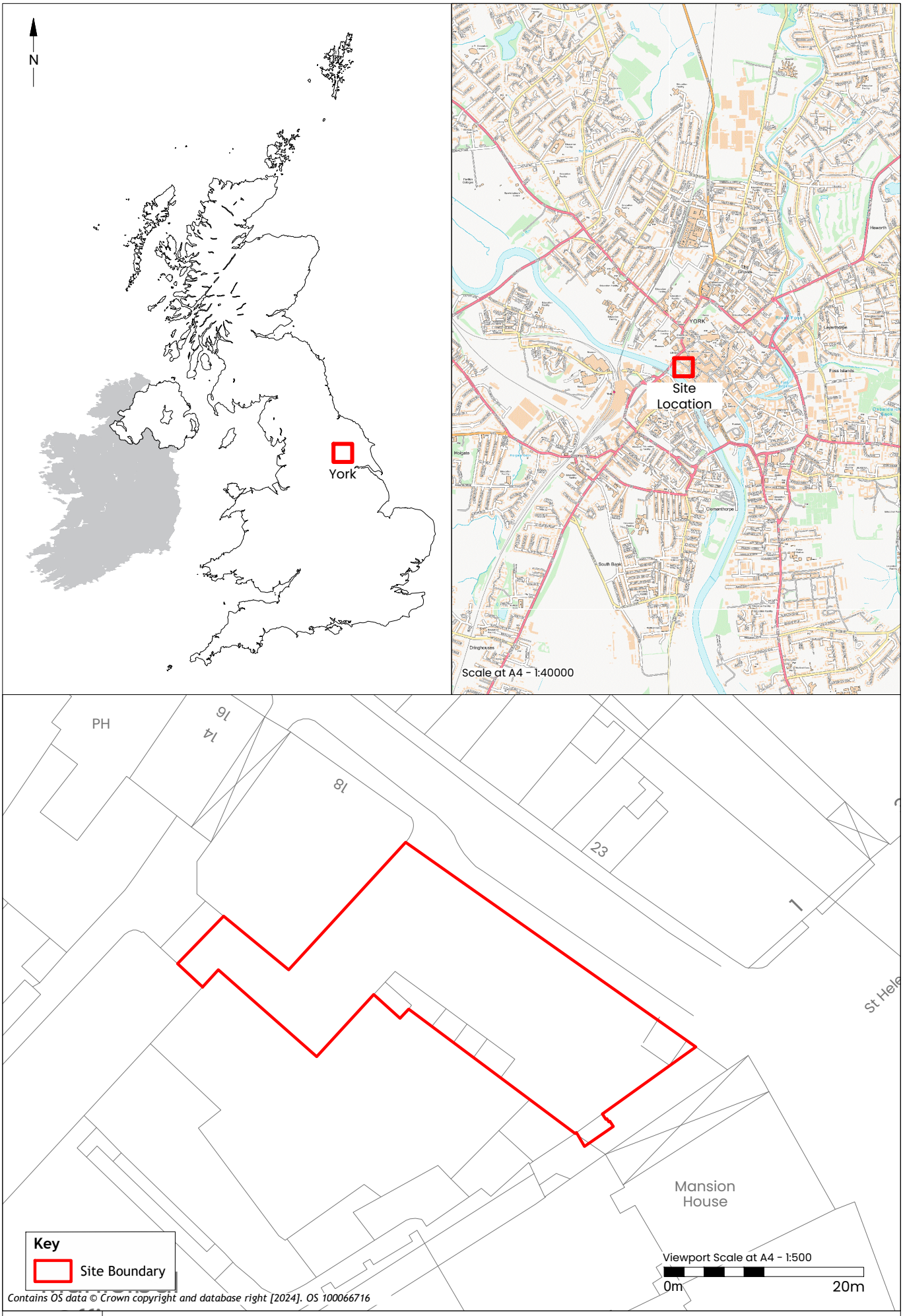

Figure 01 - Location Map
9114 - Miller & Carter, 22 Lendal, York

Scale at A4 - Varies
Drawn by BP

Figure 02 - Plan Of Previously Investigated Sites in the Vicinity of 22 Lendal
9114 - Miller & Carter, 22 Lendal, York

Scale at A3 - 1:500
Drawn by BP

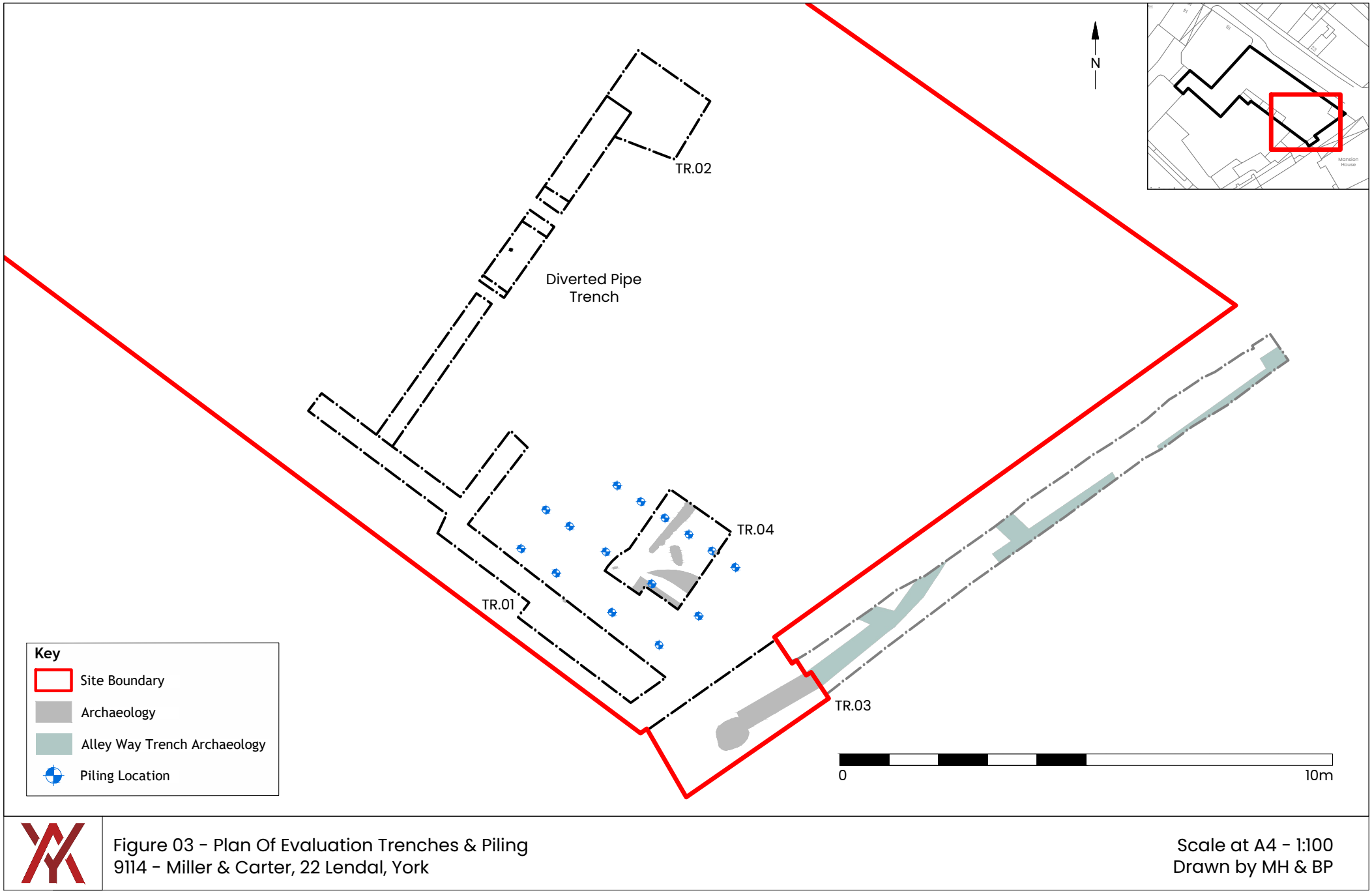

Figure 03 - Plan Of Evaluation Trenches & Piling
9114 - Miller & Carter, 22 Lendal, York

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Drawn by MH & BP

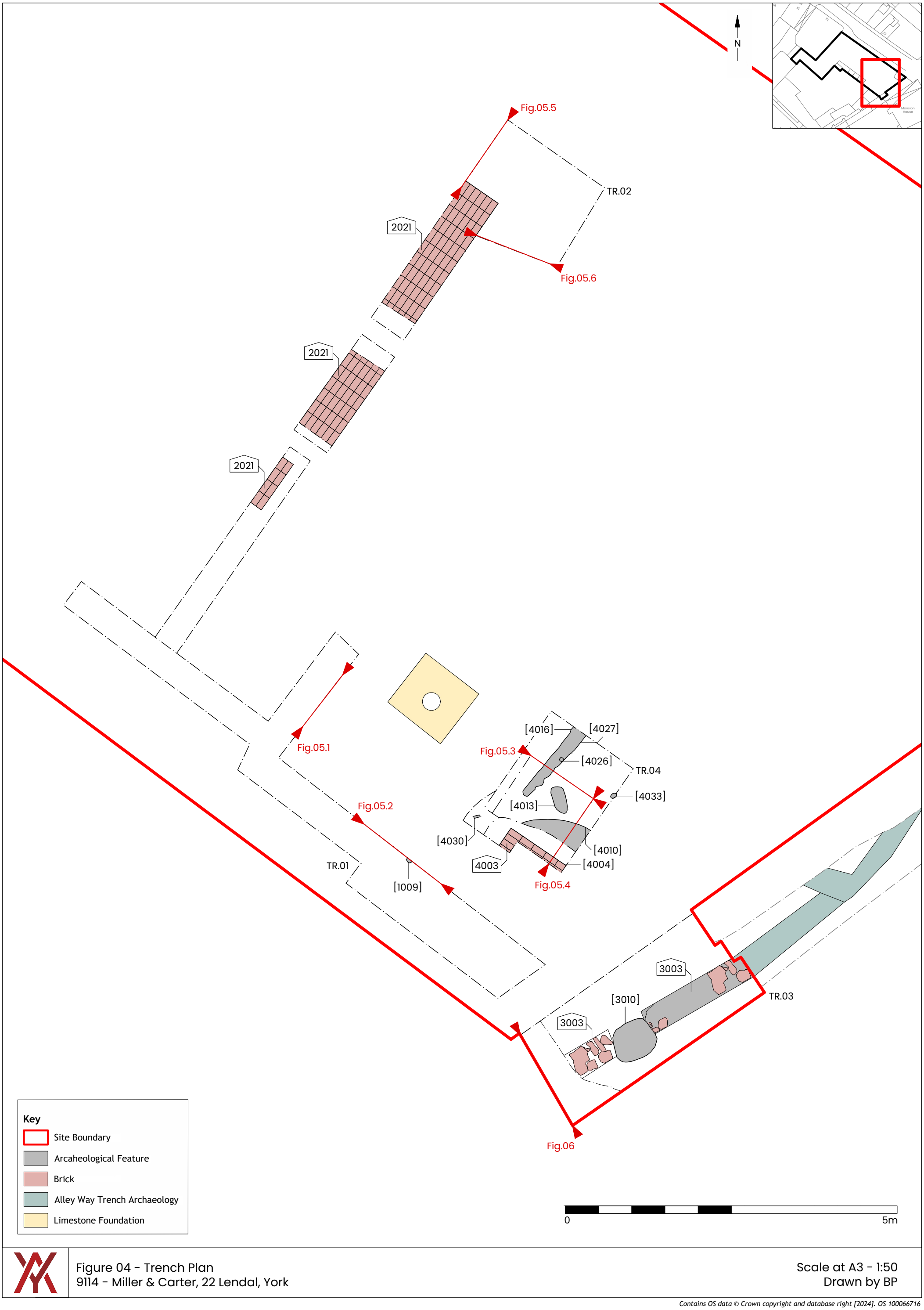

Figure 04 - Trench Plan
9114 - Miller & Carter, 22 Lendal, York

Scale at A3 - 1:50
Drawn by BP

Fig.05.1
North West Facing Section

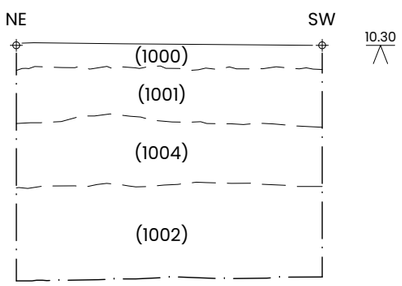

Fig.05.2
South West Facing Section [1006] & [1009]

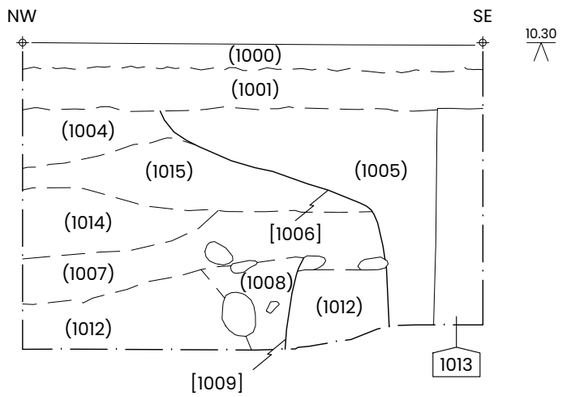

Fig.05.3
South West Facing Section

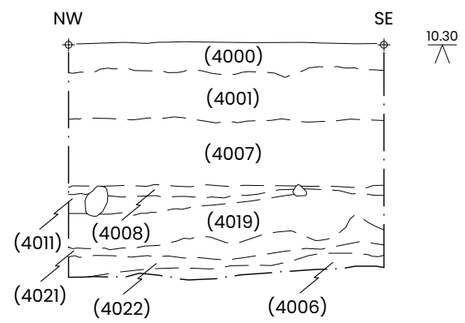

Fig.05.4
North West Facing Section [4010]

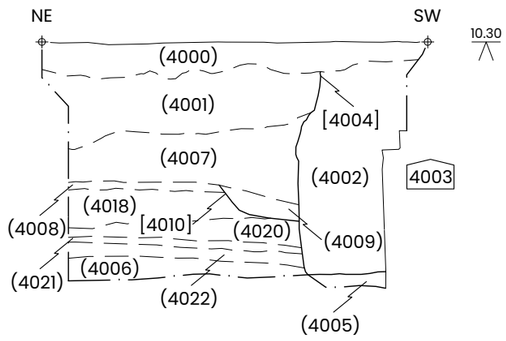

Fig.05.5
South East Facing Section [2023]

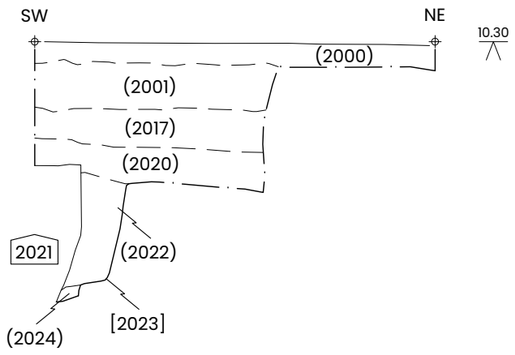

Fig.05.6
North East Facing Section [2023]

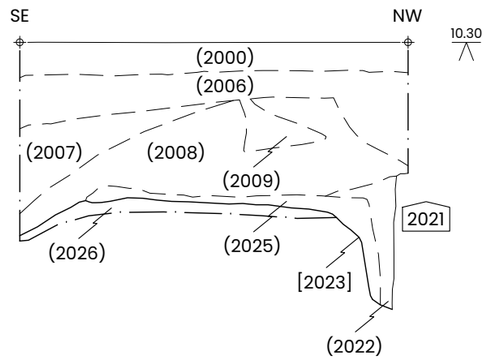

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Figure 05 - Section Figures 05.1 - 05.6
9114 - Miller & Carter, 22 Lendal, York

Scale at A3 - 1:20
Drawn by BP

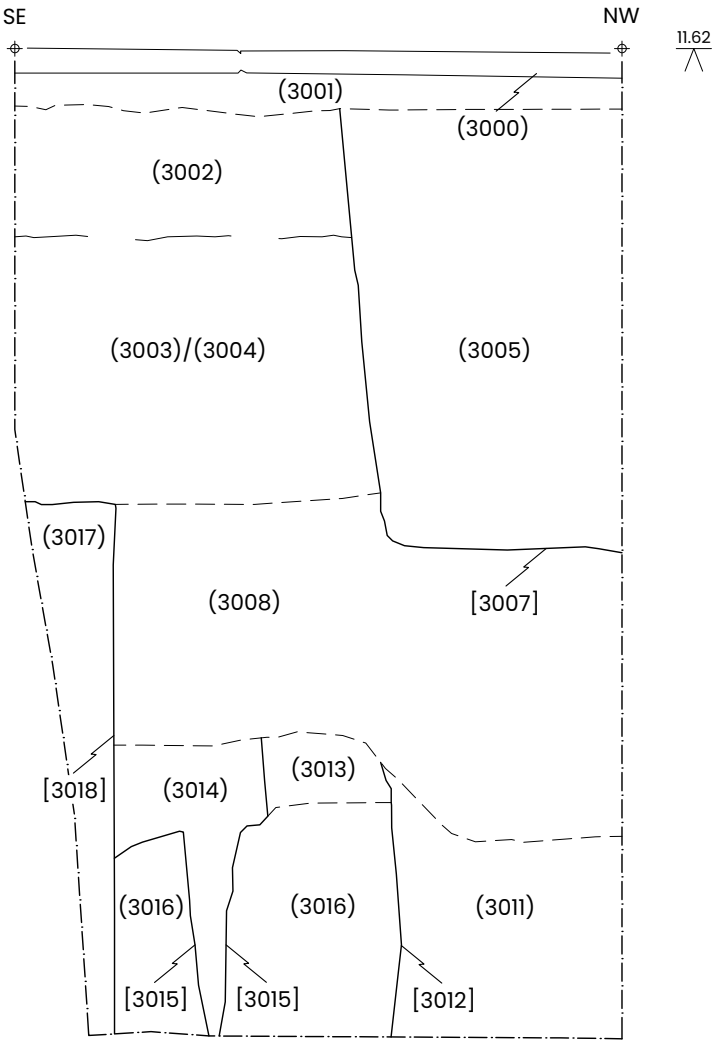

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Figure 06 - North East Facing Section [3012], [3015] & [3018]
9114 - Miller & Carter, 22 Lendal, York

Scale at A4 - 1:20
Drawn by BP

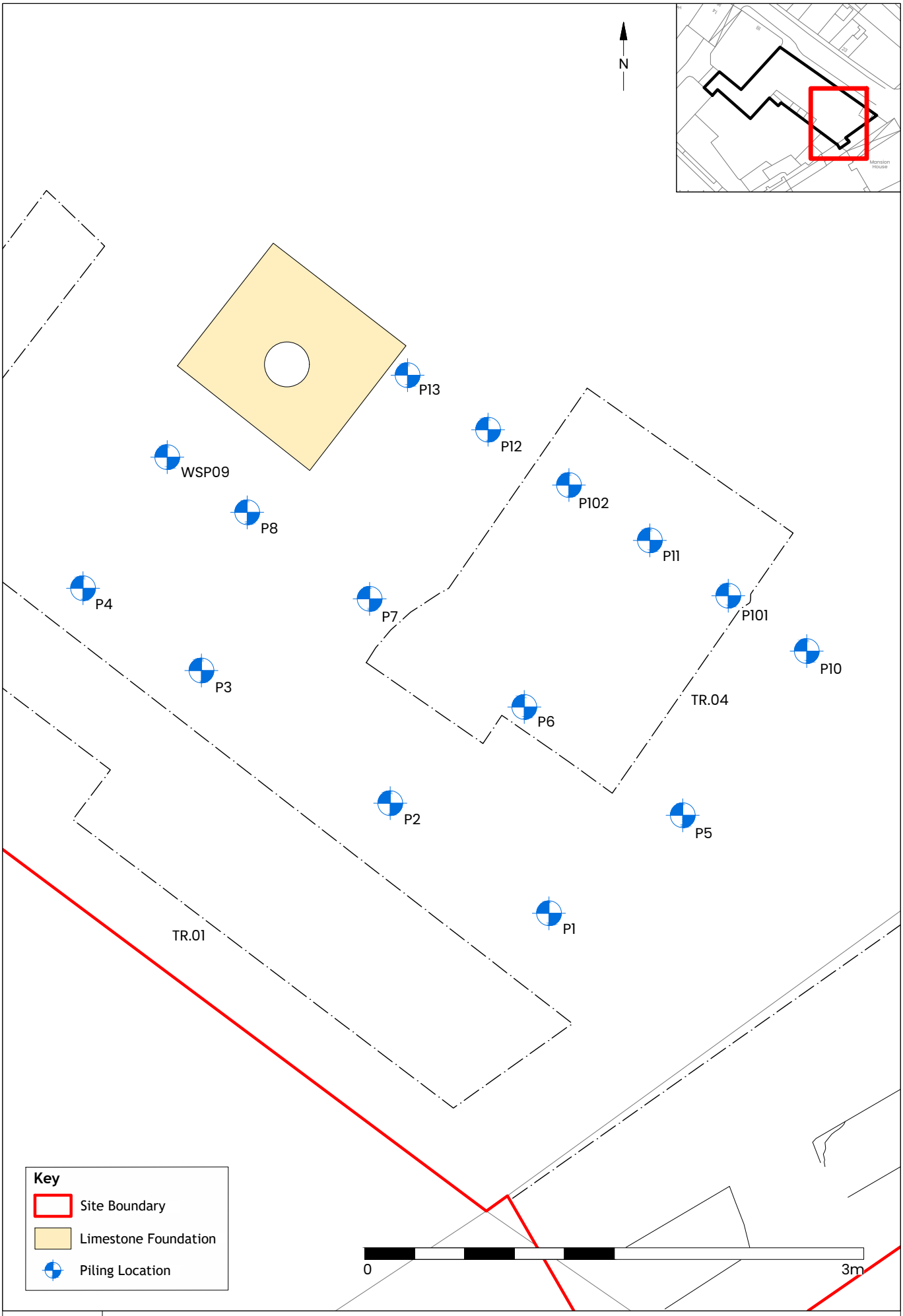

Figure 07 - Piling Location Plan
9114 - Miller & Carter, 22 Lendal, York

Scale at A4 - 1:30
Drawn by BP

PLATES

Plate 1: Backfilled drainage trench looking south-south-west

Plate 2: Trench 1, looking north-west, scale unit 0.50m

Plate 3: Trench 1 oblique view of south-west facing section, post hole [C1009] cutting natural C1012 at 9.55m AOD, scale unit 0.10m

Plate 4: Trench 2 base looking south-west, scale unit 0.10m

Plate 5: Trench 2 Dump deposit C2024, overlaid by re-deposited natural C2016, wall C2021 in background, looking west, scale unit 0.10m

Plate 6: Trench 2 north-east facing section of dump deposits cut by wall construction [2023], scale unit 0.10m

Plate 7: Trench 2 Limestone block C2019 in demolition above wall C2021, looking south-west, scale unit 0.10m

Plate 8: Trench 2 south-east facing section of wall C2021 and construction cut [C2023] with shuttering C2024 and bedding C2027, scale units 0.50m, 0.10m

Plate 9: Trench 2 the south-west end of wall C2021 showing bitumen DPC and limestone foundation, scale unit 0.10m

Plate 10: Trench 3 between 22 Lendal and The Mansion House, looking north-west, scale unit 0.50m

Plate 11: Trench 3 north-east facing section, post hole cutting natural at 9.60m AOD, scale unit 0.50m

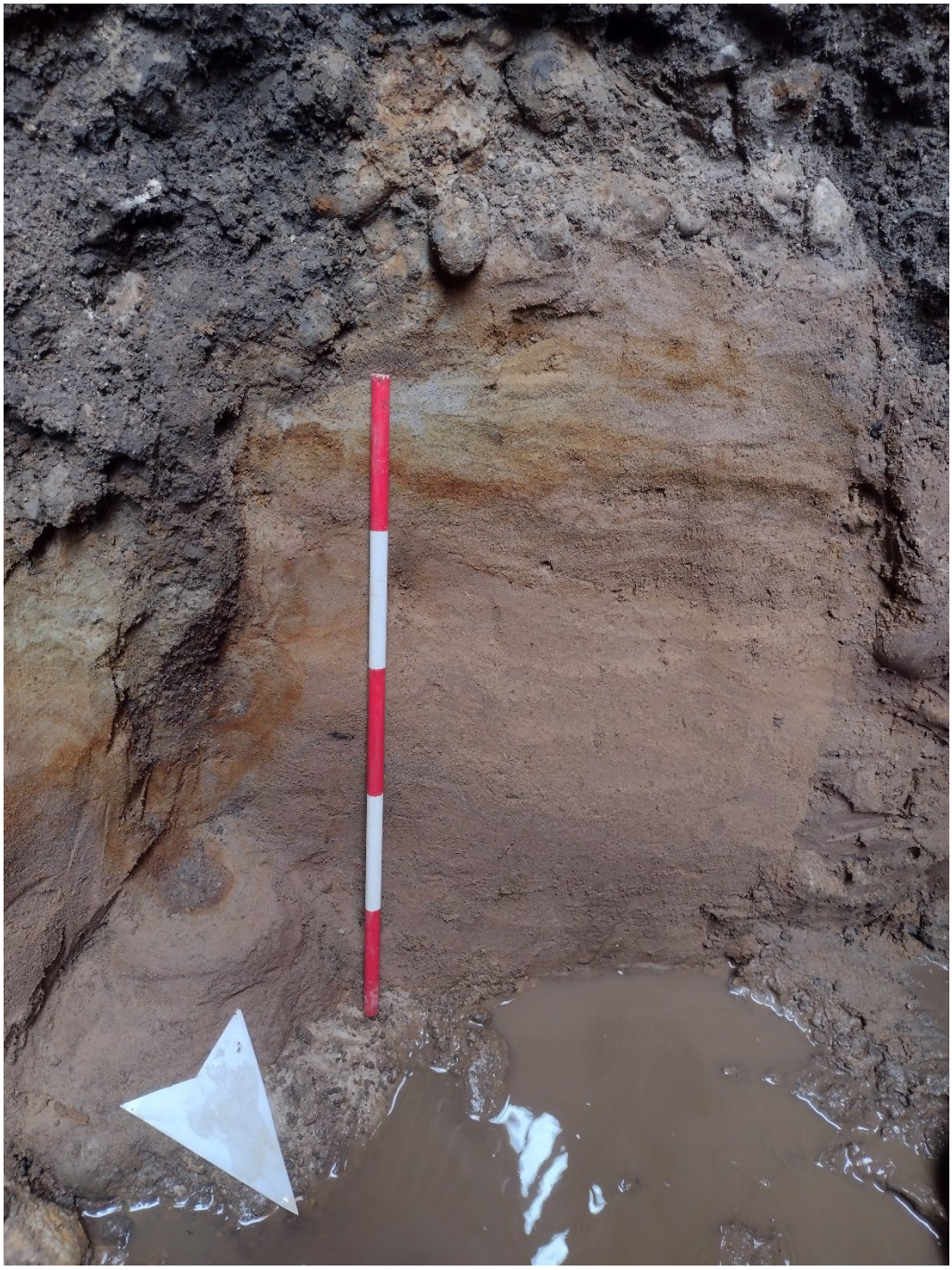

Plate 12: Trench 3 north-east facing section, posthole [C3015] cutting Pebble surface C3013 and natural C3016, scale unit 0.10m

Plate 13: Trench 3 looking north-west, re-used medieval limestone blocks C3004, scale unit 0.10m

Plate 14: Trench 3 looking north-east, re-used medieval limestone wall blocks below post-medieval wall, scale unit 0.50m

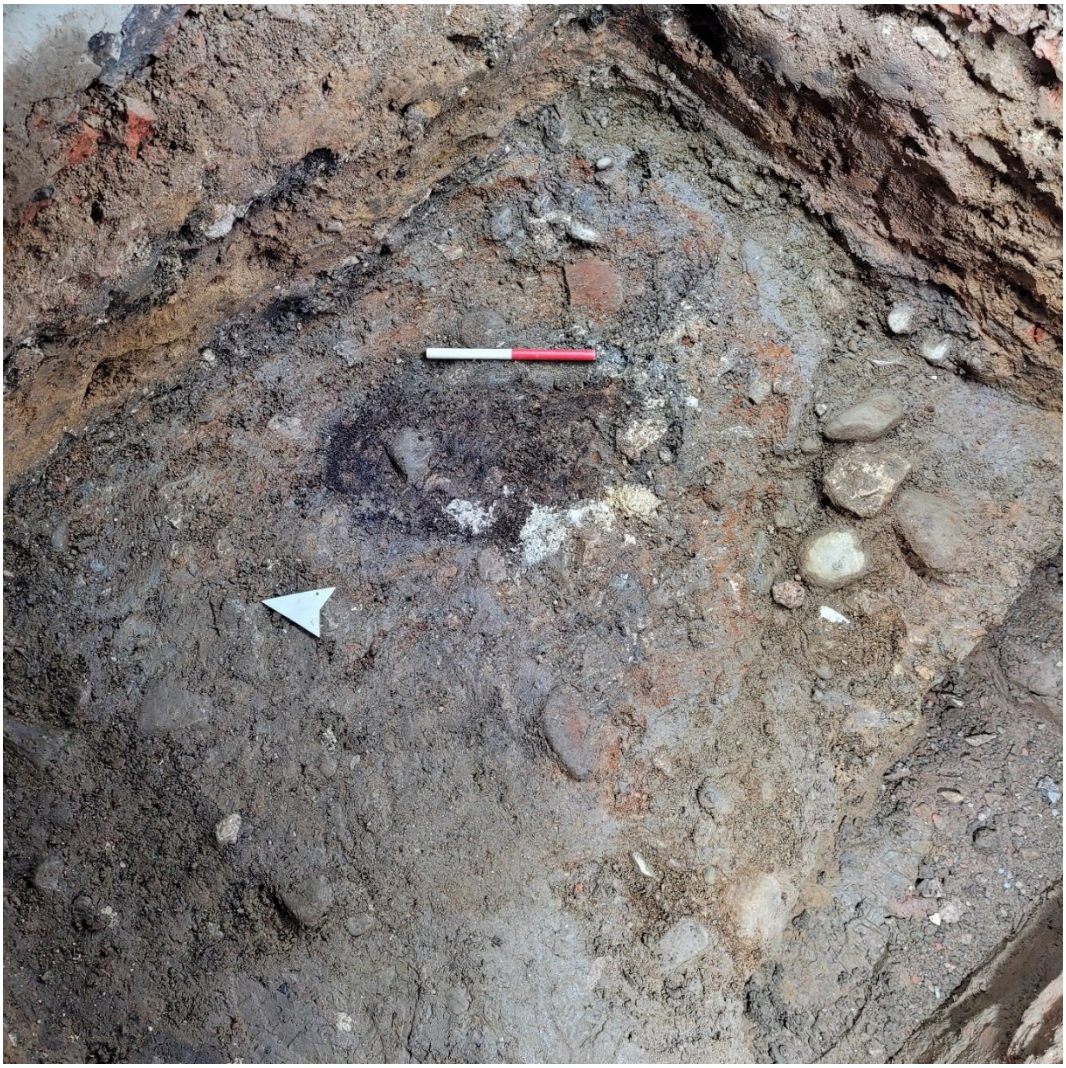

Plate 15: Trench 4 looking east, archaeological horizon at 9.80m AOD, posthole [C4013], cobble surface C4017 cut by pit [C4010], scale unit 0.10m

Plate 16: Trench 4 looking north-east, beam slot C4016 separating surface C4017 (right) from dump deposits C4019 (left), scale unit 0.10m

Plate 17: Trench 4 cobble surface C4018, looking south-east, scale unit 0.10m

Plate 18: Trench 4 hazelnut shells and wood fragments in dump deposit C4019, scale unit 0.10m

Plate 19: Trench 4 cobble surface C4020 manhole cut [C4004] in foreground, looking north-east, scale unit 0.10m

Plate 20: Trench 4 pitted natural below the dump deposit C4019, looking north-west, scale unit 0.10m

Plate 21: Trench 4 south-east facing profile, Iron panned natural C4022 in base, thick grey layer is dump C4019, Scale unit 0.10m

Plate 22: Trench 4 south-west facing profile Archaeological deposits truncated by eastern construction cut of Post Office wall, scale unit 0.10m

Plate 23: Oblique view of south-west profile showing archaeological layers banked against natural slope, scale unit 0.10m

Plate 24: Window sample WSP09, scale unit 0.10m

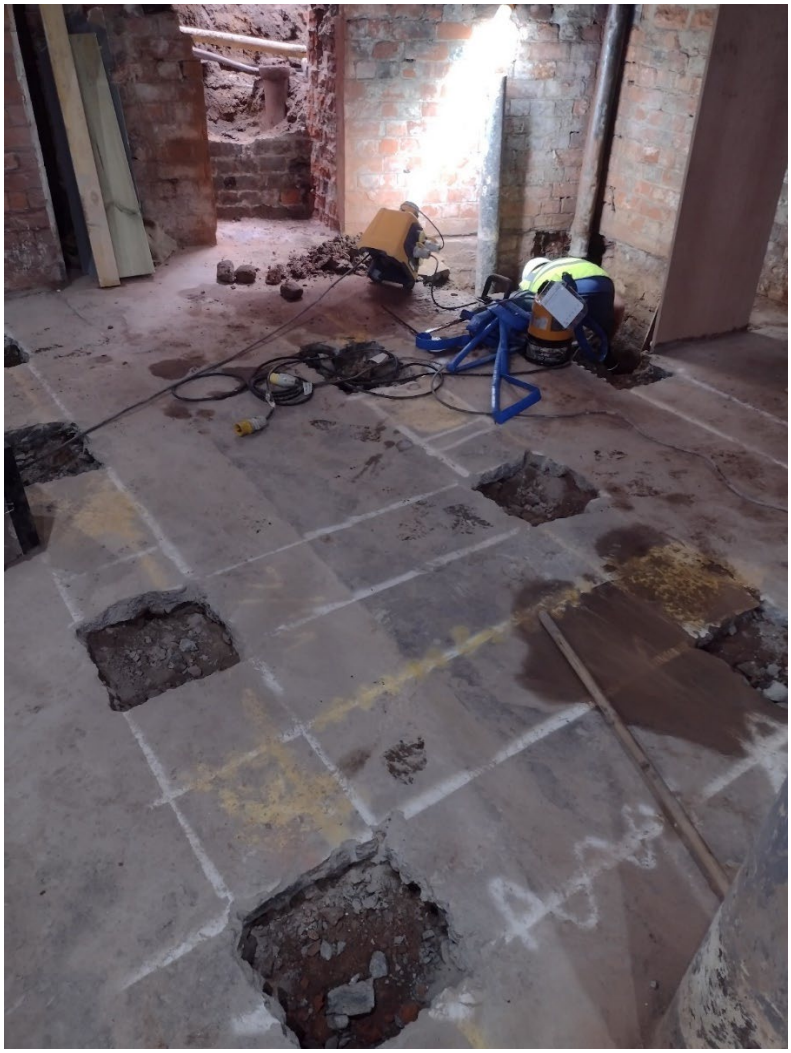

Plate 25: Working shot, basement pile positions, looking south-east

Plate 26: Re-used medieval limestone block in basement column foundation, looking east, scale unit 0.10m

Plate 27: Blocked fireplace arch in south-western basement wall, scale unit 0.50m

Plate 28: Extended alley way trench, looking north-east, post medieval structures, scale unit 0.10m

Plate 29: Re-used, medieval limestone masonry retrieved from the extended alley way trench, scale unit 0.10m

Plate 30: Discarded finds from Trench 3, scale unit 0.10m

APPENDIX 1: INDEX TO ARCHIVE

Table 2: Index to Archive	
Item	**Number of items**
Context sheets	95
Sample register	1
Context register	6
Drawing register	1
Original drawings	10
Matrix sheets	4
Digital photographs	Digital = 500
MS Excel files	5
Written Scheme of Investigation	1
Report	1
Oasis summary form	1

APPENDIX 2: CONTEXT LIST

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.1	1000	Layer	Basement floor, Hard, light grey concrete, average D=0.08-0.10m.
Tr.1	1001	Layer	Floor bedding, loose, orange-brown. Dark grey matrix. Brick /concrete rubble with occasional small angular limestone fragments D=0.20m variable.
Tr.1	1002	Layer	Levelling, Compact, mid-orange brown re-deposited natural sands, homogenous D=>0.30m.
Tr.1	1003	Layer	Dump deposit. Thin lens of soft, dark black-brown silty sand. Occasional charcoal flecks.
Tr.1	1004	Layer	Floor bedding, loose, orange-brown. Dark grey matrix. Brick /concrete rubble with occasional small angular limestone fragments D=0.20m variable.
Tr.1	1005	Fill	Backfill of Manhole 1006. Loose, dark grey-brown. Brick /concrete rubble with occasional small angular limestone fragments L= 0.85m D=0.80m.
Tr.1	1006	Cut	Manhole containing 1005, 1013. Rectangular in plan, aligned NW-SE. Gradual Break of slope at top, gradual to steep sides base flat L= 0.85m D=0.80m.
Tr.1	1007	Layer	Soil build up. Compacted dark greyish-brown clayey silt. Moderate small-medium pebbles, small cobble, occasional oyster shell. L=1.15m D>0.20m.
Tr.1	1008	Fill	Backfill of posthole 1009. Sticky, dark greyish-brown silty clay, occasional small rounded stones, oyster shell. W=0.40m D=0.45m.
Tr.1	1009	Cut	Posthole 1009 containing 1008. Sharp break of slope at top steep sides, narrowing to a pointed base. W=0.40m D=0.45m.

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.1	1010	Layer	Trample layer in base of 1017. Soft, wet mid-yellow brown silty sand, L=0.95m x W= 0.48m x D<0.05m.
Tr.1	1011	Layer	Natural cobble layer. Hard compacted layer of small-medium grey cobbles in natural sand. L=0.50m x W= 0.50m D>0.10m.
Tr.1	1012	Layer	Natural geology, fluvio-glacial sands. Compacted orange brown sand laminates over mid-yellow brown sand. Seen for L=0.35m D>0.25. At 9.64m AOD
Tr.1	1013	Fill	Modern, manhole brick structure in 1006. seen for 7 courses stretcher bond. W1.45m D= 0.80m.
Tr.1	1014	Layer	Flood deposits? Compact, Mid-yellow brown/ dark brown-yellow laminations. Sand/silt/clay distinct laminations
Tr.1	1015	Layer	Dump deposit. Loose yellow- brown sand. W=1.15m x D= 0.15m.
Tr.1	1016	Fill	Foundation backfill in 1017. loose, Dark brown/grey matrix. Brick /concrete rubble with occasional small angular limestone fragments L>10m x W=1.0m x D=c 1.20m.
Tr.1	1017	Cut	Foundation cut containing 1010 and 1016. North side only, rectangular in plan. Sharp break at top to vertical sides sharp break to flat base. L>10m x W=1.0m x D=c 1.20m.
Tr.2	2000	Layer	Basement floor, Hard, light grey concrete, average D=0.08-0.10m
Tr.2	2001	Layer	Floor bedding, loose, orange-brown. Dark grey matrix. Brick /concrete rubble with occasional small angular limestone fragments D=0.20m variable
Tr.2	2002	Layer	Levelling. Compact, dark blackish brown, gravelly clayey silt. Frequent small angular stones and small CBM. L= 0.45m D= 0.10m. Dark Stoney levelling
Tr.2	2003	Fill	H.P Pipework. Metal cast iron, L>1.80m Diameter =0.12m
Tr.2	2004	Fill	Backfill of 2005. Loose, mid-yellow brown, gravelly silty clay. Frequent small and medium angular stones and small CBM. L>1.80mm W>0.60m D= 0.35m.

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.2	2005	Cut	Service pipe trench containing 2003 and 2004. Rectilinear in plan, aligned SE/NW. Gradual break of slope at top, gradual sides to a concave base
Tr.2	2006	Layer	Floor bedding, loose, orange-brown. Dark grey matrix. Brick /concrete rubble with occasional small angular limestone fragments d=0.20m variable
Tr.2	2007	Layer	Clay levelling, trample layer? Plastic, mid-pinkish brown clayey sand/ sandy clay lenses. L>0.70m x D=0.20m
Tr.2	2008	Layer	Dump deposit. Compact, mid-yellow brown/ grey patches occasional small CBM, lenses of granular mortar or concrete. L=1.20m x W= 0.75m x D=0.33m.
Tr.2	2009	Layer	Dump deposit. Friable, dark to light silty fragments of pelleted mortar or concrete L=0.25m x D=0.15m.
Tr.2	2010	Layer	Trample deposit? Sandy clay lenses in re-deposited sand natural. Unexcavated.
Tr.2	2011	Void	Not used
Tr.2	2012	Void	Not used
Tr.2	2013	Void	Not used
Tr.2	2014	Void	Not used
Tr.2	2015	Layer	Clay levelling, trample layer? Plastic, mid-pinkish brown clayey sand/ sandy clay lenses. L>0.95m x D=0.20m
Tr.2	2016	Layer	Re-deposited sand natural glaciofluvial. Loose mid-orange brown/yellow lenses. W0.95m x D>0.10m
Tr.2	2017	Layer	Post-demolition levelling. Hard, dark greyish brown mottled orange/brown gravelly sand/silt/clay. Frequent small - medium fragments CBM, Mortar. Occasional medium limestone fragments.
Tr.2	2018	Layer	Post-demolition levelling. Hard, dark greyish brown mottled orange/brown gravelly sand/silt/clay. Frequent small - medium fragments CBM, Mortar. Occasional medium limestone fragments.

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.2	2019	Layer	Magnesian limestone block in demolition layer. Hard, greyish white, Triangular, roughly dressed on long side No toolmarks. Traces of soft creamy white mortar with black flecks on its upper side. L= 0.48m x W= 0.30m x D= 0.12m.
Tr.2	2020	Layer	Levelling. Compact, Mid-yellow brown dark patches. Silty, clayey sand. Occasional small angular stone gravelly clayey silt. Frequent small angular stones and small CBM. L= 1.90m x W=0.58m x D= 0.20m.
Tr.2	2021	Wall	Post-medieval brick wall in 2023. Cemented, red black grey brick, small and medium cobble and occasional small-medium angular stones. 4 courses seen in section bonded with hard grey black flecked mortar. Couse type not seen due to concreted upper L>5.50m x W 0.65m average thinning to SW thickness >0.30m not fully excavated
Tr.2	2022	Fill	Backfill of 2023. Compacted, mid-orange brown re-deposited natural sands used as backfill. L=0.65-0.75m x W=0.15m avge x D= 0.40m.
Tr.2	2023	Cut	Wall construction cut containing 2021, 2022, 2024 and 2027. Not fully excavated. Rectilinear in plan. Exposed to 0.40m depth extending another 0.30m? L = c 8.0m to SW Sharp break of slope at top vertical sides. Corner or end of wall.
Tr.2	2024	Fill	Wooden shuttering in 2023. Hard, dark brown-black wood. Full depth not seen. L= 0.50m nw/se, L= 0.40m ne/sw, x W= 0.05m x D= >0.25m.
Tr.2	2025	Layer	Black dump deposit. Friable, black, brownish black soot? Distinct. L=1.20m x W= 0.75m x D 0.10m avge. Left in situ.
Tr.2	2026	Layer	Dump deposit. Friable, mid-brown/ grey granular pelleted mortar or concrete. L=1.00m x W= 0.60m x D=0.15m.
Tr.2	2027	Fill	Rubble wall bedding in 2023. Loose, mid-dark grey orange patches. Gravelly sandy matrix. Frequent small-medium CBM, mortar and concrete in a small to medium cobble layer. Left in situ.
Tr.3	3000	Layer	York stone Paving. Hard, yellow-grey/mid-

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
			brown. Variable sizes. Seen for L=3.50m x W=1.60m x D=<0.06m average.
Tr.3	3001	Layer	Bedding for paving. Hard, light grey concrete, Dimensions L=3.50m x W=1.60m x D= 0.11m
Tr.3	3002	Layer	Levelling. Compacted, Grey black-brown. Gravelly sand matrix. Brick /concrete/cobble rubble with frequent small-large brick fragments. Occasional fragments of salt-glaze sewer pipe. Occasional bottle glass and slate fragments. L=3.50m x W= 0.85m x D= 0.35m
Tr.3	3003	Wall	Post-medieval brick wall. Rectilinear, aligned NE/SW. 6 courses deep 3 bricks wide in alternating alignment. Bricks = 230mmx115mmx55mm. Bonded by hard, grey mortar with black and white flecks. L= >3.0m x W=0.36m x D=0.40m.
Tr.3	3004	Wall	Re-used Limestone masonry footings. Assorted sizes of large-medium magnesian limestone masonry blocks. Roughly tooled. Traces of old mortar = hard creamy white with shell and charcoal inclusions and small cbm <2mm. Average dimensions L= 0.30m-0.50m x W= 0.20m-0.30m x D=0.20m-0.30m.
Tr.3	3005	Fill	Backfill of service trench 3007. Very loose mid-orange brown. Gravelly sandy clayey silt matrix. Frequent, small-large brick fragments, angular stones and occasional medium limestone fragments. L=3.60m x W= 0.88m x D 1.15m max
Tr.3	3006	Fill	Modern services - pipes and cables in 3007 including electric, gas, water. Lead, iron and plastic. Seen for L = 3.60m
Tr.3	3007	Cut	Cut of modern service trench containing 3005,3006. rectilinear in plan Aligned NE/SW parallel to Post Office wall. Sharp break at top steep to vertical sides sharp break to concave base. L=3.60m x W= 0.88m D= 0.60m
Tr.3	3008	Layer	Levelling/made ground. Compact, dark blackish brown sandy clayey silt. Frequent small pebbles and angular stones, occasional small charcoal and CBM fragments. Bottle glass. L=3.60m x W=

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
			0.70m max x D= c0.50m.
Tr.3	3009	Fill	Backfill of 3010. Salt-glazed Gully pot in a matrix of loose, Dark grey gritty silt with frequent small-medium angular stones and broken brick fragments.
Tr.3	3010	Cut	Cut for gully pot entrance to main sewer containing 3009. Oval in plan aligned NE/SW sharp break at top vertical sides sharp break to concave base L=0.70m x W= 0.60m x D= c 2.80m.
Tr.3	3011	Fill	Backfill of Post Office wall cut 3012. Hard, mid-dark brown/grey and orange patches gravelly silty clay with occasional medium cobbles and broken brick fragments. Firm clay lenses of re-deposited natural. L=3.60m x W= 0.70m x D=0.75m.
Tr.3	3012	Cut	Post Office wall construction cut containing 3011. Rectilinear in plan, aligned NE/SW, sharp break of slope at top steep sides, sharp break to a flat base. L=3.60m x W= 0.70m x D=0.75m.
Tr.3	3013	Layer	Pebble surface. Loose, Mid-yellow, orange brown gravelly silt matrix for small and medium pebbles. L=0.35m x D= 0.10m - 0.20m.
Tr.3	3014	Fill	Backfill of post hole 3015. Soft, Orangey brown silty sand. Traces of organic wood fragments, occasional small stones. W= 0.25 to 0.40m at top x D=0.76m.
Tr.3	3015	Cut	Post hole containing 3014. Sharp break of slope at top steep to vertical sides 'V' shaped base that is round in plan. W= 0.25 to 0.40m at top x D=0.76m.
Tr.3	3016	Layer	Natural geology, fluvio-glacial sands/clay. Compact, mid-orange brown. Upper 0.10m laminated with orange brown bands. Upper horizon at 9.62m AOD. Excavated to a depth of 0.35m.
Tr.3	3017	Fill	Backfill of main drain. Loose, dark blackish brown gravelly clayey silt matrix with frequent small - medium sub-angular stones and small CBM fragments. Bottle glass fragments in mixed rubble. L=3.60m x W>0.20m x D>1.60m.

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.3	3018	Cut	Cut of main drain containing 3017. Only western side seen. Rectilinear in plan, aligned NE/SW sharp break at top vertical sides. Base not seen. L=3.60m x W>0.20m x D>1.60m.
Tr.4	4000	Layer	Basement floor. Hard, light grey concrete, average D=0.08-0.10m
Tr.4	4001	Layer	Floor bedding, loose, orange-brown. Dark grey matrix. Brick /concrete rubble with occasional small angular limestone fragments d=0.20m variable
Tr.4	4002	Fill	Backfill of manhole cut 4004. Loose, dark grey-brown silty sand matrix for brick /concrete rubble with occasional small angular limestone fragments L> 0.75m x W=0.27m x D>0.50m.
Tr.4	4003	Fill	Brick built manhole. 8 courses of modern brick exposed, top 2 courses stepped back, stretcher bond exposed on south side of trench. L=75m x D>0.75m.
Tr.4	4004	Cut	Construction cut for a manhole containing 4002,4005,4003. Rectangular in plan. Sharp break of slope at top vertical sides, base not seen. L>0.75m x W>0.75m x D>0.75m.
Tr.4	4005	Fill	Lower fill of manhole 4004. Compact, dark greyish brown clayey silt. L=75m x W= 0.27m x Depth not fully excavated >0.10m.
Tr.4	4006	Layer	Natural geology, fluvio-glacial sands. Compacted light yellowy brown sand. Upper surface appears to slope down towards the east. Seen for L=1.70m x 1.50m x >0.10m. At 9.55m AOD. Boulder clay present at about 9.20m AOD.
Tr.4	4007	Layer	Made ground/levelling. Compact, mid orange brown dark grey bands of sandy clay. Frequent small-medium angular limestone fragments, occasional small cobbles and medium CBM -brick. L= 1.70m x W= 1.50m x D=0.22m.
Tr.4	4008	Layer	Stoney surface. Compact, dark grey with white patches, gravelly silty clay matrix for frequent small pebbles and angular stones. Occasional oyster shell, animal bone and roman pot. L=1.50m x W= 1.70m x D<0.09 avge.

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.4	4009	Fill	Fill of pit 4010. Friable, mid-brown with green hue. Gravelly sand matrix for frequent small pebbles and rounded stones, occasional small cobble. Animal bone found. L=0.80m x W= 0.40m x D=0.05m -0.10m. Feathering away to west.
Tr.4	4010	Cut	Base of a pit containing 4009. Triangular in plan, aligned E/W sharp break at top steep to vertical sides to uneven base. Feathering away to west. L=0.80m x W= 0.40m x D=0.05m -0.10m.
Tr.4	4011	Layer	Soil build-up. Soft, dark greyish brown sandy clayey silt. Frequent small angular limestone and sub angular stones and pebbles. Animal bone and Roman pot retrieved. L=2.30m x W= 1.27m x D<0.10m.
Tr.4	4012	Fill	backfill of posthole 4013. Soft, dark orange brown with white patches silt. Frequent oyster shell fragments and small burnt limestone fragments. Pot and animal bone retrieved. L=0.40m x W= 0.23m x D= 0.10m.
Tr.4	4013	Cut	Base of posthole containing 4012. Sub-rectangular in plan, aligned N?S sharp break of slope at top steep sides gradual break to flat base L=0.40m x W= 0.23m x D= 0.10m.
Tr.4	4014	Fill	Fill of board slot 4016. Compact, mid-grey brown gravelly clayey silt. L=0.55m x W=0.15m x D=0.12m
Tr.4	4015	Fill	Cobble supports in board slot 4016. Loose, grey small and medium cobbles and angular stones in silty matrix L= 0.55m x W= 0.15m x D=0.12m.
Tr.4	4016	Cut	Cut of Board slot containing 4014, 4015. Sub-rectangular in plan wider to north. Aligned N/S sharp break of slope at top vertical/stepped sides to a flat base. L0.55m x W= 0.15m (south end) x D=0.12m max.
Tr.4	4017	Layer	Cobble surface. Compacted, Dark grey brown, stained orange brown, gravelly silt matrix for frequent small and angular stones and cobbles. Occasional small shell and limestone fragments. Roman pot and animal bone retrieved. L=1.45m x W=1.00m x D=0.10m max.
Tr.4	4018	Layer	Cobble surface - disturbed. Compacted, Mid

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
			grey brown, green hue, gravelly silt matrix for small and angular stones. Occasional small shell fragments. Roman pot and Tegula retrieved. L=1.42m x W= 0.20-0.30m x D=0.13m.
Tr.4	4019	Layer	Dump deposit with organic remains = 4023. Compacted mid-greyish brown with dark brown patches, sandy silt. Occasional small angular stones and pebbles. Frequent hazelnut shell fragments. Pot fragments and animal bone. L= 1.04m x W= 0.35-0.45mm D =0.10m average
Tr.4	4020	Layer	Pebble/cobble surface. Loose, Light brown, green hue, gravelly sandy silt matrix for small to medium cobbles. Frequent small pebbles. Occasional small cbm fragments. Animal bone and pot retrieved. L=1.04m x W= 0.84m x D<0.07m.
Tr.4	4021	Layer	Dirty sand - natural interface. Soft, light orange brown with greenish and dark brown patches, silty sand with occasional small pebbles. D<0.10m across full area of trench.
Tr.4	4022	Layer	Iron-panned natural. Hard, mid-orange brown patches in light yellow. Laminated Iron panned natural sands. D,0.05m across full area of the trench.
Tr.4	4023	Layer	Dump deposit with organic remains = 4019. Compacted mid-greyish brown with dark brown patches, gravelly silty clay. Occasional small angular stones and pebbles. Occasional hazelnut shell fragments, pot and animal bone. L= 0.40m x W= 0.40m x D =0.10m average
Tr.4	4024	Layer	Cobble surface - disturbed. Compact, mid-greyish brown, green hue. Compact gravelly silt matrix with frequent small pebbles and angular stones for small to medium cobbles. Animal bone and pot retrieved. L=1.10m x W= 0.74m x D<0.13m.
Tr.4	4025	Fill	Fill of stakehole 4026. Loose greyish brown sandy grit. Diameter=0.50mm x D>0.45m.
Tr.4	4026	Cut	Stakehole - containing 4025. Round, sharp break at top, vertical sides to an unseen base Diameter=0.50mm x D>0.45m (probed).

Table 3: Context List			
Area	**Context Number**	**Context Type**	**Description**
Tr.4	4027	Cut	Cut of Board slot = 4016 containing 4028, 4029. Sub-rectangular in plan wider to north. Aligned N/S sharp break of slope at top vertical/stepped sides to a flat base. L0.70m x W= 0.45m (north end) x D=0.12m.
Tr.4	4028	Fill	Cobble supports in board slot 4027. Loose, grey small and medium cobbles and angular stones in silty matrix L= 0.70m x W= 0.45m x D=0.12m. Pot and animal bone recovered.
Tr.4	4029	Fill	Organic remnants in base of 4027. Firm, mid-orange brown- orange staining. Occasional small angular stones and wood fragments. Amphora fragment retrieved. L=0.30m x W= 0.25m x D= 0.05m.
Tr.4	4030	Cut	Posthole - void. Rectangular, aligned E/W sharp break at top, vertical sides to a pointed base L=0.12m x W=0.06m x D>0.45m.
Tr.4	4031	Layer	Gravel surface below 4019. Loose, dark greyish-brown brown. Small and medium cobbles and pebbles in a gravelly sandy silt. L=0.65m x W= 0.40m D= 0.05m
Tr.4	4032	Layer	Gravel/pebble surface. Loose, grey/light brown. Small and medium pebbles in a gravelly silt. L=0.80m x W= 0.74m D= 0.10m. Pottery and animal bone retrieved.
Tr.4	4033	Cut	Posthole - void. Oval, aligned N/S sharp break at top, vertical sides base not seen L=0.09m x W=0.06m x D>0.60m

APPENDIX 3: SPECIALIST ASSESSMENT DATA

Table 4: Romano-British by ware and class, count, weight (in grams), and EVEs (estimated vessel equivalents).			
Ware and Class	**Count**	**Weight**	**EVEs**
Amphorae	***8***	***558.3***	***32.5***
Campanian Black sand amphorae	1	48.5	
Baetican amphorae	4	357.2	
Baetican/Southern Spanish?	2	67.3	12.5
Southern Spanish?	1	85.3	20
Fine ware	***3***	***13.5***	***3.5***
Colour-coated ware	1	0.3	
Samian ware - East Gaulish?	1	0.5	
Samian ware - South Gaulish	1	12.7	3.5
Coarse ware	***53***	***569.5***	***53***
Black-burnished 2-type ware	2	3.5	3
Burnished Reduced ware	6	157.3	5
Rusticated Reduced ware	1	2.6	
Ebor Oxidised ware	35	371.8	41
Ebor Oxidised buff ware	1	1.6	
Oxidised ware	7	32.2	4
Oxidised buff ware	1	0.5	
Coarse ware/amphorae?	***1***	***6***	
Coarse ware/amphorae?	1	6	
Coarse ware/mortaria?	***1***	***26.6***	
Ebor coarse ware/mortarium?	1	26.6	
Coarse ware/CBM?	***1***	***11.4***	
Coarse ware/CBM?	1	11.4	
Grand Total	**67**	**1185.3**	**89**

Table 5: Pottery by context, count, weight (g) and estimated vessel equivalents (EVEs).			
Context	**Count**	**Weight**	**EVEs**
4008	6	17.2	3
4011	6	47.8	
4012	2	1.7	
4017	13	23.6	
4018	2	98	23.5
4019	3	29.7	4
4020	17	729.5	35.5
4023	1	7.3	
4024	11	62.8	
4028	1	1.7	
4029	1	23.1	
4032	4	142.9	23
Grand Total	**67**	**1185.3**	**89**

Table 6: Ecofacts from bulk environmental sample residues from the 22 Lendal excavation area. Quantification: * = 1-10, ** = 11-50, * = 51-150, **** = 151-250, ***** = >250.**

Sample Number	Context	Context / Deposit Type and Parent	Sample Volume (L)	Charcoal >4mm	Weight (g)	Charcoal 2-4mm	Weight (g)	Charred Plant Macrofossils	Weight (g)	Mineralised Globules	Weight (g)	Waterlogged Botanicals	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone	Weight (g)	Fishbone and Microfauna	Weight (g)	Marine Molluscs	Weight (g)	Compressed Organic Detritus	Other Ecofacts (presence/ weight)
Surfaces																							
<1>	(4008)		10	**	<1			*	<1	*	<1			**	44.63	**	1.38	**	1.53	**	30.34		possible lead working scum (6.63g)
<5>	(4017)		20	**	<1	*	<1							***	52.9	*	1.06	**	1.1	**	3.09		possible lead working scum (0.87g)
<7>	(4020)		10			*	<1					*	0.93	**	34.92	**	2.51			***	131.42		
Layer and deposit																							
<3>	(4011)		20	*	<1									**	15.94					*	117.61		wood (0.22g)
<6>	(4019)	[4011]	10	**	2			***	1.04			****	27.88	**	37.34	**	3.93	*	0.65	**	71.5	**	wood fragments (3.15g)
Posthole																							
<4>	(4012)	[4013]	20			*	<1							**	2.5			**	1.59				
Pit																							
<2>	(4009)	[4010]	5	<1										*	12.63					**	7.52		

Table 7: Artefacts from bulk environmental sample residues from the 22 Lendal excavation area. Quantification: * = 1-10, ** = 11-50, * = 51-150, **** = 151-250, ***** = >250.**

Sample Number	Context	Context / Deposit Type and Parent Context	Sample Volume (L)	Pottery	Weight (g)	Metal	Weight (g)	Flint	Weight (g)	Glass	Weight (g)	CBM (inc. brick/tile)	Weight (g)	Mortar	Weight (g)	Slag	Weight (g)	Magnetic Material	Weight (g)	Other Artefacts (abundance)
Surfaces																				
<1>	(4008)		10	*	6.17			*	0.72	*	7.16	*	27.19	**	56.59	*	0.47	***	1.06	beads ? 0.43g
<5>	(4017)		20	**	12.54	*	0.06							*	20.39					
<7>	(4020)		10	*	4.84					*	0.82							**	0.22	
Layer and deposit																				
<3>	(4011)		5							*	0.19			*	4.32	*	0.58			
<6>	(4019)	[4011]	10	*	27.59															
Posthole																				
<4>	(4012)	[4013]	20	*	2.53															
Pit																				
<2>	(4009)	[4010]	5							*	0.36			*	0.55			**	0.51	

Table 8: Assessment of dried flots from bulk samples taken at the 22 Lendal excavation area. Quantification: * = 1-10, ** = 11-50, * = 51-150, **** = 151-250, ***** = >250. Preservation: + = poor, ++ = moderate, +++ = good**

Sample Number	Context	Context/ Deposit Type and Parent Context	Sample Volume (L)	Flot Weight (g)	Flot Volume (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Modern Roots	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Waterlogged Botanicals	Identifications	Preservation	Large Mammal Bone	Fishbone & Microfauna	Potential	Further work
Surfaces																						
<1>	(4008)		10	<1	<1		95	*	**				*	*Hordeum* sp. caryopsis (1) *Triticum* sp. (3) *Secale cereale* (1)	++	*	*Corylus avellana* shell fragments	+			Some	C14
<5>	(4017)		20	5.8	10		95			*											None	No
<7>	(4020)		10	<1	<1		90				*					*	Corylus avellana shell fragments	++			Some	Waterlogged botanicals and C14
Layer and deposit																						
<3>	(4011)		5	3	15											**	*Corylus*	++			Some	Waterlogged

Table 8: Assessment of dried flots from bulk samples taken at the 22 Lendal excavation area. Quantification: * = 1-10, ** = 11-50, * = 51-150, **** = 151-250, ***** = >250. Preservation: + = poor, ++ = moderate, +++ = good**

Sample Number	Context	Context/ Deposit Type and Parent Context	Sample Volume (L)	Flot Weight (g)	Flot Volume (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Modern Roots	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Waterlogged Botanicals	Identifications	Preservation	Large Mammal Bone	Fishbone & Microfauna	Potential	Further work
																	avellana shell fragments; *Rubus fructosis; Rubus idaeus; Prunus* sp.; *Ranunculus acris/repens; Carex* sp.					botanicals and C14
<6>	(4019)	[4011]	10	8.5	50						*					*	*Persicaria lapathifolia; Carex* sp. *Ranunculus acris/repens; Corylus avellana* shell fragments	++		*	Some	Waterlogged botanicals and C14
Posthole																						

Table 8: Assessment of dried flots from bulk samples taken at the 22 Lendal excavation area. Quantification: * = 1-10, ** = 11-50, * = 51-150, **** = 151-250, ***** = >250. Preservation: + = poor, ++ = moderate, +++ = good**

Sample Number	Context	Context/ Deposit Type and Parent Context	Sample Volume (L)	Flot Weight (g)	Flot Volume (ml)	Uncharred (%)	Sediment (%)	Seeds Uncharred	Modern Roots	Charcoal >4mm	Charcoal 2-4mm	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation	Waterlogged Botanicals	Identifications	Preservation	Large Mammal Bone	Fishbone & Microfauna	Potential	Further work
<4>	(4012)	[4013]	20	<1	<1		90						*	Indet. *Cerealia* caryopses fragments	+	*	*Corylus avellana* shell fragments	+	*		None	No
Pit																						
<2>	(4009)	[4010]	5	<1	<1		95				*										None	No

Table 9: Assessment of the waterlogged flot from the 22 Lendal excavation area											
Sample Number	**Context**	**Sample Volume**	**Sub-Sample Processed**	**Fraction Size**	**Macrobotanical Remains**	**Macrobotanical Remains Identification**	**Preservation**	**Charcoal**	**Faunal remains**	**Potential**	**Further work**
Surface											
<8>	(4029)	5	2	>2mm	*	*Corylus avellana* shell fragments	+	*	*	Some	C14
				250µm-2mm							

Table 10: Oyster shell from the 22 Lendal excavation area. UM = unmeasurable								
Feature	**Context**	**Valve**	**Small**	**Medium**	**Large**	**Um valves**	**Total number of valves**	**Total MNI**
			4.6-6cm	**6.1-7.5cm**	**7.6-10cm**			
surface	4008	Right valve		1			1	1
layer	4011	Left valve		1		1	5	3
		Right valve	1	2				
layer	4019	Left valve		1			2	1
		Right valve		1				
floor surface	4020	Left valve			2		5	3
		Right valve		2		1		

Table 11: Infestations present on oyster shell from the 22 Lendal excavation area.		
Surface feature	**Valve count**	**%**
Barnacle scar	2	15.00%
Sponge	1	7.00%
Polydora burrow	1	7.00%
Oyster attached	1	7.00%

Table 12: Bone identifications by context for hand-collected bone							
	Species						
Context	**Cattle**	**Sheep/Goat**	**Sheep**	**Large mammal**	**Medium mammal**	**Unidentifiable**	**TOTAL**
4008					3		3
4011	1						1
4017	1	1		3	1	1	7
4019	6		1	2	1	2	12
4020	3	3		4		2	12
4024	2	3				2	7
4028	1						1

Table 12: Bone identifications by context for hand-collected bone							
Species							
Context	Cattle	Sheep/Goat	Sheep	Large mammal	Medium mammal	Unidentifiable	TOTAL
4032	3				1		4
TOTAL	**17**	**7**	**1**	**9**	**6**	**7**	**47**

Table 13: Bone identifications by context for environmental residues						
Species						
Context	**Cattle**	**Sheep/goat**	**Large mammal**	**Medium mammal**	**Unidentified**	**TOTAL**
4008	1		2		65	68
4009			2			2
4011			1		27	28
4012					13	13
4017	1	2		3	68	74
4019		2	8		22	32
4020		1	4	4	22	31
TOTAL	**2**	**5**	**17**	**7**	**217**	**248**

Table 14: Summary of small animal and fish bone from samples from 22 Lendal (count)												
Context	**Sample**	**Spot date**	**Mammal**	**Bird**		**Fish**					**Frog/ toad**	**Total**
			Medium /small	**Small**	**Tiny**	**European eel**	**Salmon /trout**	**Atlantic herring**	**cf. Atlantic herring**	**Medium /small**		
4008	1	Roman	13		3	5	4	1	1	3		30
4012	4	Roman	8	1		29				5		43
4017	5	Roman	18								1	19
4019	6	Roman							63			63
Total			**39**	**1**	**3**	**34**	**4**	**1**	**64**	**8**	**1**	**155**

APPENDIX 4: TROELS-SMITH (1955) SYSTEM OF CLASSIFICATION

Darkness	
nig.4	black
nig.3	
nig.2	
nig.1	
nig.0	white

Degree of Stratification	
strf.4	well stratified
strf.3	
strf.2	
strf.1	
strf.0	no stratification

Degree of Elasticity	
elas.4	verv elastic
elas.3	
elas.2	
elas.1	
elas.0	no elasticity

Degree of Dryness	
sicc.4	verv drv
sicc.3	
sicc.2	
sicc.1	
sicc.0	water

	Sharpness of Upper Boundary
lim.4	< 0.5mm
lim.3	< 1.0 &> 0.5mm
lim.2	< 2.0 &> 1.0mm
lim.1	< 10.0 &> 2.0mm
lim.0	> 10.0mm

	Sh	*Substantia humosa*	Humous substance, homogeneous microscopic structure
I Turfa	*Tb*	*T. bryophytica*	Mosses +/- humous substance
	Tl	*T. lignosa*	Stumps, roots, intertwined rootlets, of ligneous plants
	Th	*T. herbacea*	Roots, intertwined rootlets, rhizomes of herbaceous plants
II Detritus	*Dl*	*D. lignosus*	Fragments of ligneous plants >2mm
	Dh	*D. herbosus*	Fragments of herbaceous plants >2mm
	Dg	*D. granosus*	Fragments of ligneous and herbaceous plants <2mm >0.1mm
III Limus	*Lf*	*L. ferrugineus*	Rust, non-hardened. Particles <0.1mm
IV Argilla	*As*	*A.steatodes*	Particles of clay
	Ag	*A. granosa*	Particles of silt
V Grana	*Ga*	*G. arenosa*	Mineral particles 0.6 to 0.2mm
	Gs	*G. saburralia*	Mineral particles 2.0 to 0.6mm
	Gg(min)	*G. glareosa minora*	Mineral particles 6.0 to 2.0mm
	Gg(maj)	*G. glareosa majora*	Mineral particles 20.0 to 6.0mm
	Ptm	*Particulaetestaemolloscorum*	Fragments of calcareous shells

APPENDIX 5: GEOTECHNICAL LOGS

BGL = Below Basement floor level.

Estimated AOD height at basement floor 10.30m

P.01

Abandoned at 6.00m BGL due to a collision causing the drill to angle. A bolt sheared from the guard, drilling continued without it.

P.02

Abandoned at 4.60m BGL due to a collision causing the drill to angle.

P.03

Pile refused at 2.20m BGL.

P.04

Abandoned at 5.00m BGL due to a collision causing the drill to angle.

P.05

Abandoned with no results due to stabilising bracket breaking.

P.06

Location obstructed by manhole structure. No pile or probe.

P.07

Abandoned at 5.50m BGL due to a collision causing the drill to angle.

P.08

Pile refused at 1.10m BGL.

P.09

Probe refused at 11.00m BGL (50 blows).

P.10

Pile refused at 1.00m BGL.

P.101

Probe achieved target 7.00m BGL.

P.11

Pile refused at 6.00m BGL.

P.102

Probe achieved target 7.00m BGL.

P.12

Pile refused at 6.00m BGL.

P.13 Probe achieved target 7.00m BGL. Ground was stiffer at c.6.00m – 7.00m BGL. This is what possibly caused P.11 and P.12 to refuse at 6.00m BGL

WS09 at P.09

Physical and sedimentary properties according to Troels-Smith (1955)

0.00-0.50m	Mid-yellow brown sand and gravel rubble with frequent concrete and brick fragments (Modern Made Ground – basement floor foundation)
0.50-0.70m	Soft, dark grey-brown silt and clay matrix with occasional small stones. DA ST EL SICC UB 3 0 1 2 4 AS Ag
0.70-1.50m	Firm, dark grey silty clay with occasional small stones. Boulder clay. DA ST EL SICC UB 3 0 1 2 1 AS Ag
1.50-1.70m	Hard, mid- grey clay with frequent small stones. Boulder clay. DA ST EL SICC UB 2 2 0 4 2 AS
1.70-2.50m	Compacted, dark grey clay with occasional small stones, Boulder clay. DA ST EL SICC UB 3 0 0 3 2 AS
2.50-11.00m	No Recovery

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