YORK ARCHAEOLOGICAL TRUST

ST. JOSEPH'S MONASTERY,

LAWRENCE STREET, YORK

EVALUATION REPORT

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YAT York Archaeological Trust

AOD Above Ordnance Datum

1. SUMMARY

During August 2013 an archaeological evaluation was undertaken at St Joseph's Monastery, Lawrence Street, York. The evaluation comprised the excavation of 27 trenches which were mainly located within the gardens of the monastery, though three trenches were in small yards close to the Lawrence Street frontage. The archaeological features present included a small number of Roman ditches, a medieval ditch, a small number of ditches/pits of uncertain date, and various modern drains and garden walls relating to the monastery. It was clear that the site had not been intensively settled prior to the late 19th century, and that for most of its history the site was either open ground, or was used for agriculture/horticulture.

2. INTRODUCTION

Between 5th and 16st August 2013, York Archaeological Trust carried out a programme of archaeological investigation in the grounds of St Joseph's Monastery, Lawrence Street, York, (NGR: SE 6146 5128, Figure 1). Until recently the monastery housed nuns of the Poor Clare order. The investigation was carried out on behalf of the landowners, the Roman Catholic Diocese of Middlesbrough, and the various elements of the investigation followed a brief prepared by PJO Archaeology (Ottaway 2013), though some amendments were made to trench locations with the consent of the Diocesan Buildings Manager, Ms. S. Westcough.

It should be noted that the sisters' house, church, externs' house, priests' house, and precinct walls are Grade II listed (City of York listing 1414106 and English Heritage monument number MYO3637) as they represent a~~n~~ good example of a single phase monastery relating to the period of Catholic Revival architecture. The site also lies within the York Area of Archaeological Importance as defined in the Ancient Monuments and Archaeological Areas Act of 1979 (Ottaway 2012, 2).

3. METHODOLOGY

The aim of the works was to assess the level of survival of any archaeological remains and their date and character, in order to understand the potential of the below ground archaeological remains in the area.

The evaluation comprised the excavation of 27 trenches, which ranged in size from 1.9m x 1.9m to 52m x 1.56m (Figure 2). As far as possible the trenches were positioned in accordance with the locations suggested in the brief (Ottaway 2013, 3). Variations to trench

size and location were necessary, due to the overgrown nature of some parts of the site, and to avoid damaging mature trees, or to avoid drains and manholes.

The area of the former monastery gardens was heavily overgrown at the time of the evaluation. The first task was therefore to remove or flatten as much undergrowth as possible, and this was conducted on 2nd and 5th August by the Diocese of Middlesbrough.

The trenches were mechanically stripped of topsoil and modern deposits using an eight-ton 360° mechanical excavator equipped with a toothless ditching bucket, under archaeological supervision. Deposits were stripped down to the level of archaeological features or natural deposits, and thereafter all excavation was undertaken by hand. The only exceptions to this methodology were in Trenches 1 and 2. Trench 1 was excavated by hand, as vehicular access was impossible in this area; Trench 2 was excavated using a mechanical mini-digger with a toothless bucket down to the top of natural deposits as this was the largest machine that could access the courtyard.

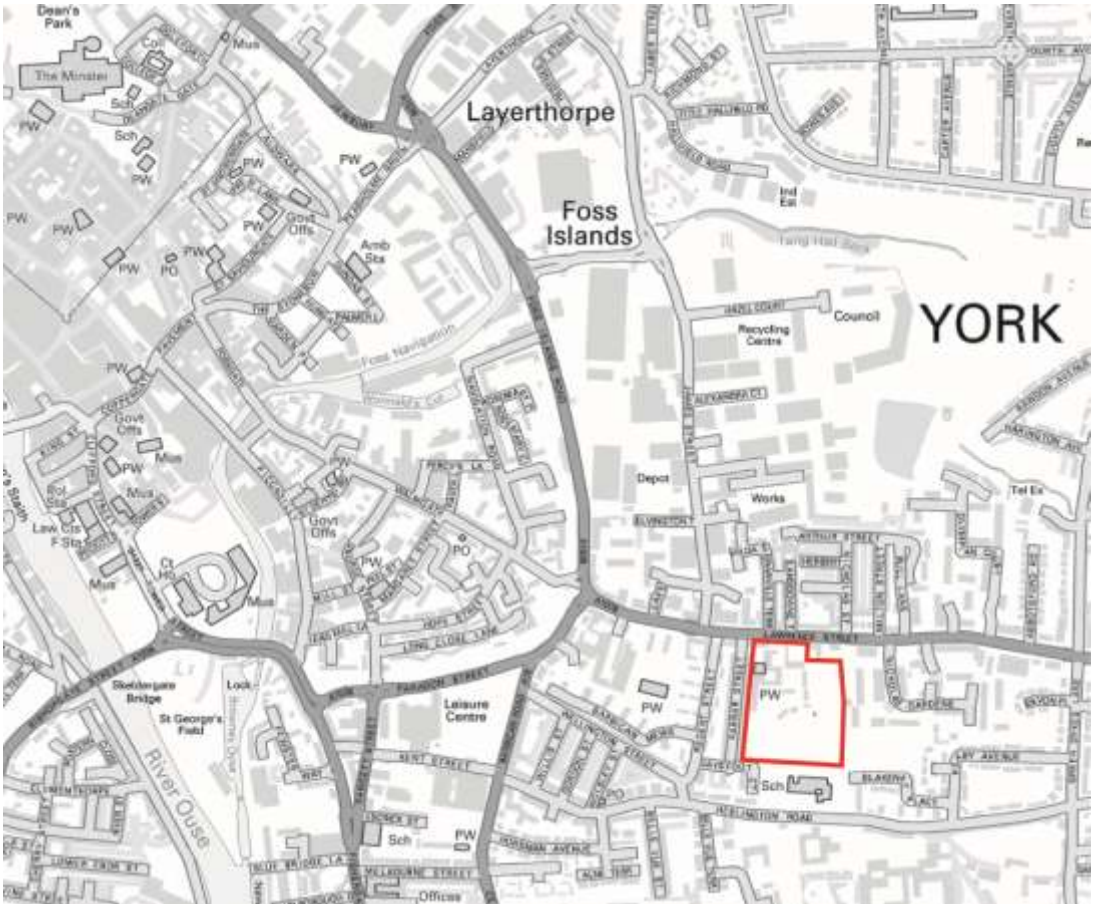

Figure 1 Site location, outlined in red

Figure 2 Location of the trenches and site boundary

Scaled plans and sections of each trench were made, all deposits and features individually recorded and a series of colour digital photographs taken of each trench and feature. The recording system followed the procedures of York Archaeological Trust's Fieldwork Manual (YAT 2009). All artefacts and site records are currently stored by York Archaeological Trust

under the Yorkshire Museum accession code YORYM: 2013.681 and YAT project code 5719.

4. LOCATION, GEOLOGY AND TOPOGRAPHY

The site is located immediately to the south of Lawrence Street, with the frontage of the monastery lying 325m to 422m east of Walmgate Bar. The monastery is enclosed by a boundary wall, measuring approximately 185m north-south by 153m east-west. St Joseph's Monastery is bordered on the western side by terraced housing on Farrar Street, on the northern half of the eastern side by the residential development of Nicholas Gardens, and on the southern half of the eastern side by a field. To the south the monastery is bordered by St Lawrence's Church of England Primary School, which itself fronts onto Heslington Road. On the northern side the monastery fronts onto Lawrence Street, except at the eastern end where it lies behind buildings which house the Institute of Our Lady of Mercy at 102-110 Lawrence Street. The evaluation largely took place within the gardens of the monastery, though Trenches 1 and 2 were within yards close to Lawrence Street. The monastic buildings and the nun's burial ground (located on the western side of the monastery's lands), did not form part of the evaluation.

The underlying solid geology of the site is Sherwood sandstone, with overlying deposits of Devensian glacio-fluvial sands and gravels and hummocky glacial deposits (British Geological Survey). The ground slopes down from south-north, from 20.08m AOD at the south-eastern end of Trench 19 to 14.44m AOD on the northern side of Trench 1. The higher southern portion of the site forms part of the lower slopes of a glacial moraine.

5. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

A detailed account of the archaeological and historical background was prepared by Ottaway (2012) for a desk-top study into the monastery site. A brief summary of Ottaway's findings is given here, and this should be read in conjunction with Ottaway's original report. In addition, the information relating to the monastery buildings is from the English Heritage Listing Advice Report (supplied by J. Oxley) which in turn is based on C. Briden's '*St Joseph's Convent, Lawrence Street, York, Historic Building Assessment' (2012).*

A number of archaeological excavations have taken place in the immediate vicinity of the monastery site (the locations of which are illustrated in Ottaway 2012, Figure 1). To the west, excavations have taken place at 17-23, 26-7, 32 and 60 Lawrence Street, and also at St

Lawrence's Church Hall, Discus Housing on Regent Street and 15 Farrar Street. To the north, excavations have occurred at 75 Lawrence Street, 31 Lansdowne Terrace, and 106 Lawrence Street. To the east, excavations have happened at the former D.C. Cook Garage site, 127 Lawrence Street, Laurens Manor and 131 Lawrence Street.

Relatively little evidence of Palaeolithic or Mesolithic date has been recovered from York, with the evidence largely comprising stray lithic artefacts. During the Neolithic period (c. 4000-2500 B.C.) activity seems to have been focussed on the glacial moraine, where sizeable quantities of worked flints and a polished stone axe of late Neolithic or Early Bronze Age date have been recovered (Antoni et al. 2009, 9).

Excavations at Heslington East, 2km to the south-east of the monastery site (Antoni et al. 2009, 1), show that springs on the moraine formed a focus for activity during the Bronze Age (c. 2500-700 B.C.). A find of a Bronze Age cremation burial from a site at 25-7 Lawrence Street, 150m north of the monastery, (Reeves pers. comm.), suggests that the Bronze Age activity was spread over a wide area, and may hint at settlement in the Lawrence Street area.

Most of the evidence of Iron Age (c. 700 B.C. to A.D. 71) activity in the York area comprises farming settlements, with sites known at Heslington East (Antoni et al. 2009), and Lingcroft Farm, Rawcliffe Moor (Roskams 1999, 49-50). There is also some evidence for settlement in central York, as there were a number of ditches interpreted as being of Iron Age date at the site of St Leonard's Hospital (Hunter-Mann 2011, 14), and a ditch and associated fence line thought to be of Iron Age date were found at 3 Little Stonegate, (Macnab 2001, 34).

The Roman fortress of Eboracum was established in A.D. 71 (RCHM 1962, xxix), and the main approach road to the fortress on the south-eastern side lies just to the north of the present line of Lawrence Street and Hull Road. This Roman road, which linked York to Brough-on-Humber, is notionally numbered Road 2 (RCHM 1961, 2), and it has been observed on several excavations, including at both numbers 127 and 131 Lawrence Street (Ottaway 2012, 8).

Some evidence of Roman settlement activity is known from the vicinity including at least two phases of ditches and some post-holes dating to the 2nd-4th centuries excavated at the former D.C. Cook Garage site immediately east of St Joseph's Monastery (Evans 2004). At 17-23 Lawrence Street the presence of wasters suggests that pottery of 3rd century date was being produced in the area (Monaghan 1997, 874, 1092), though no kiln has been found to date. In accordance with Roman practice, major roads acted as a focus for burial, and

Lawrence Street was no exception, with a Roman tombstone (now lost) being known from the wall of St Lawrence's churchyard, while a tile lined tomb was found in 1906 in the grounds of the former Shafto's Brickworks in James Street (RCHM 1961, 70). Two undated burials known from 13 Lawrence Street (YAT site code 1995.361) and 127 Lawrence Street (YAT site code 2002.451) were interpreted at the time of excavation as being of medieval date, but Ottaway (2012, 8) raises the possibility that these could have been Roman.

Evidence of Anglian (AD 410-876) activity is sparse in the immediate area but a number of sherds of Anglian pottery were recovered during the investigations at the former D.C. Cook site (Evans 2004). An Anglian inhumation cemetery, first investigated in the 19th century (Thurnam 1849) is known from Lamel Hill (YAT site code 1983.31), some 130m to the south of the present site.

Anglo-Scandinavian (AD 876-1066) activity in the area includes a probable palisade of Anglo-Scandinavian date was located at 17-23 Lawrence Street (YAT site code 1989.8), pottery and possible structures of 9th to 11th century date at the former D.C. Cook site (Evans 2004), and post- and stake-holes together with burnt daub suggestive of buildings at 25-27 Lawrence Street (Reeves pers. comm.).

At the time of the Domesday Survey in 1086 the site of St Joseph's Monastery was divided between the townships of Osbaldwick and Fulford, with the former being in the North Riding and the latter in the East Riding of Yorkshire (Ottaway 2012, 3). The boundary between these two townships ran diagonally across the land later occupied by St Joseph's Monastery.

By the mid-12th century the city's defensive circuit in the Walmgate area had been established with entry to the city via Walmgate Bar. Four suburban parishes developed in the Lawrence Street area. St Lawrence Walmgate-Bar-Without was first documented in c.1194 (Mee and Wilson 1998, 93) and is the only one of the four medieval parish churches in the area still in existence, though only the tower of the original church survives. The monastery of St Nicholas Walmgate-Bar-Without is said to have been founded in 1142, possibly as a chapel for a leper hospital, but it was also functioned as a parish church from at least 1280 (ibid., 139). St Michael Walmgate-Bar-Without was first documented in 1277, but this merged with St Lawrence's church in 1365, as there were too many churches in the area for the population to support (ibid., 138). St Edward the Martyr Walmgate-Bar-Without was first referred to in 1213, but in 1586 it united with St Nicholas, and later with St Lawrence's (ibid., 80), again because there were too many churches in the area.

Archaeological evidence of medieval settlement is known from several excavations in the area, including 17-23 Lawrence Street, 25-7 Lawrence Street, 32 Lawrence Street, 60 Lawrence Street and 127 Lawrence Street. A sequence of deposits of 11th to 15th century date was also found on the site of the St Nicholas leper hospital (YAT site codes 1993.9 and 1993.11). The work at the site of the former D.C. Cook Garage, immediately east of St Joseph's Monastery, is of particular relevance. Here a large ditch of 11th-12th century date was seen which formed part of the boundary of St Nicholas' Hospital, but also part of the township boundary between Osbaldwick and Fulford. Medieval features at the rear of the D.C. Cook site contained well-preserved organic remains.

The earliest map of the area, by John Speed, dating to 1610, shows properties fronting onto Lawrence Street between Walmgate Bar and St Lawrence's church, with a second group of housing around St Nicholas's church, but the area between the two churches is shown as sparsely settled with only occasional houses depicted. This area of York is known to have been badly damaged during the siege of York in the English Civil War, with St Nicholas' church being left ruinous after the siege (Ottaway 2012, 13). The suburb seems to have declined after the Civil War, being depicted as devoid of buildings (with the exception of St Lawrence's and St Nicholas' churches) on Benedict Horsley's map of York dating to 1685.

From the late 18th century onwards the street frontages began to develop, with rapid suburban expansion occurring from the mid-19th century onwards. In 1844 part of Fulford township was incorporated into York (Ottaway 2012, 17). The earliest Ordnance Survey map of the area, produced in 1852, depicts much of the northern side of Lawrence Street as being fronted by houses, while to the south of Lawrence Street terraced housing had been constructed either side of Regent Street, but Farrar Street (located immediately west of St Joseph's Monastery) had not been constructed at this time, being depicted as an open plot of land. The area of the future monastery is shown as a series of fields, and the only buildings depicted within the site of the future monastery are a group of cottages adjacent to the Lawrence Street frontage in the north-westernmost portion of the site. Houses are also depicted where the Institute of Our Lady of Mercy currently stands.

St Joseph's Monastery was constructed in 1873-5 to designs by the York-born Roman Catholic architect George Goldie for the order of the Poor Clare Colettines, the contractors being Weatherley and Rymer of York who had already constructed Goldie's Roman Catholic Church of St Wilfrid (English Heritage Listing Advice Report 2013, 7). The order of the Poor Clares was founded as an enclosed contemplative Franciscan order by St Clare of Assisi in 1212, and the Poor Clare Colletines were established as a reformed order in 1406 by St Colette (ibid., 7). The monastery owed its foundation to Lady Marcia Hermes of Everingham

Hall, near York, who wished to establish a monastery in York. She approached a Poor Clare Colettine monastery in Bruges, Belgium, who sent several nuns to found the house (ibid., 7). The nuns were initially housed in a property on Hull Road, but this was insufficient for their needs and by 1870 a field of about 1.5 acres and some cottages had been purchased on the present Lawrence Street site (ibid., 7). The cottages are visible on the 1852 Ordnance Survey map, and the land purchased was to the north of a ditch and field boundary that lay on a south-west to north-east alignment, which at the time marked the boundary of the City of York (ibid., 8). The monastery buildings, including a high precinct wall, were constructed between 1872 and 1875, and this process included replacing the existing cottages which fronted onto Lawrence Street with a new priest's house (ibid., 7).

The 1892 Ordnance Survey map of the area shows that Farrar Street had been partially constructed, together with associated housing butting up against the western wall of the monastery. The 1892 map also shows that trees had been planted within the monastery grounds. St Lawrence's church was heavily rebuilt in the 19th century, and was eventually dismantled, with the exception of the tower, and replaced by a new church (Mee and Wilson 1998, 93).

A number of alterations to the monastic buildings have taken place since 1892 including an extension built between 1892-1909 against the west precinct wall, which was in turn largely rebuilt in the 20th century, and in 1973 the infilling of the space between the west wall of the church and the precinct wall with a small extension, and the construction of a single storey flat roof extension on the outer wall of the north range of the house (ibid., 7-8). In addition, the land owned by the monastery was extended in 1884, 1902 and 1911 to ensure the privacy of the nuns (ibid., 8). Several ancillary buildings including workshops, sheds and greenhouses were built within the grounds between the late 19th century and 1937 (ibid., 8).

6. RESULTS

Where trenches were adjoining, or were within a single garden plot, or exhibited similar results they are discussed together. The location of features of archaeological interest is given on Figure 3, and for legibility this plan is shown in more detail on Figures 4 and 5 together with the relevant context numbers and the location of the sections illustrated in Appendix 1.

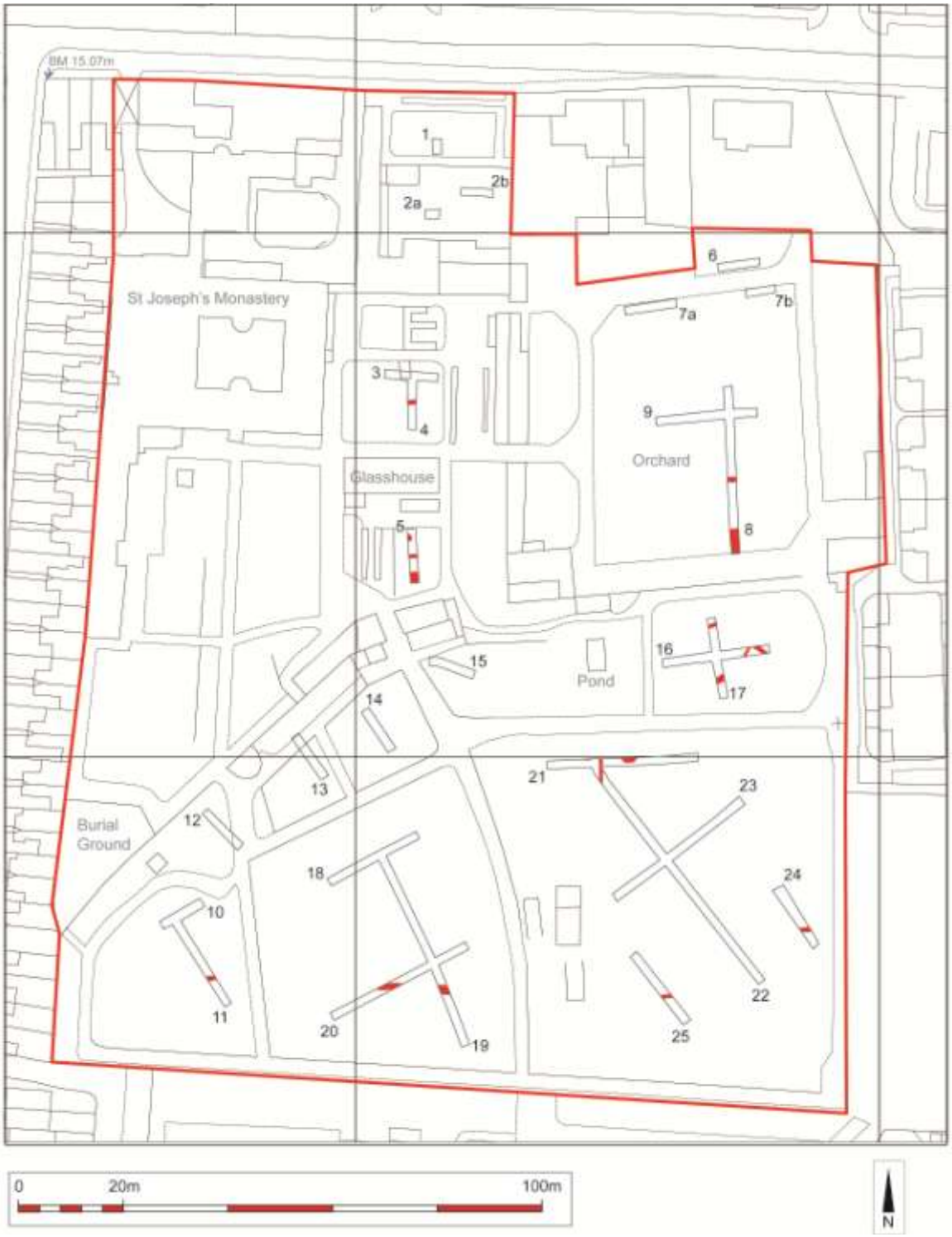

Figure 3 Location of archaeological features (excluding modern field drains and sewers) with the site boundary in red.

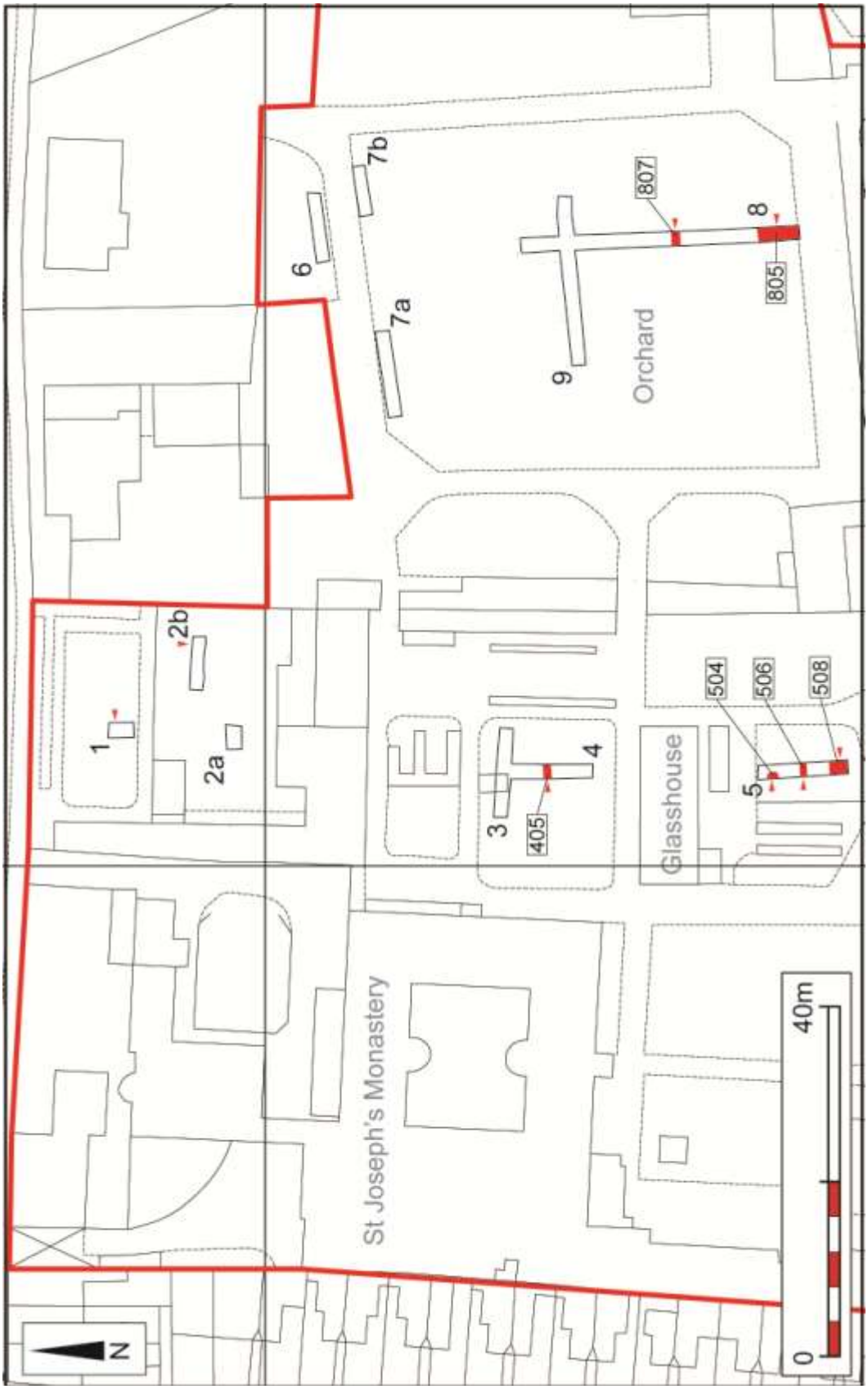

Figure 4 Location of archaeological features in the northern portion of the site with associated context numbers. Location of section drawings is indicated by red triangles

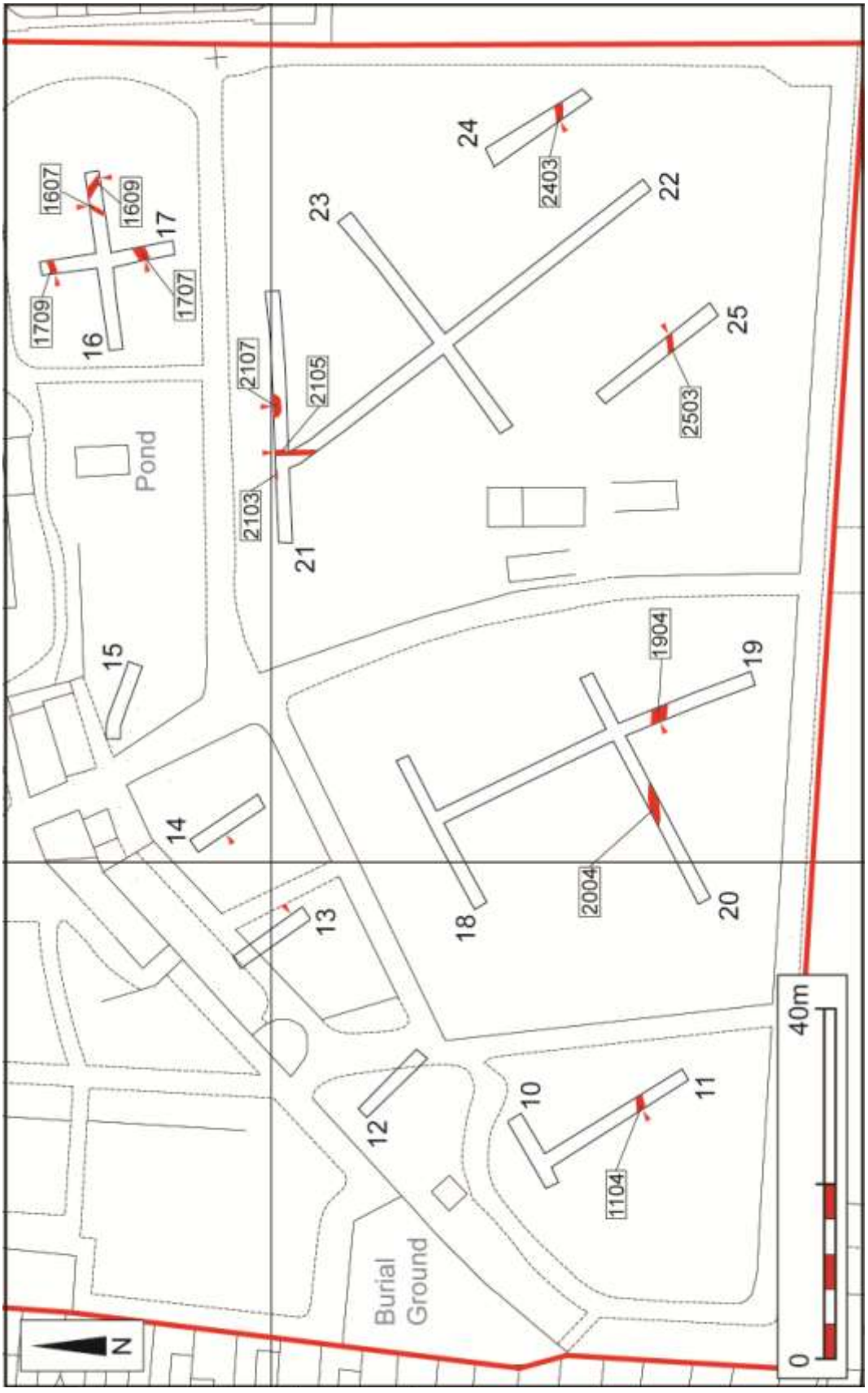

Figure 5 Location of archaeological features in the southern portion of the site with associated context numbers. Location of section drawings is indicated by red triangles

6.1 TRENCH 1

Trench 1 was located in a yard surrounded by high brick walls on the northern, eastern and southern sides, with a brick building, formerly used as a retreat, on the western side. Due to the heavily overgrown nature of the yard (Plate 1) and the presence of a pond, it was not possible to excavate this trench as outlined in the original brief. Trench 1 as excavated was 1.9m² in area and up to 1.2m in depth. The west-facing section of Trench 1 is illustrated in Figure 7 (Appendix 1).

Plate 1 Trench 1 prior to excavation

The earliest deposit encountered (Context 106, Plate 2) was moderately compact orange-brown slightly silty sand up to 0.45m thick, which became increasingly sandy with depth. While the upper portions of this could represent ploughed natural or even colluvium, the lower portion was interpreted as being of natural origin. On the upper surface of this deposit there was a residually occurring prehistoric flint.

Context 106 was sealed by a moderately compact mid-brown clayey-silt up to 0.40m in thickness (Context 104, visible on Plate 3 to the right hand side of the scale) within which there were three distinct bands of brick and tile fragments. There was no sign of any cuts within which the brick and tile bands had been dumped, rather they seem to represent

material spread on the ground-surface to raise or firm-up the ground. The ceramic building materials in Context 104 were of 14-16th century date, and there was some medieval pottery of 15th century date. Above Context 104 there was a moderately compact mid-brown clayey-silt up to 0.25m thick (Context 108) which was interpreted as a horticultural soil.

Plate 2 Context 106 facing east, scale unit 0.1m

Plate 3 The west-facing section of Trench 1, scale unit 0.1m

A major drain for the monastery was aligned south-west to north-east across the north-western portion of Trench 1. The drain cut (Context 103) contained a ceramic salt-glazed pipe (which was not excavated to avoid causing any damage), and a highly variable backfill (Context 102) incorporating modern materials such as concrete, scrap iron, 19th century pottery and machine made brick of mid 19th century or later date. Sealing Context 102, and therefore relating to the monastery, was a shallow pit (Context 109) and associated backfill (Context 101) which were visible in the northern section of the trench. The pit was 1.2m in breadth east-west and 0.18m deep, but the dimensions north-south are unknown as it lay beyond the limits of excavation. The fill of the pit contained modern concrete and glass, together with residual ceramic building material fragments, 19th century pottery and two residual clay pipe stems. A second pit was clipped by the eastern section of the trench (Context 110), which measured 0.5m wide north-south, and 0.25m in depth, though the breadth east-west was unknown as it lay beyond the limits of excavation. The backfills of the pit (Contexts 105 and 107) contained ash and clinker, and fragments of machine made brick of mid-19th century or later date, clearly linking the pit to the period of monastic occupation.

All the deposits described above were sealed by a build-up of grey-brown clayey-silt up to 0.27m thick (Context 100) that contained 19th century pottery. This deposit was heavily disturbed by roots and represented the use of the area as a garden within the monastery.

6.2 TRENCH 2

Trench 2 was located within a yard surrounded by high brick walls on the northern and eastern sides and buildings on the southern and western sides. It was not possible to excavate Trench 2 in the position suggested in the brief, due to the presence of several manholes with associated drains, and the presence of a small tree within the yard. In order to excavate an area similar to that suggested in the brief the trench was excavated in two sections; the westernmost trench numbered Trench 2A was 2.8m x 1.8m in area, while the easternmost trench numbered Trench 2B was 7.25m x 1.56m in area. The trenches were excavated to a maximum depth of 1.26m below present ground level. It should be noted that the presence of modern drains in Trench 2A (Plate 5) made excavation difficult, and it was not possible to excavate to the top of natural deposits within this trench. A representative portion of the south-facing section of Trench 2B is shown on Figure 8 (Appendix 1).

The earliest deposit excavated was moderately compact light-mid brown slightly clayey sand with a slightly undulating upper surface (Context 219, Plate 4), interpreted as naturally occurring sand. The natural was sealed by mid-brown clayey-sand (Context 218) up to 0.26m thick, which was devoid of artefactual remains. Context 218 could represent either a ploughed natural or colluvium.

Plate 4 Natural deposit in Trench 2B facing east, scale unit 0.1m

Context 218 was sealed by moderately compact mid-dark grey-brown silty-clay (Context 217) up to 0.63m thick, interpreted as a build-up of horticultural soil. Similar deposits (Contexts 209, 211 and 212) were present in Trench 2A and were collectively up to 0.75m thick. Of these, Context 212 contained pottery of probable medieval date and Context 217 contained pottery of 13th century date and two sherds of 13-16th century tile.

Within Trench 2A there were a number of features of modern date which related to the monastery. In the south-western corner of the trench there was a large lump of concrete (Context 208) that could not be removed. This probably represents a drain surround. Sealing 208 was a dump of modern black ash and clinker (Context 207). There were two ceramic brown glazed sewer pipes (Plate 5), one on a south-west to north-east alignment (Context 204) and one an almost north-south alignment (Context 205) which both fed into a brick-lined manhole (Context 203). Five courses of manhole brickwork were visible in the northern section of the trench constructed in stretcher bond, from bricks 230mm long and 60mm high of late 19th century date at the earliest. The manhole was within a vertically sided construction cut (Context 206) which was backfilled with silty-clay containing frequent fragments of ceramic building material and mortar (Context 202). Immediately adjacent to Context 204 on the northern side there was a lead water pipe (Context 210, Plate 5). No

clear cuts were visible for the drains or water pipe implying that they had been laid directly on the ground surface and then immediately sealed by the concrete and rubble levelling (Context 201) and concrete surface (200) of the present yard.

Plate 5 Trench 2A facing east, scale unit 0.1m

Modern deposits in Trench 2B comprised a layer of tarmacadam 0.04m thick which clearly formed an earlier yard surface (Context 216, visible on Plate 6 above the scale). This was beneath a deposit of brown silty-clay up to 0.13m thick (Context 215), which was beneath the present concrete yard surface and associated levelling deposit (Contexts 213 and 214). Although Context 215 was similar in composition to horticultural soils in the vicinity, given its

position above a tarmac surface it may represent levelling associated with Contexts 213 and 214.

Plate 6 South-facing section of Trench 2B, scale unit 0.1m

6.3 TRENCHES 3-4

Trenches 3 and 4 were adjoining trenches forming a T shape. Trench 3 was aligned with the long axis east-west, and was 12.25m x 1.56m in size, while Trench 4 was aligned with the long axis north-south and was 10.5m x 1.56m in size, with the northern end of Trench 4 terminating mid-way along the southern side of Trench 3. The two trenches were excavated to a maximum depth of 1.46m below the present ground surface. Trenches 3-4 are illustrated on Figures 9-10 (Appendix 1).

The earliest deposit in both trenches was compact orange-brown sand which was of glacial origin (Contexts 308 and 406, Plate 7). The natural deposits were sealed by moderately compact orange-brown silty-sand with pebbles and cobbles up to 0.2m thick, which could represent either a natural disturbed by ploughing or colluvium (Contexts 307 and 403).

Cutting into the upper surface of 403 there was an east-west aligned ditch (Context 405, Plate 8), 1.04m in width and 0.6m deep, with a stepped northern edge and shallow concave southern edge. This ditch was backfilled with compact mid to dark brown silty-clay (Context

404). No dating evidence was recovered from 404, but the environmental sample contained significant quantities of metalworking waste and burnt animal bone fragments, perhaps suggesting an industrial origin. Sealing the ditch there was a deposit of dark brown clayey-silt (Contexts 306 and 402) up to 0.65m thick, interpreted as a build-up of horticultural soil. Pottery of Roman date was present in Context 402.

Plate 7 Natural sand in the base of Trench 3, facing east, scale unit 0.5m

Plate 8 Contexts 405 and 404, facing west, scale unit 0.1m

A thin band of angular stones (Context 305, Plate 9) was clipped by the southern section of Trench 3; this was 0.8m in breadth and may represent dumping. Context 305 was located between 2m and 2.8m east of the junction with Trench 4. Above these cobbles there was a build-up of mid-brown clayey-silt with occasional pebbles (Context 304) which represents a further build-up of horticultural soil.

An intermittent layer of crushed tile was visible in all sections of Trench 3 (Context 303, Plate 9). This acted as levelling for the insertion of gardens with an associated brick path (Context 309). The path was located to the immediate south of Trench 3, 0.6m-1.3m west of the junction with Trench 4, and comprised a single course of unbounded slop-moulded bricks 135mm in breadth and 53mm in thickness, which were probably of 16-18th century date. Sealing 303 elsewhere there was mid-brown clayey-silt up to 0.18m thick with occasional pebbles (Context 302) interpreted as horticultural soil. The uppermost deposit was formed by the topsoil of the present monastery garden (Contexts 301 and 401), a grey-brown clayey-silt with frequent roots.

Plate 9 Trench 3 north-facing section, showing Contexts 307, 306, 305, 304, 303, 302 and 301, scale unit 0.1m

6.4 TRENCH 5

Trench 5 was 10m x 1.56m in area and up to 2.23m in depth, and is illustrated in Figures 11-12 (Appendix 1).

The earliest deposit seen was naturally occurring mid brown clayey-sand with frequent pebbles and cobbles (Context 510). This was sealed by mid orange-brown clayey-sand up to 0.38m thick (Context 502) which could represent either ploughed natural or colluvium. The upper surface of 502 was truncated by two ditches and a pit (Plate 10). The southernmost ditch (Context 508, Plate 11) was aligned east-west and was in excess of 2.5m wide and was 1.25m deep, with steeply sloping sides and a flat base. The ditch was in-filled with mid grey slightly clayey sandy-silt (Context 507) that contained medieval brick of 14-16th century date. The environmental sample indicated domestic household detritus, along with a significant quantity of seeds suggestive of medicinal plant cultivation. This ditch was also seen in Trench 8 to the east.

Plate 10 Trench 5 facing south, scale unit 0.5m

The second east-west ditch (Context 506) was 1.7m wide and 0.85m deep, with a V shaped profile, and was located across the centre of the trench. This ditch contained two fills, the primary fill (Context 509) was mid grey slightly clayey sand and contained evidence of domestic midden. The upper ditch fill (Context 505) was orange-brown slightly silty sand, and contained tile of 13-16th century date and evidence for reworked midden, including very eroded fragments of burnt animal bone and a small copper alloy button. A small pit was present at the northern end of the trench; this extended beyond the limits of the trench on the western side, and was 1.14m in length north-south and 0.43m deep (Context 504). The pit was in-filled with brown-grey silty-sand (Context 503) which contained pottery of 13th century date and tile of 13-16th century date. The environmental sample suggested disposal of metalworking waste, raked-out hearth material and food preparation detritus.

Plate 11 Context 508 facing east, scale unit 0.5m

All the features above were sealed by grey-brown clayey-sand up to 0.5m thick (Context 501), interpreted as a build-up of horticultural soil. Over the southernmost two-thirds of the trench this was beneath a brown-grey sandy-silt topsoil (Context 501) of the present garden that was 0.35m thick. Kerbstones were present within the topsoil forming flower beds. At the northern end of the trench the uppermost deposit comprised a concrete path.

6.5 TRENCHES 6-9

Trenches 6-9 were all located within an orchard. All the trenches had to be moved from their intended positions to avoid damaging the fruit trees and to avoid a manhole and associated drain. Trench 6 was moved to the south and reduced in size. Trench 7 was split into two

sections, the western portion numbered 7A and the eastern portion 7B. Trench 8 was moved south from the original intended position, and shortened, while Trench 9 was shortened slightly. Trench 6 was 8m x 1.5m in area, Trench 7A was 10m x 1.56m in area, Trench 7B 5.75m x 1.56m in area, Trench 8 was 31.5m x 1.56m in area and Trench 9 was 19.5m c 1.56m in area. The trenches were excavated to depths of between 1m and 2.27m below present ground level. Trenches 6-9 are illustrated on Figures 13-14.

The earliest deposit was naturally occurring mid-orange sandy-clay with very frequent cobbles up to 0.2m in size (Context 603, 707, 714, 803 and 905, Plate 12).

Plate 12 Natural in Trench 8, facing north, scale unit 0.5m

Cutting the upper surface of the natural in Trench 8 was an east-west aligned ditch (Context 807, Plate 13) which was 0.7m wide and 0.1m deep with a concave base; this was filled with compact orange-brown clayey-sand (Context 806).

Ditch 807 was sealed by a deposit of mid brown clayey-sand up to 0.25m thick (Context 602, 705, 713, 802 and 904), given that this deposit is above a man-made feature it probably represents natural disturbed by ploughing rather than colluvium.

The disturbed natural was in turn cut by a ditch (Context 805, Plate 14) on an almost west-east alignment, which equates to ditch 508 in Trench 5 to the west. Ditch 805 was 5m wide and 0.65m deep, with moderately steep sides and a flat base. The ditch was in-filled with dark grey clayey-sandy-silt (Context 804) which contained pottery of 14/15th century date, tile of late 11th-early 13th century date and tile of 13-16th century date. The environmental sample indicated the presence of metalworking and cooking waste, and suggested local enriched agricultural soils.

Plate 13 Context 807 facing east, scale unit 0.1m

Plate 14 Context 805 facing south-east, scale unit 0.5m

Sealing all of the contexts described above was mid grey-brown sandy-silt up to 0.4m thick (Context 601, 701, 711, 801 and 903) interpreted as a build-up of horticultural soil. Context 801 contained pottery of 14th century date and tile of 13-16th century date.

The horticultural soil was truncated by a small number of modern features, relating to the monastery. In the western end of Trenches 6 and 7 there was a drain on a north-west to south-east alignment, which comprised a cut up to 0.7m wide and 0.52m deep (Contexts 605 and 715, Plate 15) backfilled with a stony grey-brown sandy-silt (Contexts 604 and 712). In Trench 6, a second drain on a north-south alignment was seen (Context 607, Plate 16) which was 0.78m wide and 0.25m deep and was backfilled with crushed mortar (Context 606). In Trench 7a and Trench 9 there was a cut on a north-south alignment (Contexts 703 and 902) which was 0.8m wide and up to 0.55m deep. This cut contained a brick wall (Context 702 and 901, Plate 17) up to three courses high bedded on mortar, the lowest course being two bricks wide to act as a footing. The bricks forming the wall were 170mm wide and 111mm thick and of late 19th century date at the earliest. To the west of this wall was an associated circular sectioned machine-made ceramic drain 0.25m in diameter (Context 704, Plate 17) of later 19th century date at the earliest. Cut 703 was in-filled with mid brown clayey-silt (Context 706). The uppermost deposit seen in the trenches was dark-grey sandy-silt up to 0.25m thick, with frequent roots(Context 600, 700, 710, 800 and 900) which formed the topsoil of the orchard.

Plate 15 Context 605 facing north-west, scale unit 0.5m

Plate 16 Context 607 facing north, scale unit 0.5m

Plate 17 Contexts 702 and 704 facing south, scale unit 0.1m

6.6 TRENCHES 10-11

Trenches 10 and 11 were adjoining trenches forming a T shape. These trenches could not be placed as intended in the brief due to the presence of a mature monkey puzzle tree and were accordingly repositioned to the north and east of the intended location. Trench 10 was 8m x 1.5m in area and 0.8m deep, while Trench 11 was 20m x 1.56m in area and up to 1m in depth. Trenches 10-11 are illustrated on Figures 15-16.

The earliest deposit was naturally occurring mid orange-brown clayey-sand with frequent pebbles and cobbles (Contexts 1005 and 1105, Plate 18). Cutting into the upper surface of the natural was an east-west aligned ditch, which was also seen in Trenches 19, 20 and 25 to the east. This ditch (Context 1104, Plate 19) was 1.5m wide and 0.2m deep with concave sides and a flat base. The ditch was in-filled with firm mid brown sandy-clay (Context 1103) which contained a sherd of Roman tegula.

Plate 18 Natural in the northern end of Trench 11 facing north, scale unit 0.5m

Plate 19 Context 1104 facing east, scale unit 0.1m

Ditch 1104/5 was sealed by a deposit of friable orange-brown slightly clayey sand up to 0.2m thick (Contexts1002 and 1102) interpreted as either colluvium or ploughed natural. This was in turn sealed by a deposit of friable mid grey-brown clayey-sand (Contexts 1001 and 1101) which represented a build-up of horticultural soil, which was up to 0.35m thick. Context 1001 contained pottery of 13th century date, while Context 1101 contained pottery of 13th century date and a sherd of tile of 13-16th century date. The uppermost deposit was mid brown-grey sandy-silt up to 0.3m thick which represented the topsoil of the present field (Contexts 1000 and 1100).

6.7 TRENCH 12-15

Trenches 12-15 were a series of trenches excavated in small gardens surrounded by hedges. Trench 15 had to be moved from its position as intended in the brief due to restricted space and the presence of a large bonfire-heap which was still in use for the disposal of garden waste. Trench 12 was 8.15m x 1.56m in area and 1m in depth, Trench 13 was 9m x 1.56m in area and 1.25m deep, Trench 14 was 8.75m x 1.5m in area and 0.81m deep, and Trench 15 was 10m x 1.56m in area and 1.36m in depth. Representative sections from Trenches 13 and 14 are illustrated on Figure 17.

The earliest deposit seen was natural which ranged from mid orange-brown sandy-clay (Contexts 1203, 1303), to mid orange-brown clayey-sand (Context 1403) to mottled yellow-grey sand (Context 1503, Plate 20). The natural was sealed by mid orange-brown slightly clayey-sand up to 0.2m thick (Contexts 1202, 1302, 1402 and 1502) interpreted as either colluvium or ploughed natural. This lay in turn beneath a build-up of horticultural soil comprising mid grey-brown clayey-sand up to 0.5m thick (Contexts 1201, 1301, 1401 and 1501). Pottery of Roman date was present in 1401 and pottery of 12th century date was present in 1501.

Plate 20 Context 1403 facing north-west, scale unit 0.5m

In the north-easternmost section of Trench 12 a modern ceramic salt-glazed drainage pipe 0.15m in diameter was present within a small cut (Context 1204). This was sealed by a path made of degraded tarmac with an associated kerbstone (Context 1205). In the western section of Trench 14 a stone and rubble filled field drain 0.26m wide and 0.3m deep was

visible (Context 1404). This drain did not continue into the eastern section of the trench, its precise alignment is therefore unknown.

The uppermost deposit seen (Contexts 1200, 1300, 1400 and 1500) was mid brown-grey sandy-silt which formed the topsoil of the gardens in question. Occasional kerb stones from the borders of plant beds were present within the topsoil in Trenches 13 and 14, but these were not recorded in detail.

6.8 TRENCHES 16-17

Trenches 16 and 17 were intersecting east-west and north-south aligned trenches, forming a cross-shape overall. Trench 16 was 20m x 1.56m in area and up to 1.3m in depth, and Trench 17 was 15m x 1.56m in area and 1.36m in depth. Trenches 16-17 are illustrated on Figures 18-19.

Natural in this area comprised firmly compacted orange-brown clayey-sand with occasional pebbles and cobbles (Contexts 1610 and 1710, Plate 21).

Plate 21 Natural in Trench 17 with ditch fill 1706 beneath the scale, facing south, scale unit 0.5m

Four ditches were cut into the upper surface of the natural. Ditch 1607 was aligned south-west to north-east, was 0.4m wide and 0.15m deep with concave sides and a flat base. This was backfilled with brown-grey sandy-clay (Context 1606, Plate 22) which did not contain any datable artefacts but did produce a small amount of metalworking debris from the environmental sample. Ditch 1609 was aligned north-west to south-east and was 0.6m wide and 0.2m deep with concave sides and a flat base. This was in-filled with brown-grey sandy-clay (Context 1608, Plate 22) from which some Roman pottery and tile was recovered, along with probably redeposited food waste. The position of ditches 1607 and 1609 at right angles to one another, and the similarity in both size and ditch profile suggests that these features were related. Ditch 1707 was aligned west-south-west to east-north-east and was 1m wide and 0.3m in depth with concave sides and a concave base (Plate 23). This was backfilled with mid grey clayey-sand laminated with bands of clay and sand (Context 1706, Plate 21), and contained Roman pottery and tile, and small amounts of possible metalworking waste. Ditch 1709 was also aligned west-south-west to east-north-east and was 0.6m wide and 0.25m deep with steep sides and a flat base (Plate 24). This ditch was in-filled with brown-grey sandy-clay (Context 1708), but no datable artefacts were recovered from the backfill.

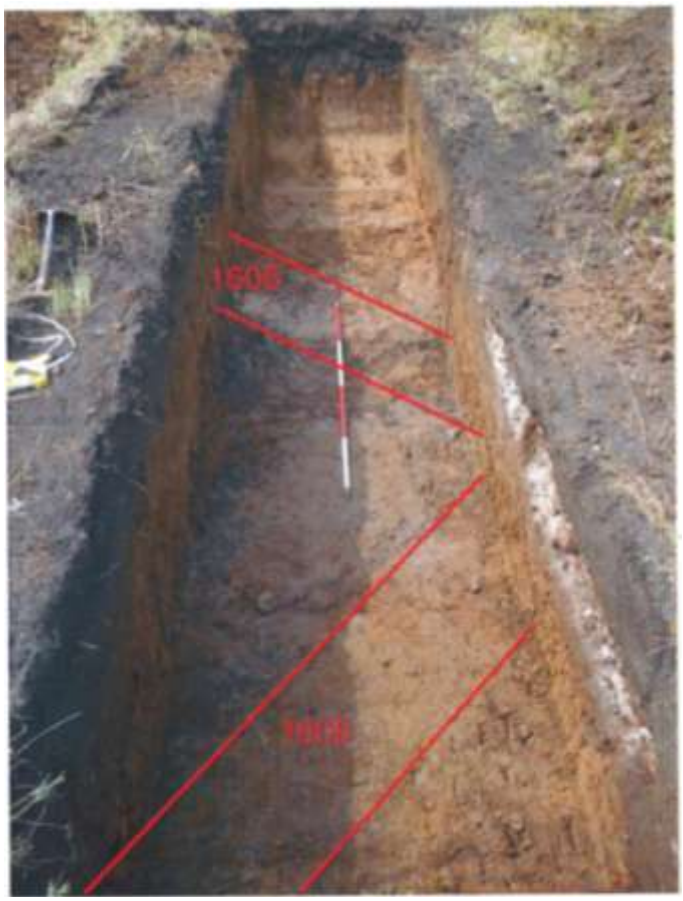

Plate 22 Ditch fills 1606 and 1608 (indicated in red), facing west, scale unit 0.5m

Plate 23 Ditch 1707, facing east, scale unit 0.1m

Plate 24 Ditch 1709, facing east, scale unit 0.1m

The ditches were sealed by mid brown-grey slightly clayey sand, up to 0.25m thick (Contexts 1602 and 1702), which was interpreted as a ploughed natural or colluvium. Above 1602/1702 there was a deposit of grey-brown clayey-sand up to 0.35m thick soil (Contexts 1601 and 1701) interpreted as a build-up of horticultural soil.

Contexts 1601/1701 were truncated by two types of field drain; narrow linear trenches in-filled with rubble, and ceramic pipes set in deep narrow cuts. The only stratigraphic relationship between the two types of pipe was seen at the eastern end of Trench 16, where a ceramic drain truncated a stone-filled drain. Contexts 1603, 1604/1703 were all linear cuts 0.25-0.3m wide and 0.25-0.3m deep in-filled with stone and brick rubble to act as drains. Context 1603 (Plate 25) was on a north-east to south-west alignment, located 1.5m west of the junction of Trenches 16 and 17. Context 1604/1703 was on an almost east-west alignment, and was visible in the north-easternmost 2.5m of Trench 16 and the easternmost 5.5m of Trench 17. The uppermost deposit in Trenches 16/17 was mid brown-grey sandy-silt up to 0.3m thick (Context 1600 and 1700) which was the topsoil of the present garden.

Plate 25 Context 1603, facing north, scale unit 0.1m

Three ceramic field drains were present. A ceramic field drain 0.15m in diameter, on a north-south alignment was present at the eastern end of Trench 16; this was in a small cut 0.2m wide and 0.2m deep (Context 1605). Drains 1704 and 1705 (Plate 26) ran at right angles to

one another on north-east/ south-west and north-west/south-east alignments respectively, at the northern end of Trench 17. Drain 1704 comprised circular ceramic pipes made of segments 0.3m in length and 0.15m in diameter. Drain 1705 comprised ceramic horseshoe-shaped segments, dating from between the late 18th century to 1826, and may represent a drainage system that pre-dates the monastery. Both drains were set in cuts backfilled with mortar and rubble.

Plate 26 Context 1705, facing east, scale unit 0.1m

6.9 TRENCHES 18-20

Trenches 18-20 were interconnecting, with Trenches 18 and 20 being parallel to one another on a south-west to north-east alignment and Trench 19 being on a north-east to south west alignment, crossing Trench 20 and terminating at Trench 18. Trench 18 was 18.75 x 1.56m in area and 0.83m in depth, Trench 19 was 40.5m x 1.56m in area and 0.89m deep, and Trench 20 was 28.5m x 1.56m in area and 1.14m in depth. Trenches 18-20 are illustrated on Figures 20-21.

Natural varied from firm mid orange-brown clayey-sand with moderate pebbles and cobbles (Context 1804), to mid orange-brown sandy-clay (Contexts 1905 and 2005, Plate 27). Truncating the natural was a ditch (Context 1904 and 2004) on an east-west alignment, that was also seen in Trench 11 to the west and Trench 25 to the east. The ditch was 1.5m wide and 0.45m deep with a steep northern edge and shallower southern edge and a flat base.

The ditch was in-filled with mid brown-grey sandy-clay (Context 1903 and 2003, Plate 27), but there was a lens of pebbles at the base of the cut in Trench 19. Roman pottery and a sherd of Roman tegula were recovered from Context 2003, along with environmental evidence for residual occupation detritus.

Plate 27 Natural in Trench 19 with ditch backfill 1903 running diagonally across the trench beneath the scale, facing south, scale unit 0.5m

Sealing the ditch was a deposit of friable mid orange-brown slightly clayey sand, up to 0.25m thick (Contexts 1802, 1902 and 2002) interpreted as colluvium or ploughed natural. This was beneath grey-brown clayey-sand up to 0.35m thick (Contexts 1801, 1901 and 2001) interpreted as a build-up of horticultural soil. Context 2001 contained a fragment of flanged tile of late 11th-early13th century date.

The horticultural soil was truncated by a narrow cut backfilled with stone, brick fragments and a plastic bag (Context 1803, Plate 28) which was clearly of modern date. Only a small portion of this feature was seen in the north-western section of the trench, so its precise

shape or alignment is unclear. The uppermost deposit seen was mid brown-grey sandy-silt up to 0.3m thick (Context 1800, 1900 and 2000) which was the topsoil of the present garden.

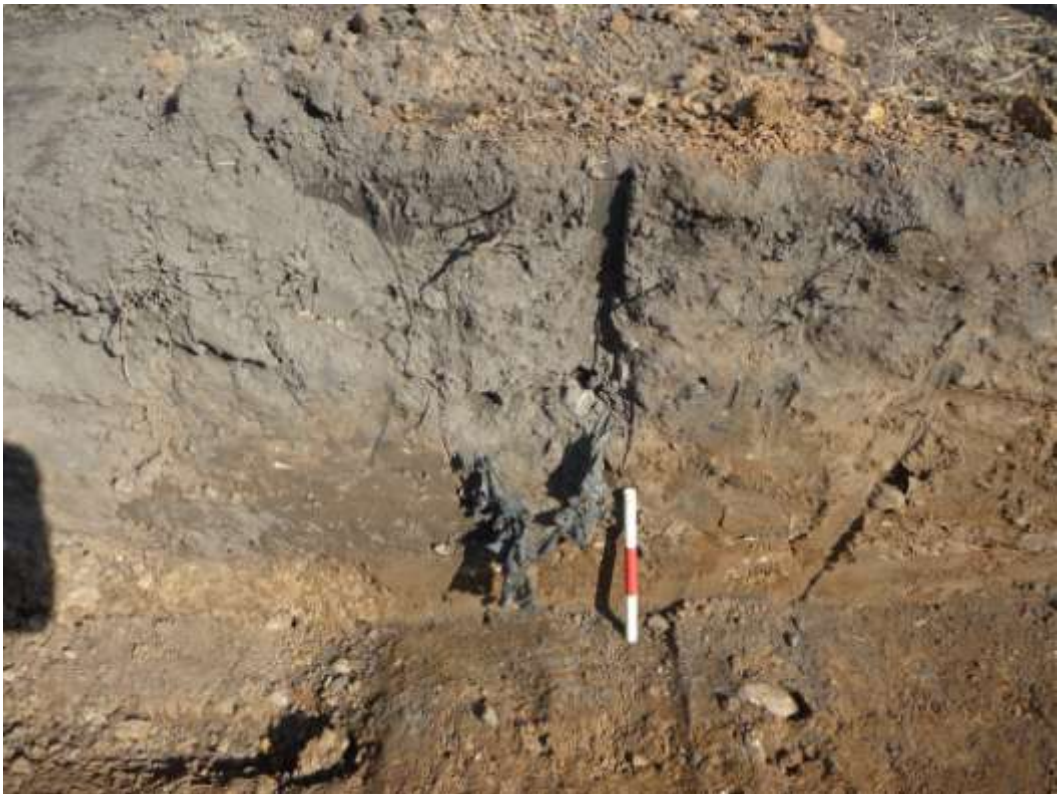

Plate 28 Context 1803, facing south, scale unit 0.1m

6.10 TRENCHES 21-25

The location of the trenches had to be adapted from that intended in the brief due to the presence of a very overgrown wood-pile in the south-eastern corner of the field. Trenches 21-23 were adjoining with Trench 21 being on an east-west alignment, Trench 23 being on a south-west to north-east alignment and Trench 22 being on a north-west to south-east alignment, crossing Trench 23 and terminating at Trench 21. Trenches 24 and 25 were parallel to, and either side of, Trench 22. Trench 21 was 30m x 1.56m in area, Trench 22 was 52 x 1.56m in area, Trench 23 was 30 x 1.56m in area, Trench 24 was 15m x 1.56m in area and Trench 25 was 15.75m x 1.56m in area, and these trenches were excavated to depths of between 0.6m and 0.91m. Trenches 21-25 are illustrated on Figures 22-25.

Natural comprised firm mid orange-brown clayey-sand with frequent pebbles and cobbles (Contexts 2111, 2209, 2306, 2406 and 2507). A small number of features were cut into the upper surface of the natural. A north-south aligned ditch or gully 0.9m wide and 0.1m deep was present at the junction of Trenches 21 and 22 (Context 2105, Plate 29). This had

concave sides and a flat base, and was in-filled with grey-brown sandy-silt (Context 2104) from which no datable material was recovered. To the east of this was a pit cut (Context 2107) which lay largely beyond the limits of the trench on the northern side. The pit was 1.5m in width, and 0.2m in depth with concave sides and a flat base, and was in-filled with grey-brown sandy-clay (Context 2106) that contained some animal bone. In Trench 25 there was an east-west ditch (Context 2503, Plate 30) that continued westwards into Trenches 11, 19 and 20). Context 2503 was 0.65m wide and 0.10m deep, and was clearly shallower and narrower than the sections seen in Trenches 19-20, which may imply that the ditch was petering out at the eastern end. The ditch was in-filled with brown-grey clayey-silt (Context 2502).

Plate 29 Context 2105 facing north, scale unit 0.1m

Plate 30 Context 2503 facing west, scale unit 0.1m

Sealing the above features was a deposit of orange-brown clayey-sand, which was up to 0.3m thick at the northern end of the field, but only 0.15m thick at the southern end (Contexts 2113, 2208, 2305, 2405 and 2506). This was interpreted as being either colluvium or ploughed natural.

A linear gully on an almost east-west alignment truncated Context 2405 (Context 2403, Plate 31). This gully was 0.85m wide, and 0.18m deep with concave sides and a flat base. The backfill (Context 2402) was mid brown-grey clayey-silt, from which no datable artefacts were recovered.

Plate 31 Context 2403 facing east, scale unit 0.1m

Above Context 2402 and these field drains was a deposit of mid grey-brown clayey-sand up to 0.2m thick (Contexts 2101, 2201, 2301, 2401 and 2501) interpreted as a build-up of horticultural soil. This was notably thinner than the horticultural deposits seen elsewhere on the site. Cut into the horticultural soil was a pit that extended largely beyond the limits of excavation on the northern side of Trench 21. This pit (Context 2103) was at least 2.5m wide and 0.4m deep, and was backfilled with mid grey clayey-silt (Context 2102).

The horticultural soil was also truncated by a number of field drains of two differing types. The first type of field drain (Contexts 2108, 2109, 2110 2204, 2206, 2207, 2302, 2304, 2404 and 2505, Plate 32) were narrow cuts up to 0.35m wide and between 0.2 m to 0.35m deep backfilled with rubble. Contexts 2108-2110 comprised adjoining V-profiled trenches which were located between 5m and 7.5m from the eastern end of Trench 21, with 2109 and 2110 being at right angles to one another on south-west/ north east and north-west/south-east alignments respectively. These flowed into 2108 which was only visible in the section, so its precise alignment is unclear. Contexts 2204 and 2206 were on a north-south alignment and

were located 18.5m and 35m north of the southern end of Trench 22 respectively. Context 2207 was on a south-west to north-east alignment 43m from the southern end of Trench 22. Contexts 2302 and 2304 were 5.5m and 18.5m from the western end of Trench 23 respectively. Context 2404 was located 1.5m from the northern end of Trench 24. Drain 2505 was located 3m south of the northern end of Trench 25. The uppermost deposit seen in Trenches 21-25 was brown grey sandy-silt up to 0.2m thick (Contexts 2100, 2200, 2300, 2400 and 2500) which was the topsoil of the present field.

Plate 32 Context 2302 facing south, scale unit 0.1m

The second type of field drains were machine-made ceramic field drains in deep narrow cuts. Five linear cuts truncated Context 2208 (Contexts 2112, 2202, 2203, 2205/2303, 2504, Plate 33), these were aligned almost north-south, were 0.4m wide and between 0.2m and 0.35m deep and contained ceramic drains 0.15m in diameter. Drain 2112 was 9.5m form the eastern end of Trench 21, drain 2202 was located at the southern end of Trench 22, drain 2203 was 15m from the southern end of Trench 22, while the drain 2205/2303 was 37m form

the southern end of Trench 22 continuing southwards into Trench 23. Drain 2504 was located 8m from the southern end of Trench 25.

Plate 33 Context 2203 facing south, scale unit 0.1m

7. ASSESSMENT OF IMPORTANCE

7.1 PERIOD-BY-PERIOD SUMMARY

7.1.1 NATURAL

Natural deposits were seen in all trenches (Contexts 106, 219, 208, 406, 510, 603, 707, 714, 803, 900, 1003, 1105, 11203, 1303, 1403, 1503, 1610, 1701, 1804, 1905, 2005, 2111, 2209, 2306, 2406 and 2506) with the exception of Trench 2b where the constricted area available for excavation made it impossible to reach the upper surface of the natural. As is typical for glacial deposits, the natural on the site was variable in composition, ranging from sand in Trenches 1-4 and 15, to clayey-sand in Trenches 5, 10-11, 14, 16-18 and 21-24, and sandy-clay in Trenches 6-9, 12, 19-20 and 15 (Figure 6). The natural sloped consistently

downwards from south to north, from a maximum height of 19.67m AOD at the southern end of Trench 19, to 13.22m AOD in Trench 1, reflecting the slope of the glacial moraine.

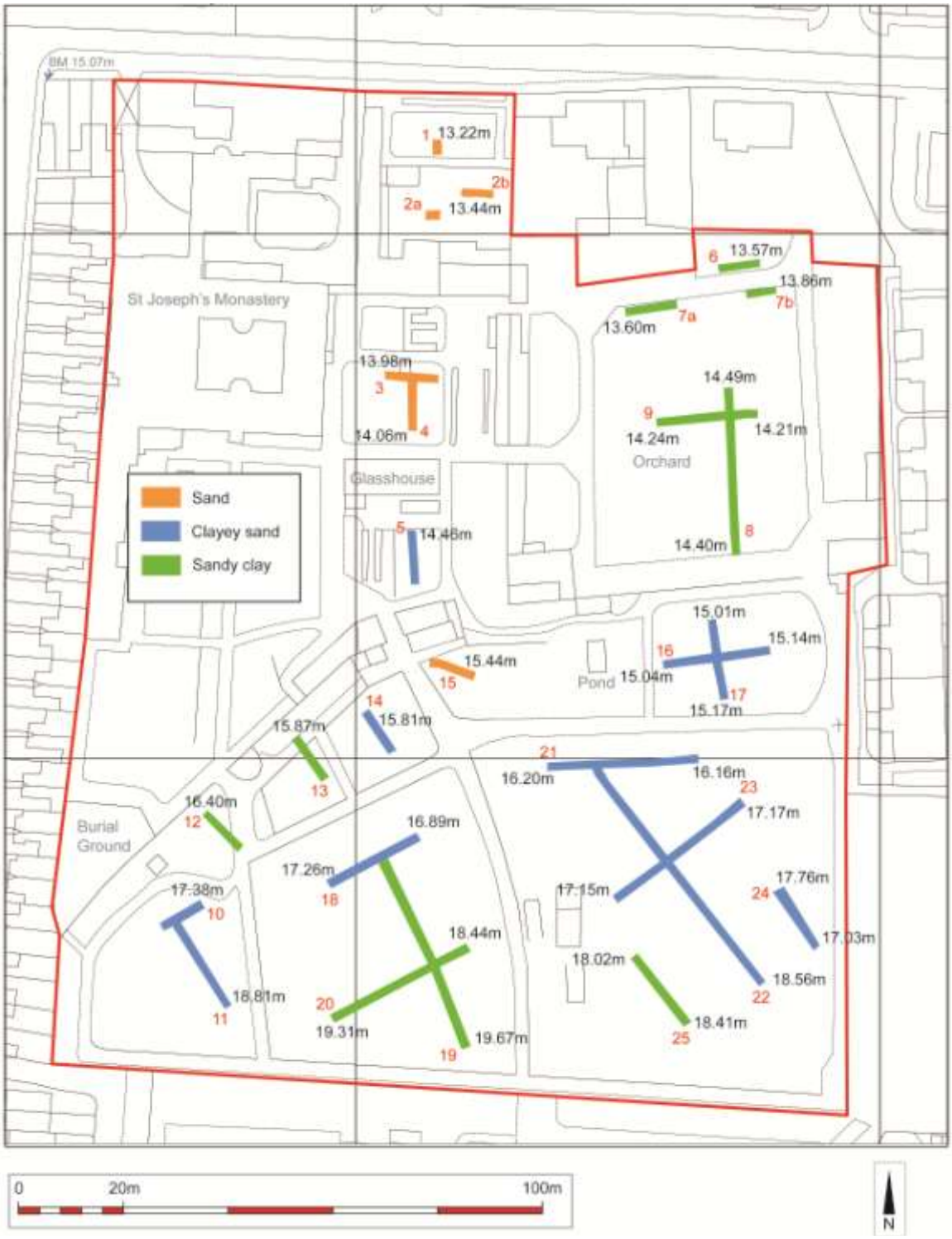

Figure 6 The variable nature of natural deposits across the site, together with the heights AOD of the upper surface of natural in the various trenches

7.1.2 PREHISTORIC

No conclusive evidence for any prehistoric features was recovered from the site. There was however, a residually occurring flint in Trench 1.

7.1.3 ROMAN (A.D.71 TO EARLY 5TH CENTURY)

A small number of cut features were dated by pottery and/or ceramic building material to the Roman period. The largest feature was an almost east-west aligned ditch (cuts 1104, 2004, 1904 and 2503, and associated fills 1103, 2003, 1903 and 2502) seen in Trenches 11, 20, 19 and 25 at the southern end of the site. It should be noted that all the datable material was recovered from the westernmost two sections of this ditch in Trenches 11 and 20, the easternmost two sections in Trenches 19 and 25 being undated. A further Roman ditch on a south-west to north-east alignment was present in Trench 17 (cut 1707 and fill 1706), while a narrower ditch or gully was present at the eastern end of Trench 16 (cut 1609 and fill 1608). A further undated ditch (cut 1607 and fill 1606) at the eastern end of Trench 16 was clearly spatially associated with ditch 1609 and can therefore be interpreted as being of Roman date.

All of these features were cut into the upper surface of natural and sealed by deposits which could represent either colluvium or natural that had been disturbed by ploughing. Four other undated features occurred in a similar stratigraphic position, suggesting that they too were probably Roman in date: A narrow east-west ditch (cut 807 and fill 806, Trench 8); a narrow a west-south-west to east-north-east aligned ditch (cut 1709 and fill 1708, Trench 17); a narrow north-south aligned ditch (cut 2105 and fill 2104, Trench 21); and a pit (cut 2107 and fill 2106, Trench 21).

The Roman and possible Roman features present are not suggestive of intensive occupation, but rather of the division of land into fields for agricultural usage, with the occasional disposal of waste. The environmental sample results suggest that this comprised a mixture of metalworking waste and domestic refuse, but from a variety of unknown sources rather than a specific area of activity.

Deposits which could represent either colluvium or natural disturbed by ploughing were seen in all the trenches (Contexts 106, 218, 307, 403, 502, 602, 705, 713, 802, 904, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702, 1802, 1902, 2002, 2113, 2208, 2305, 2405 and 2506). The thickness ranged from 0.15m to 0.35m, being thinnest at the top at the hill slope in Trench 22, and thickest in Trenches 16, 17 and 21 at the base of the slope, reflecting the actions of gravity pulling deposits down-slope. The date of these deposits is unclear, but they

probably accumulated in the Roman period given the date of the man-made features sealed beneath them.

7.1.4 ANGLIAN AND ANGLO-SCANDINAVIAN (5TH-11TH CENTURY)

No conclusive evidence for any Anglian or Anglo-Scandinavian features, or activity, was recovered from the site.

7.1.5 MEDIEVAL (12TH-16TH CENTURY)

The only securely dated medieval features were a pit (cut 504 and fill 503 in Trench 5) of 13th century date, an east-west ditch (cut 506 and fills 505 and 509 in Trench 5) that was of 13-16th century date, and an almost east-west aligned ditch located centrally within the site (cuts 508 and 805, and fills 507 and 804) that was of 14/15th century date. The fills of the features in trenches 4 and 5 suggested the deposition of concentrations of industrial and domestic waste. It may be significant that these features were located to the north of the possible boundary ditch 508/805, not far from the likely contemporary road and possible medieval settlement activity. Ditch 508/805 may represent a landscape boundary; the evidence for medicinal plant cultivation is unusual and could represent disposal of material from an unknown source.

The medieval features were cut into the upper surface of the deposits interpreted as either colluvium or natural that had been disturbed by ploughing, and were sealed by deposits interpreted as a build-up of horticultural soils seen across the site (Contexts 104, 108, 217, 209, 211, 212, 304-6, 402, 501, 601, 701, 711, 801, 903, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701, 1801, 1901, 2001, 2101, 2201, 2301, 2401 and 2501). Two further undated east-west ditches (cut 405 and fill 404 in Trench 4 and cut 2403 and fill 2402 in Trench 24) were located in a similar stratigraphic position, suggesting that they were also probably of medieval date.

The composition of the horticultural deposits was as variable as that of the underlying natural ranging from clayey-silt, to silty-clay, to sandy-silt, to clayey-sand. The thickness of the horticultural soil varied across the site, being thinnest in the south-east of the site on the slopes of the moraine, and becoming progressively thicker to the north-west. The horticultural soil was up 0.2m thick in Trenches 21-24, up to 0.4m thick in Trenches 10-11 and 16-20, up to 0.6m thick in Trench 5 and between 0.6-0.8m thick in Trenches 1-4. This variable thickness may be a reflection of more intensive horticultural use of the flatter land, which would be easier to plough. Dating evidence was recovered from a number of these contexts and consisted of pottery and ceramic building material from the 11th-16th centuries with some residual Roman material (see Appendices 2 and 3 for details).This horticultural

soil began, therefore, to accumulate at least as early as the late 11th to early 13th centuries and the process continued throughout the medieval period.

7.1.6 POST-MEDIEVAL (16-18TH CENTURY)

Given that the site is depicted as open ground and fields on 17th and 18th century maps of the area, it is likely that the horticultural soils on the site would have continued to accumulate throughout the post-medieval period, even though there is no direct dating evidence to confirm this.

The only feature of potential post-medieval date occurred in Trench 3 and comprised a deposit of crushed tile (Context 303) that acted as bedding for both a brick path (Context 309) and a deposit of horticultural soil. The bricks within the path were of 16-18th century date, and it is possible therefore that this feature represents the laying out of some kind of formal garden of that date. Given, however, that maps of the area suggest that the land was open fields prior to the construction of the monastery it is equally possible that this garden related to the earliest phase of the monastery and that reclaimed post-medieval bricks were used in its construction.

7.1.7 MODERN (19TH-21ST CENTURY)

The horseshoe-drain 1705 in Trench 17 dates from the late 18th to 1826, which must represent an attempt at land improvement pre-dating the convent.

In Trenches 16-17 and 21-24 there were two superimposed types of field drain, the first comprising narrow cuts containing rubble (Contexts 1602, 1603, 1604, 1703, 2108, 2109, 2110, 2204, 2206, 2207, 2302, 2304, 2404, and 2505) and the second comprising narrow cuts housing circular sectioned machine made pipes which came into use in the 1840s (Contexts 1605, 1704, 2112, 2202, 2203 and 2205/2303, 2504). This part of the site is depicted as a single field until 1892. It seems likely that both drainage systems were inserted while the single field was in use, prior to its purchase by the monastery in 1902 (English Heritage 2012, 8), after which time the area was subdivided by paths, and hedges and trees were inserted.

A pit was present in Trench 21 (Contexts 2102-3), as this was only just clipped by the trench its original date and function are unclear.

Two further stone filled drains were present in Trenches 6 and 7B (Contexts 605/604, 607/606, and715/712). These were broader and shallower than those seen to the south (described in the preceding paragraph) and clearly represented part of a different system.

They are likely to have been inserted prior to 1892 as the area is depicted on an Ordnance Survey map as an orchard by that stage (the tree roots would have made it impossible to insert such a drain after the orchard was planted). It is impossible to know if these two drains predate the monastery or were contemporaneous with its use.

Various features can definitely be linked to the period of the monastery. In Trenches 7 and 9 there were the remains of a wall on a north-south alignment, with an associated drain to the east (Contexts 703/902, 702/901, 704 and 706): It is known that the monastery's lands were extended eastwards in 1884 and 1911 (English Heritage 2102, 8) and though the precise location of the extension is not known from map sources, this wall may represent the remains of a former boundary wall at the junction of the 1884 extension.

Modern sewers and a lead water pipe were present in Trenches 1 and 2 (Contexts 102-3, 202-6, 207-8, 210) above which were shallow pits containing dumps of modern material (Contexts 101, 105, 107, 109-110). These features all clearly related an L-shaped group of workshops to the east of the main monastic buildings that were built in a number of phases during the 20th century. A further modern salt-glazed sewer was present in Trench 12 (Context 2104); though it is unclear what structures this drain serves. A modern cut was present in Trench 18 (Context 1803) which was so narrow that it could represent a post-hole, though as it was only seen in the trench section its precise function is unclear.

Most of the trenches were sealed by topsoil from the present monastic gardens (Contexts 100, 301, 401, 501, 600, 700, 710, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500), but in the case of Trenches 1,2 and the northern end of Trench 12 there were yard surfaces or paths (Contexts 200, 213, 213, 214, 215, 216, 1205).

7.2 ASSESSMENT OF THE IMPORTANCE OF THE ARCHAEOLOGICAL REMAINS

The archaeological remains identified during this evaluation reflect the character of deposits seen elsewhere in this part of the Lawrence Street area, being patchy and sealed by extensive agricultural activity.

The Roman archaeology reflects the primarily agricultural landscape that supported the legionary fortress, with the ditch observed running east-west along the southern part of the site lying broadly parallel to the presumed course of the road between York and Brough.

The presence across the site of post-Roman colluvium, often probably augmented by plough disturbance of the underlying natural, has been seen elsewhere nearby, notably to the west in the area of 32 Lawrence Street (Ben Reeves *pers. comm.*). The sporadic drains and gullies reflect this agricultural activity. The most significant feature is the large 14th/15th century east-west ditch observed in Trenches 5 and 8 (cuts 508 and 805). Although this is later than the probable 11/12th century parish boundary observed immediately to the east at the DC Cook's site, it may nevertheless represent a later or associated boundary feature.

Little was found to relate to the development of the monastery beyond the possible boundary wall identified in Trenches 7a and 9. This reflects both the fairly modern nature of the wider complex beyond the documented extensions to the main buildings and land holdings, and its relatively unchanged character since the 1870s.

8. ACKNOWLEDGEMENTS

The site team would like to thank Sister Mary Paul of the Poor Clares and John Murray the caretaker of the monastery for all their kindness and hospitality.

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Editors	M. Stockwell and D. Aspden

it. YAT accepts no responsibility or liability for any use of or reliance upon this Report by anybody other than the commissioning person/party.

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APPENDIX 1: SITE PLANS AND SECTIONS

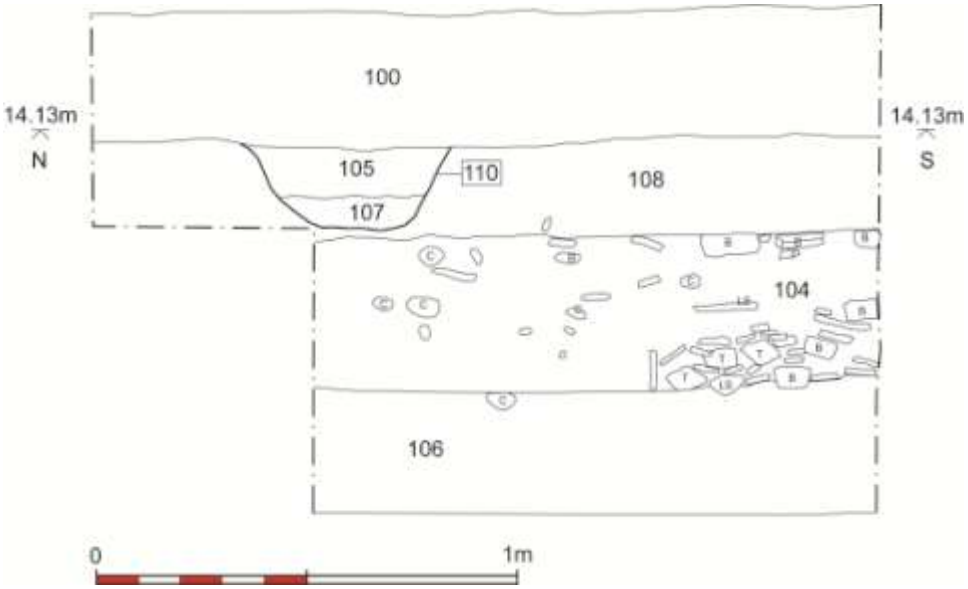


Figure 7 West-facing section of Trench 1

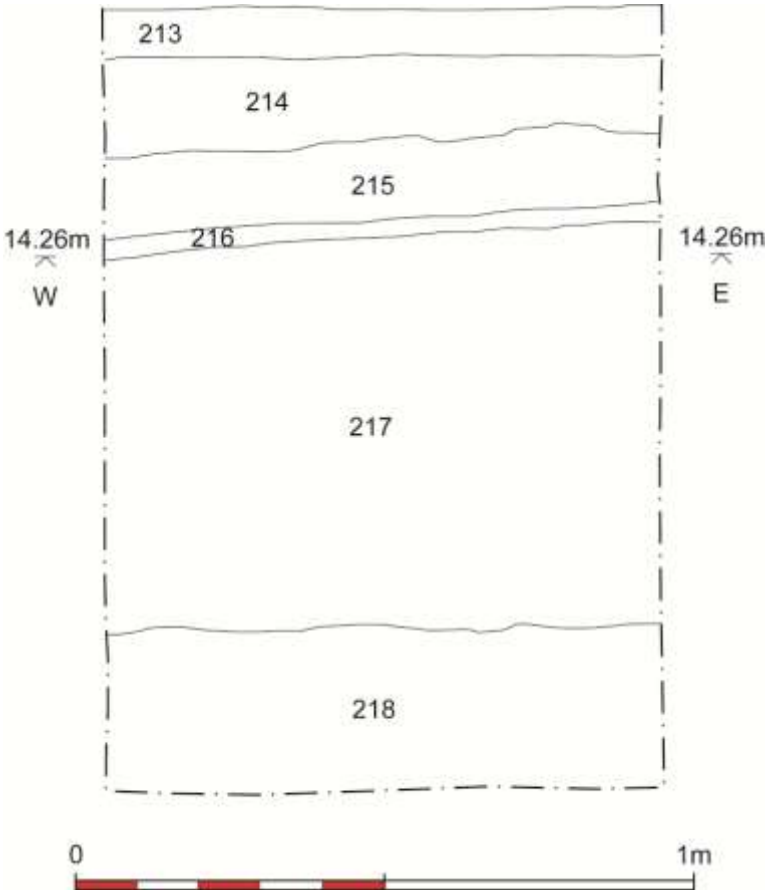


Figure 8 South-facing section of Trench 2B

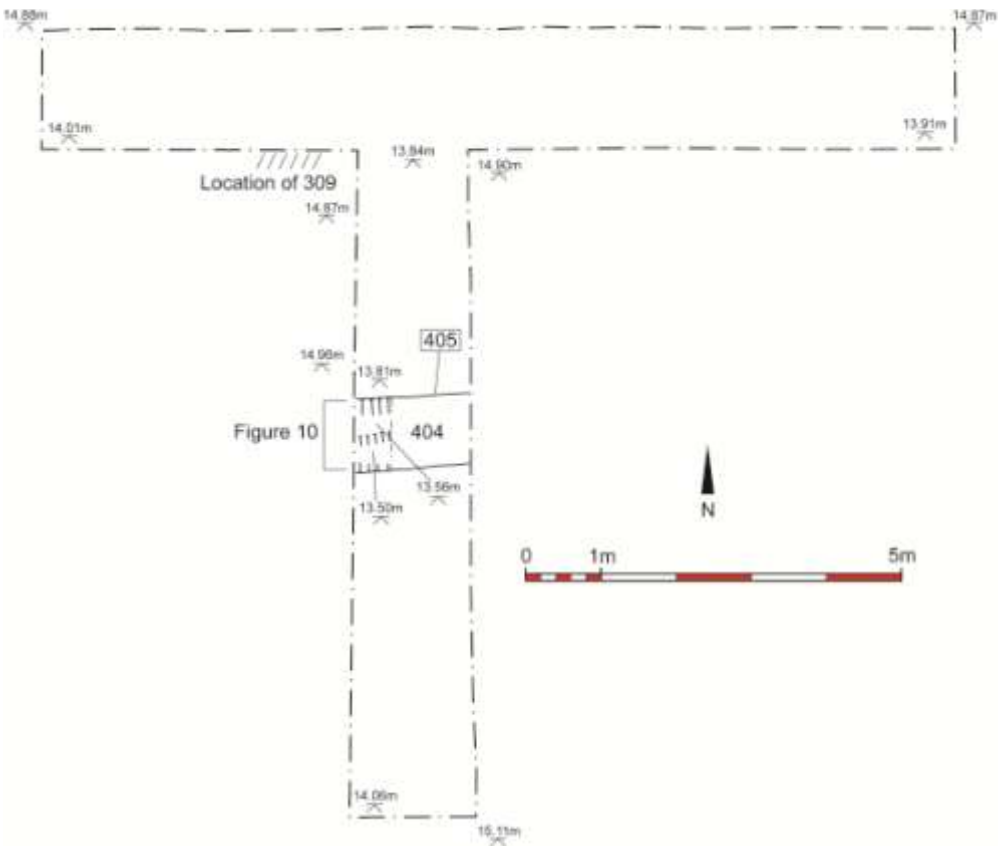


Figure 9 Plan of Trenches 3-4

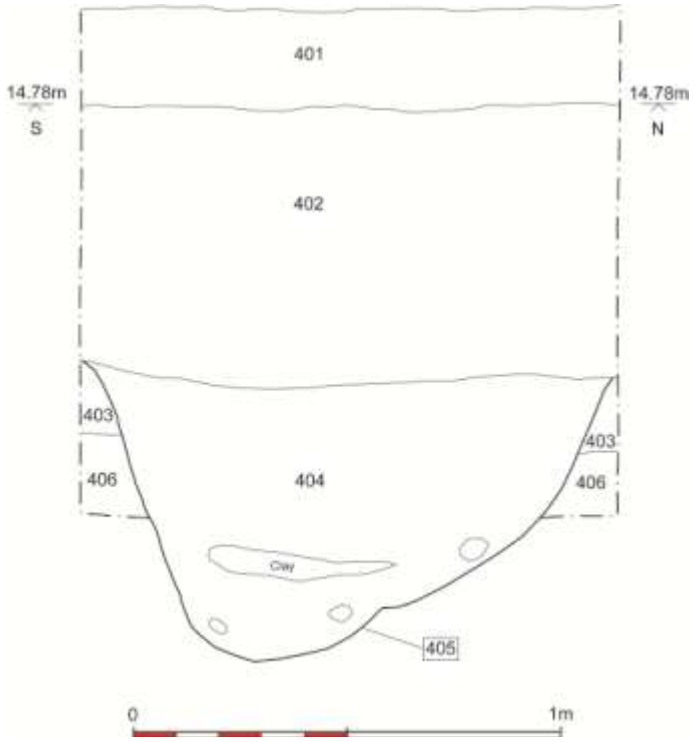


Figure 10 East-facing section of Trench 4

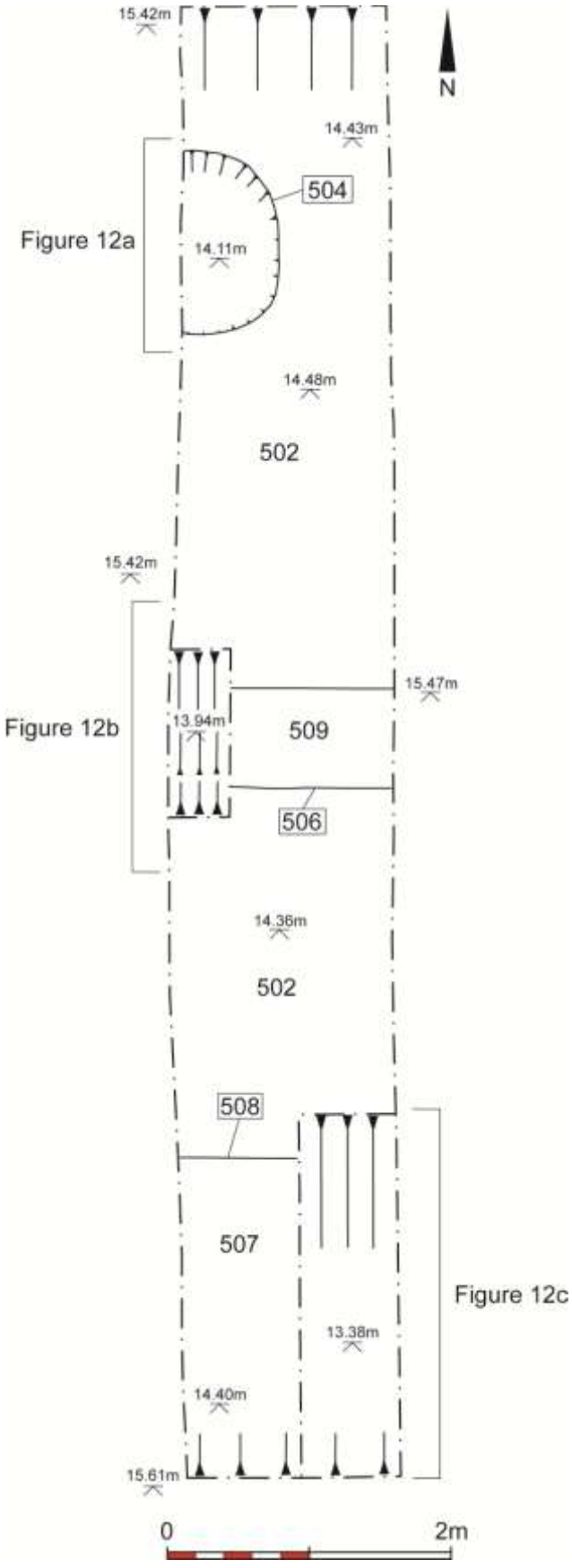
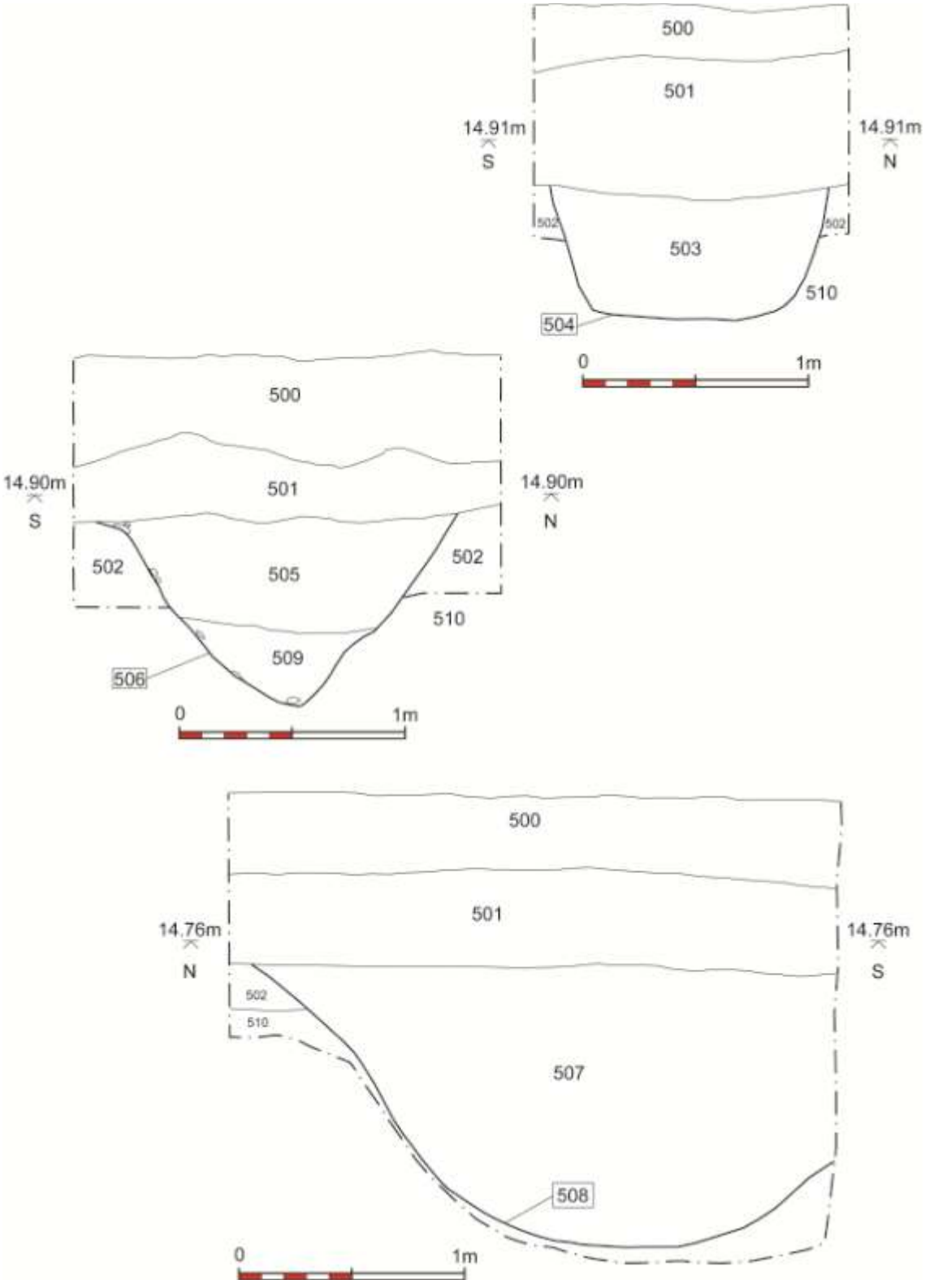


Figure 11 Plan of Trench 5



Figures 12a, 12b, 12c Sections of features in Trench 5

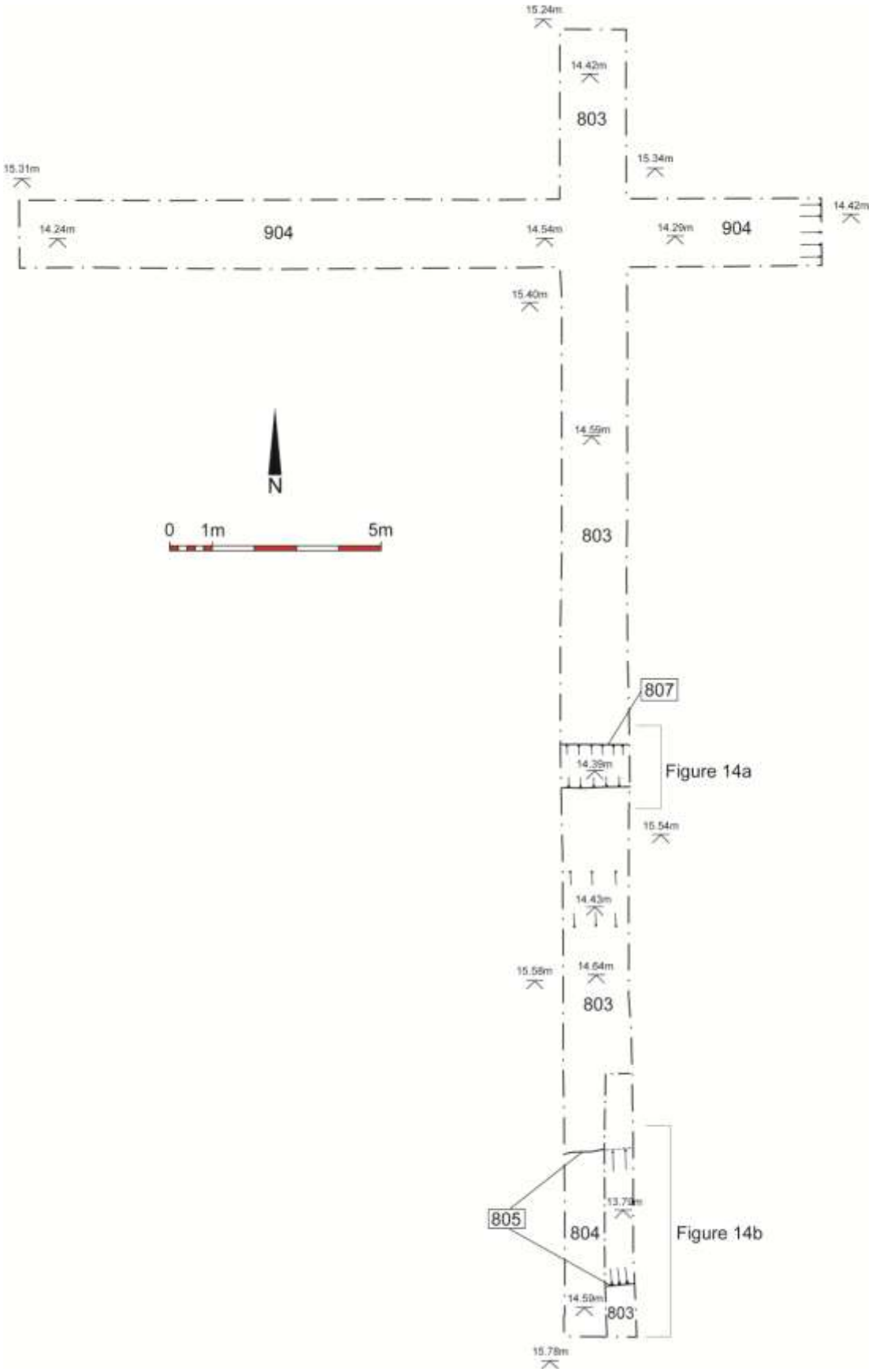
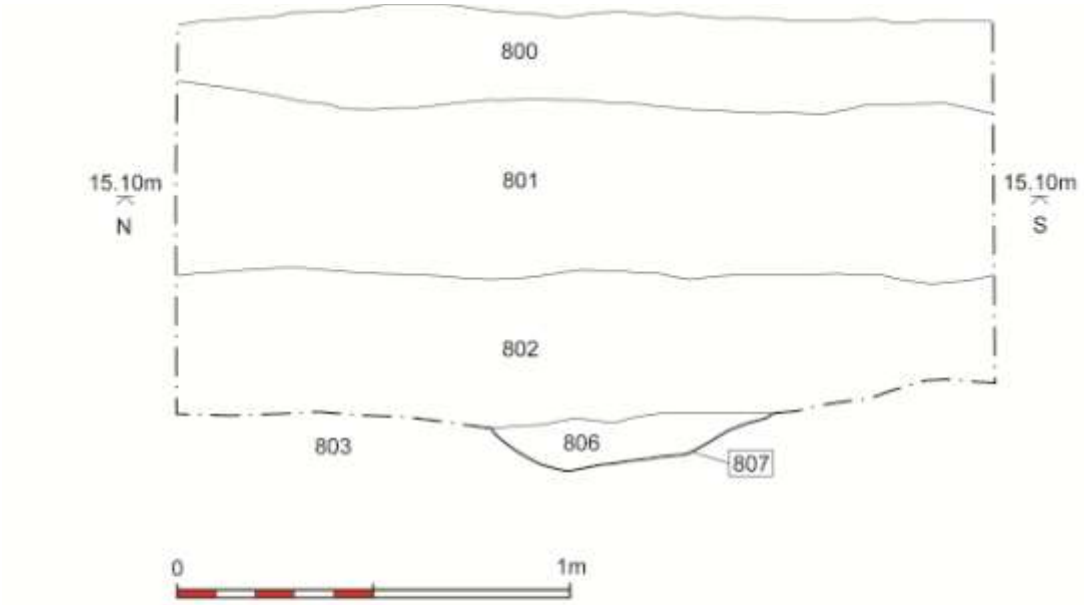
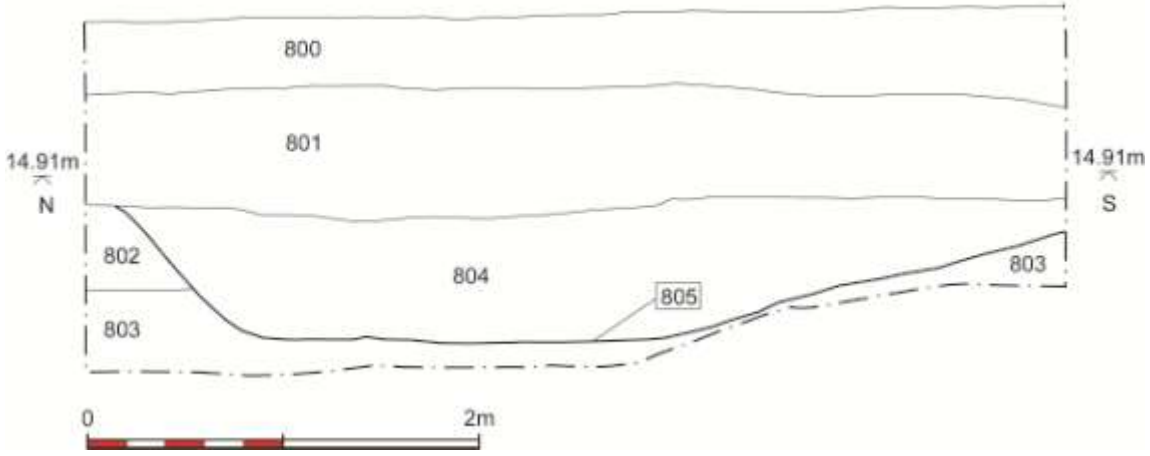


Figure 13 Plan of Trenches 8-9





Figures 14a,b Sections of features in Trenches 8-9

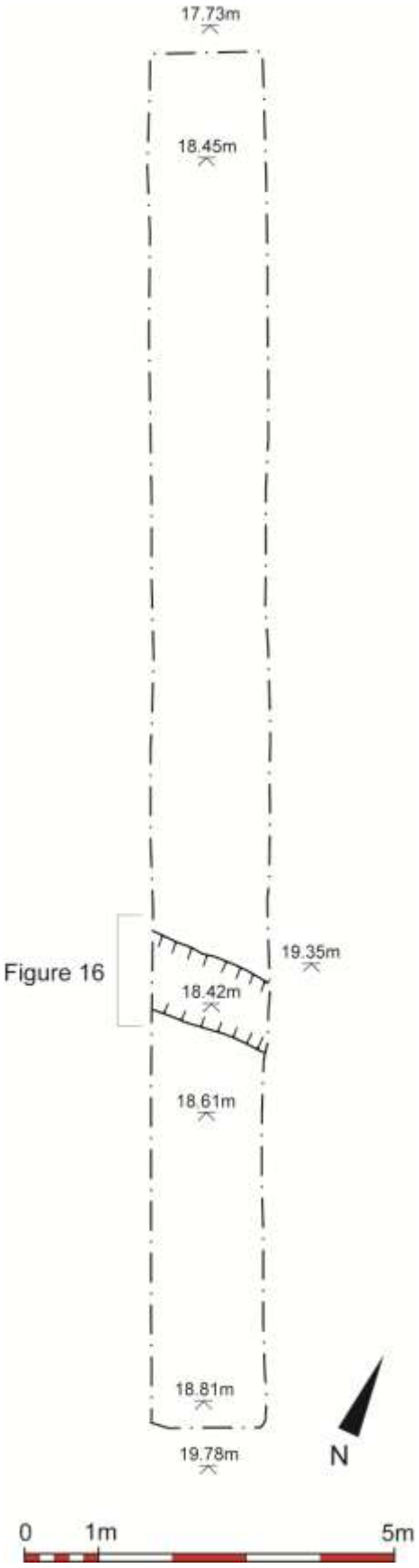


Figure 15 Plan of Trench 11

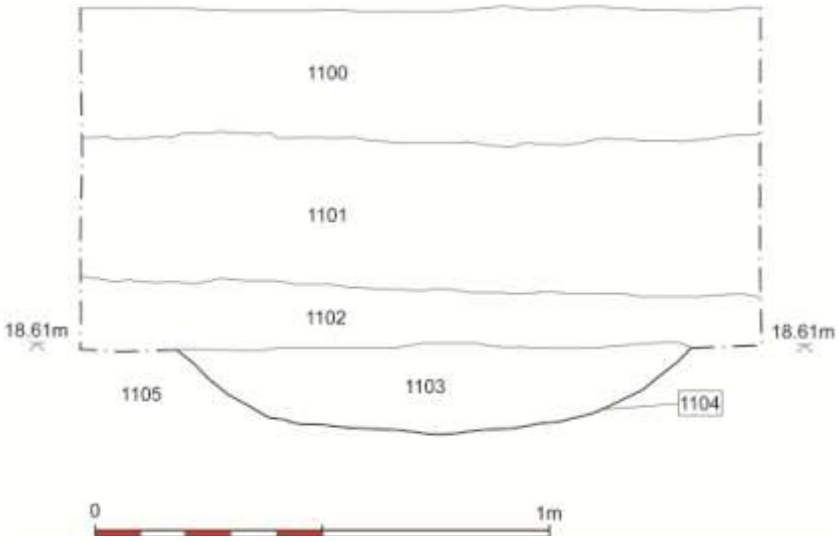


Figure 16 North-east facing section of Trench 11

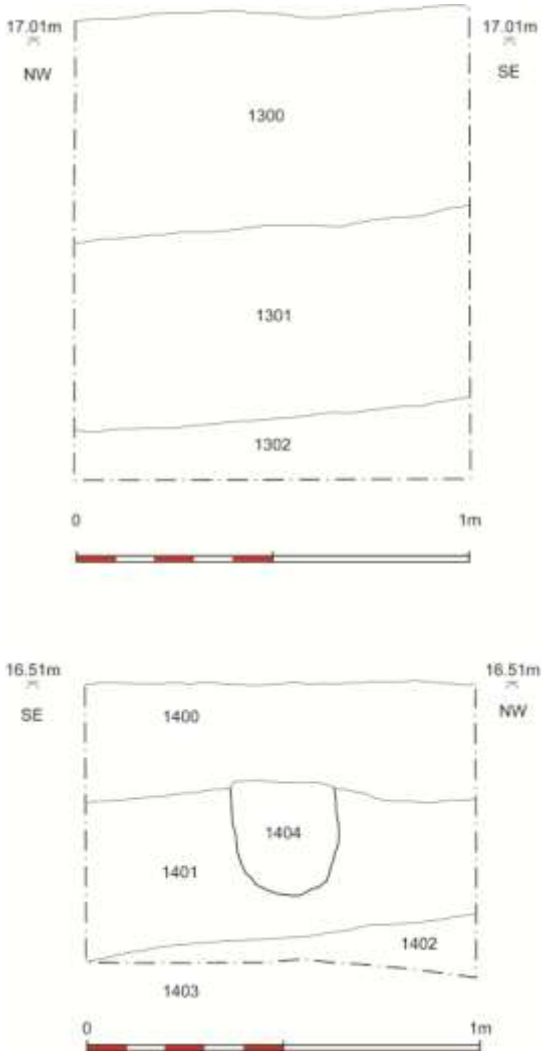


Figure 17 Sections of Trenches 13 and 14

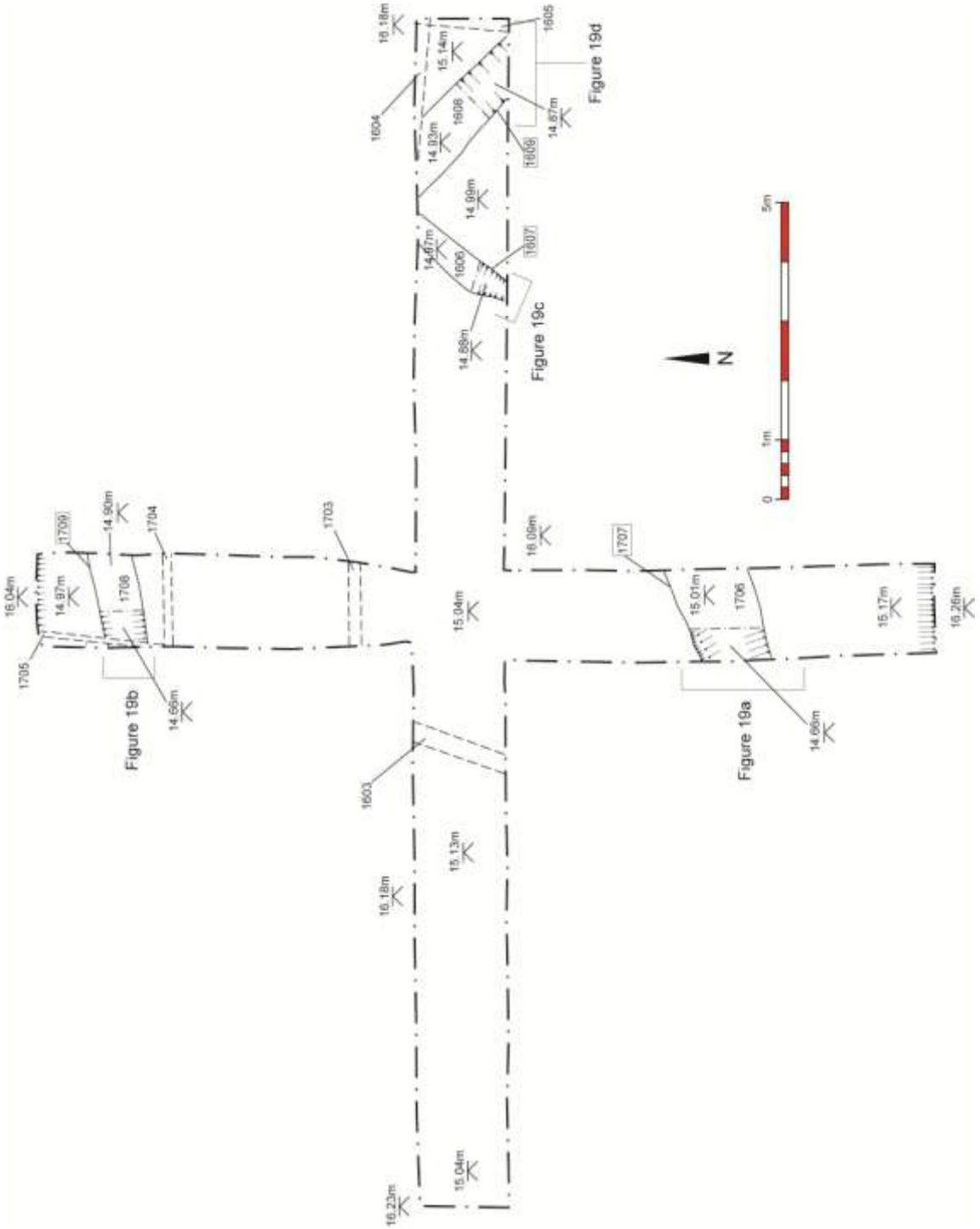


Figure 18 Plan of Trenches16-17

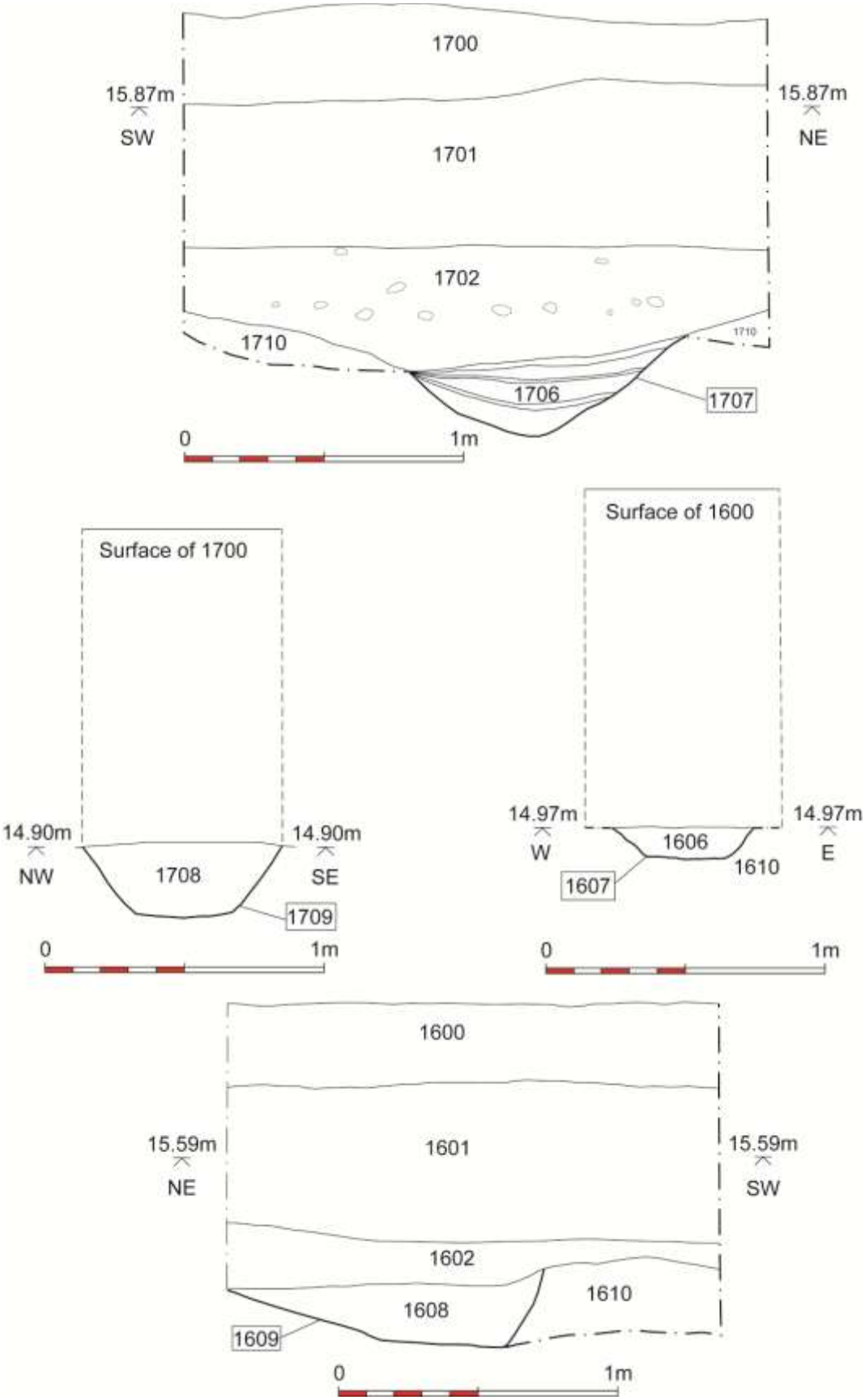


Figure 19a,b,c,d Sections of features in Trenches 16-17

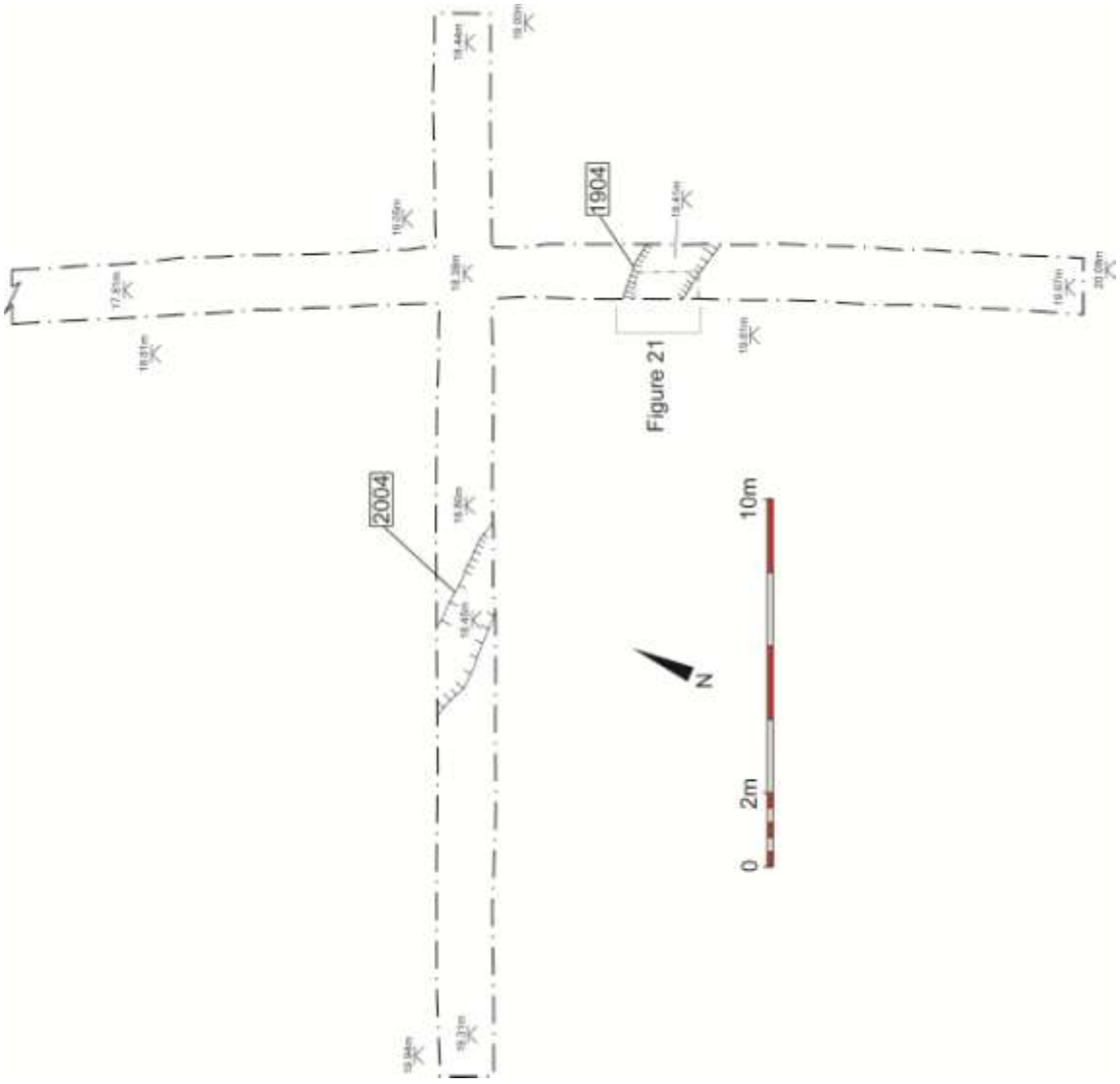


Figure 20 Plan of trenches 19-20

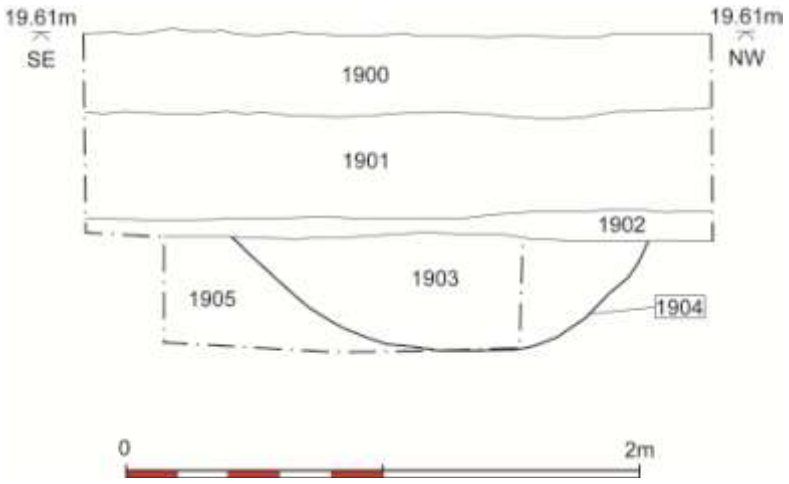


Figure 21 East-facing section of Trench 19

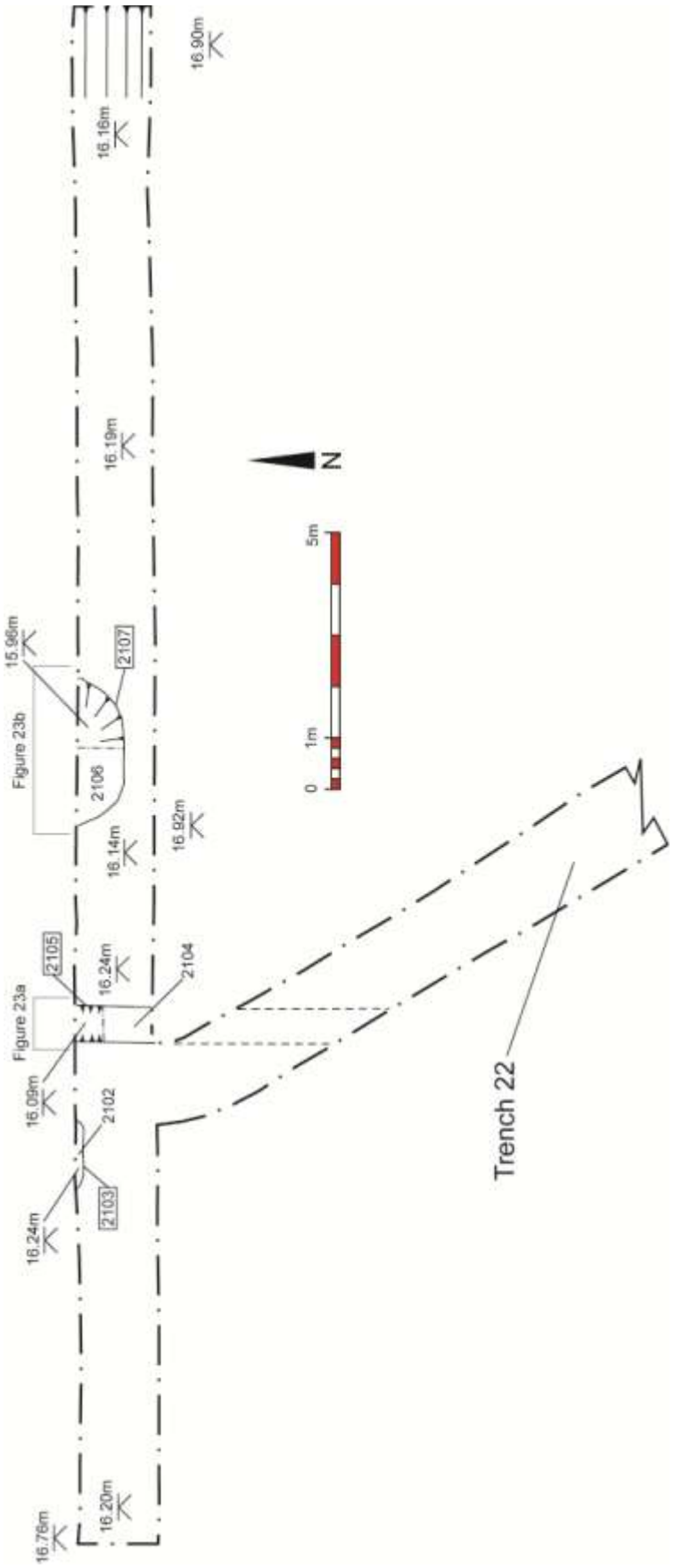


Figure 22 Plan of Trench 21

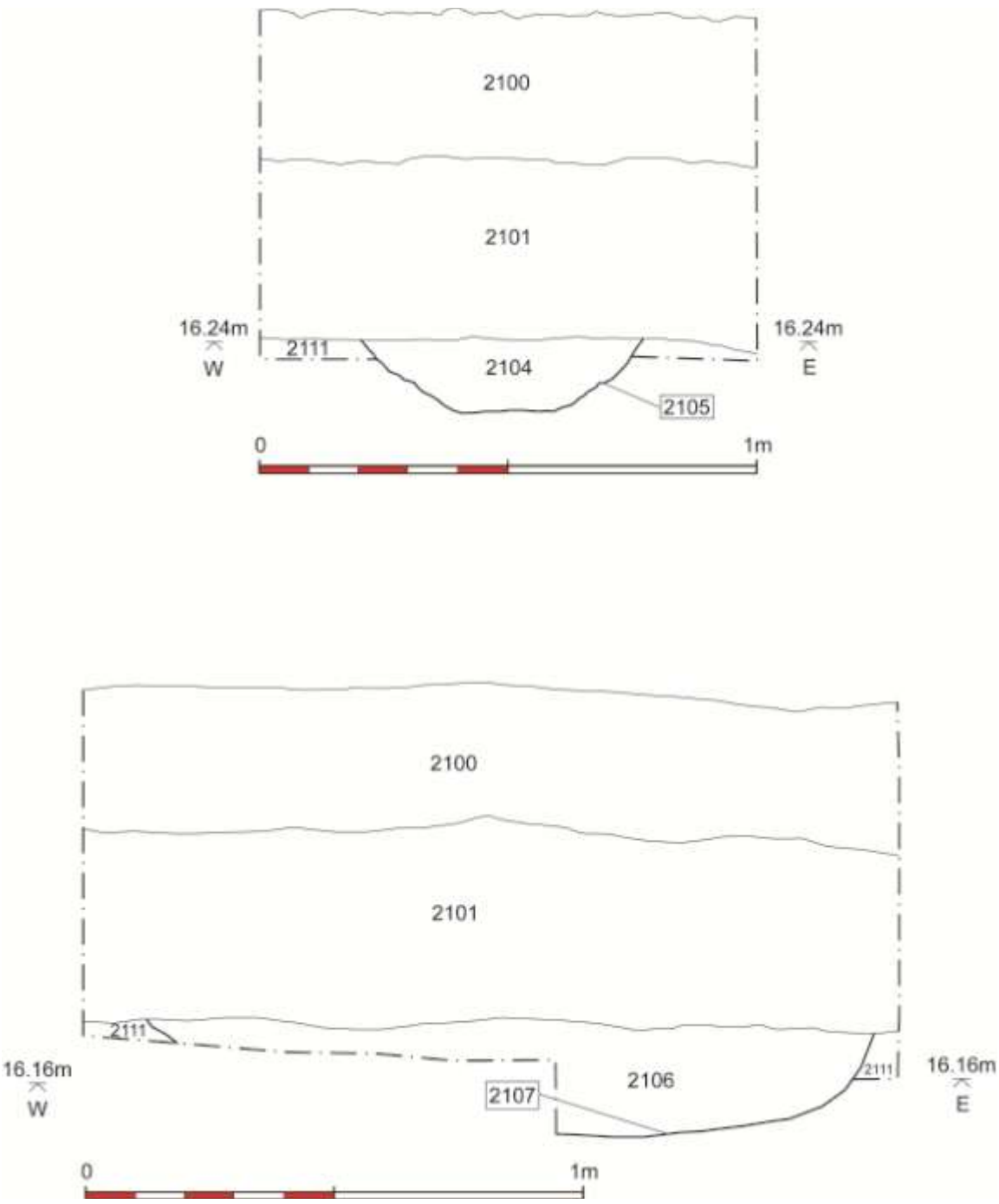


Figure 23 Sections of features in Trench 21

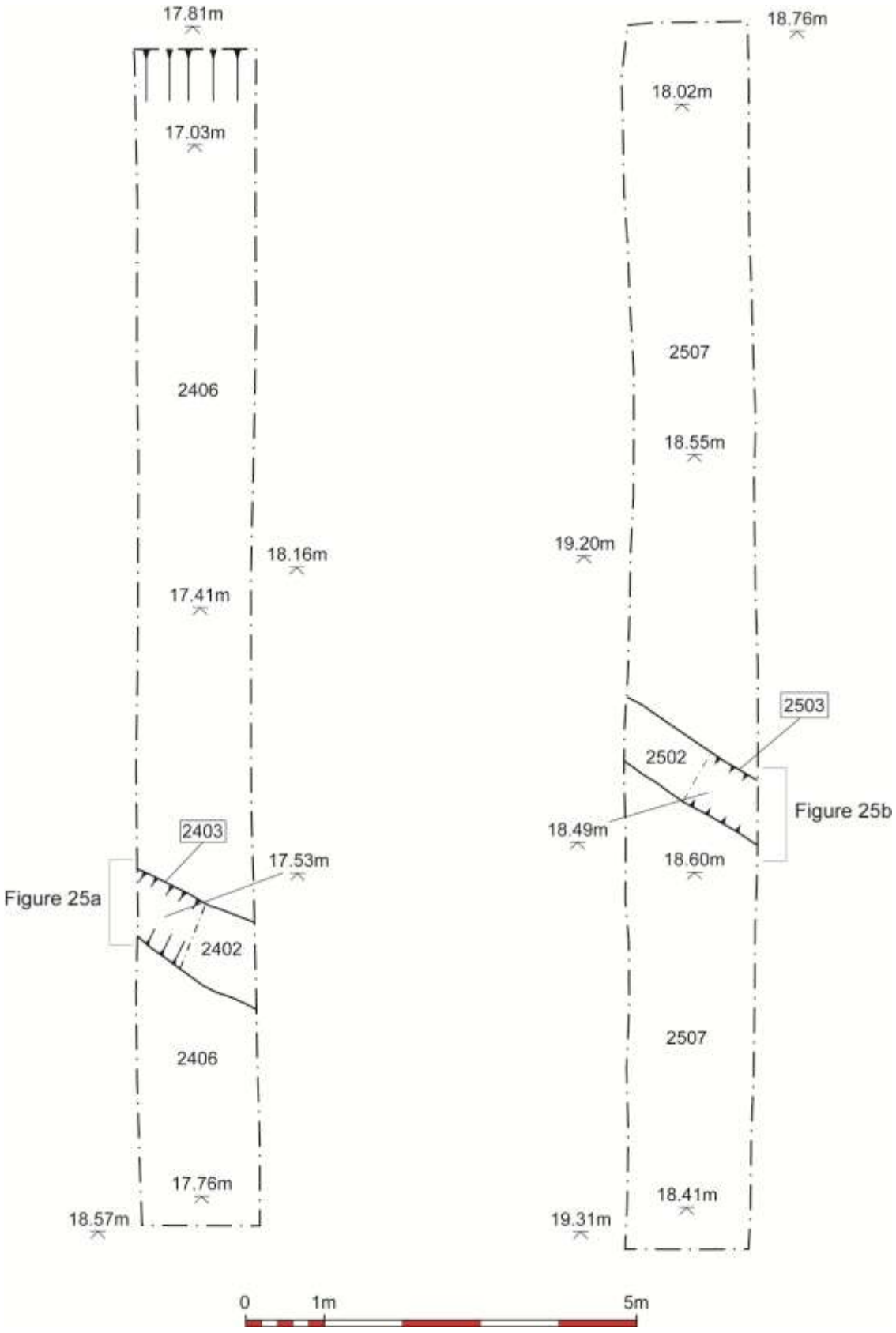


Figure 24a, 24b Plans of Trenches 24 and 25

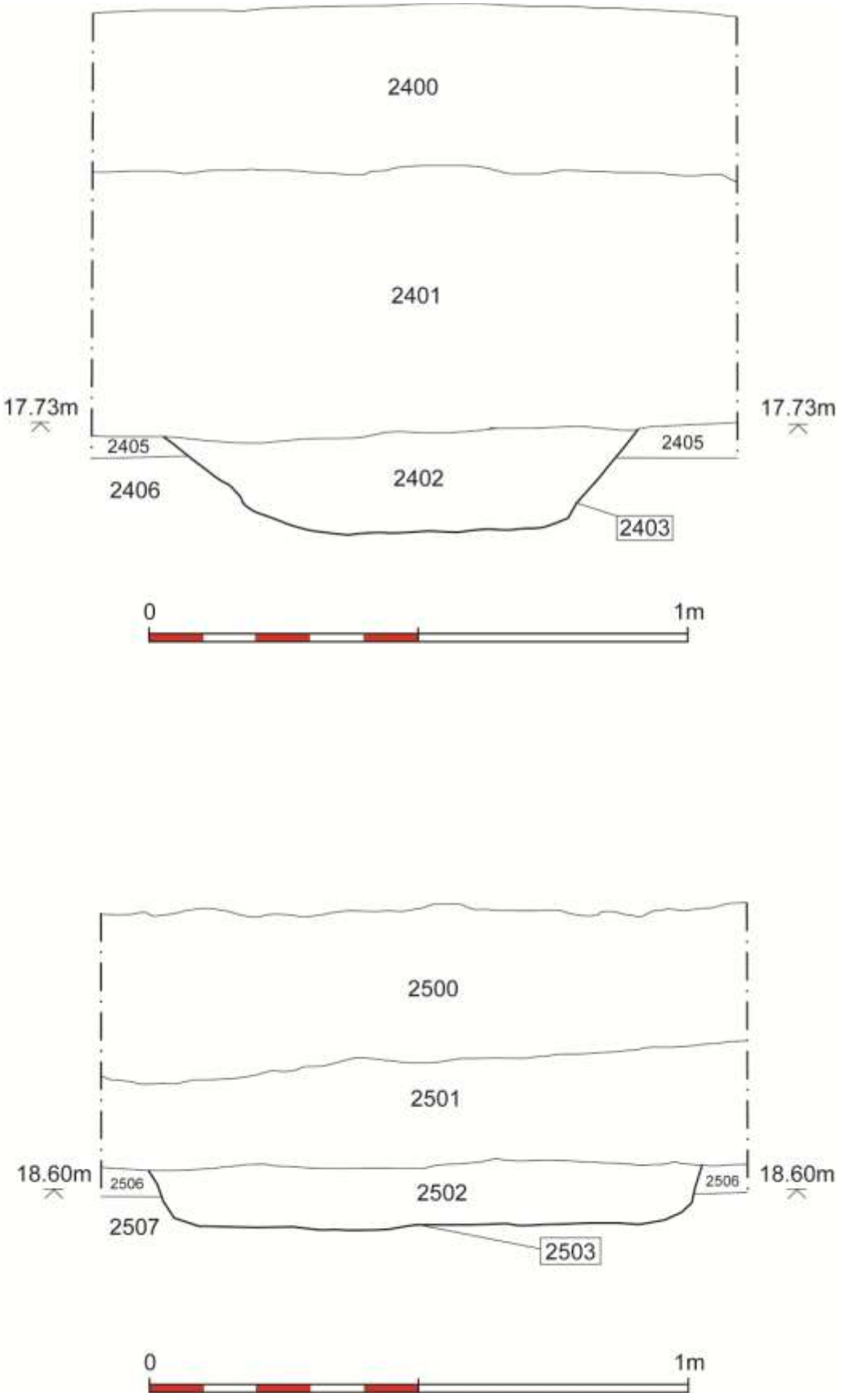


Figure 25a, 25b Sections of features in Trenches 24 and 25

APPENDIX 2: POTTERY

INTRODUCTION

Fifty-six sherds of domestic pottery were retrieved (see Table 1). They range from small to large sherds and many show at least some signs of slight abrasion. The assemblage ranges from the Roman period to the 19th century. There are gaps in the ceramic sequence from the 5th to the 11th centuries and the 16th to the 18th centuries inclusively.

METHODOLOGY

The wares have been divided into fabric and form types and the decoration, date and number of sherds noted.

Sherd sizes are not recorded individually, but when descriptions of sherd sizes are mentioned, the following measurements apply; small <5cms at the widest point, medium 5-10cms and large is over 10cms.

Levels of abrasion are noted, from 'slight', where the broken edges are slightly worn and rounded, to 'very', where the surfaces and edges are very worn and areas of surface treatment, such as glaze or slip as well as parts of the sherd are worn off.

DISCUSSION

The earliest material is Roman, ranging in date from the 1st to the 4th century. The earliest types are Samian (small to medium sherds), Ebor (small to medium) and Mancetter-Hartshill (large) wares which are generally found in York in the 1st and 2nd centuries. The latest Roman material is the Calcite gritted Huntcliffe type (large and very abraded). This ware type is common in York in the 4th century. Unusually, no grey wares, or indeed other material of 3rd century date, were recovered; but this may reflect the small sample size of the assemblage.

There is no Anglian or Anglo-Scandinavian material, despite the nearby Anglian cemetery at Lamel Hill and the presence of Anglo-Scandinavian pottery at the recent nearby excavation at 32 Lawrence Street (Project 5702 – YORYM:2018.291), although Anglian material was also noticeable by its absence at 32 Lawrence Street.

Medieval wares (small to medium) include gritty cooking vessels, splashed and York glazed wares, Brandsby, Humber and Hambleton types, representing the main locally produced pottery types in currency in York from the 12th to the late 14/early15th centuries (see Mainman, A., and Jenner, A. 2013).

There are no 16th, 17th or obviously 18th century wares which are again notable for their absence here. Other sites in York have yielded late 15th/16th century Cistercian and Ryedale wares of late 16th to early 18th century in date (see Brooks 1987) but these wares are not present here. Equally, the white salt glazed and other stonewares of the eighteenth century, common on other sites in York (Hungate forthcoming) are also absent here.

The post medieval pottery, including flow blue and transfer printed, banded slipware, white earthenware and plain slipware, is typical in York in the 19th century. There is little evidence to suggest that any of these wares belonged to a wealthy family, as there are no porcelain or hand painted fine table wares.

The transfer printed sherds from Contexts 100 and 101 are both decorated in a similar way. The blue fern like print on a 'pearl ware' body sherd is a design used by the Leeds potteries and known as the 'Albion' pattern (see Griffiths, J. D. 2012, 238, fig 604). The illustration in Griffiths book on 'The Yorkshire Potteries' (ibid) shows a plate with this design from the Hunslett factory, run by the Taylor family in the Leeds area. However, as numerous factories copied each other, it is not always possible to be certain of its origin without a makers mark. Certainly Griffiths describes this style of decoration as 'one of the ubiquitous patterns' (ibid, 237).

In conclusion, it is interesting to note a hiatus in pottery production in the Anglian and Anglo-Scandinavian periods; from the 5th to the 11th century. A further gap in the ceramic sequence occurs during the early post medieval period from the 16th to the 18th century. These may in part be explained by the small size of the assemblage.

There are no further recommendations for work.

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Mainman, A., and Jenner, A. 2013. *Medieval pottery from York.*

Reeves, B. (forthcoming) 32 Lawrence Street (Project 5702 – YORYM:2018.291)

Context	Find	Quantity	Dating	Details
100	BF19	10	19TH CENTURY	1 cream ware tankard base with banded slip and engine-turned decoration, 1 white earthenware, 1 transfer printed with 'fern' decoration, 5 teracotta plant pot including one with incised lettering 'RYO' (there is a central line between the fork of the 'Y' and a further raised lower case 'o' ...at the furthest right hand side of the legend, before the broken edge of the sherd, another has part of the letters 'RU...' ,1 Humber type earthenware, 1 Brandsby type earthenware,
101	BF20	5	19TH CENTURY	1 flow blue jug neck, 1 refined red ware small cup/jug with brown glaze, 1 refined red ware open form with mottled brown glaze with black flecks,1 white earthenware rim, 1 transfer printed dish with decoration in blue (see Griffin, J. D., 2012, 238 for similar pattern).
102	BF21	4	19TH CENTURY	1 teracotta plant pot base, 2 slip warepancheon ,1 white earthenware saucer/bowl.
104	BF22	11	15TH CENTURY	1 splashed white ware proto-York glazed, 6 Humber including small pipkin handle,,3 gritty ware, 1 reduced coarseware jar with thumbed rim. All slightly abraded.
212	BF23	1	MEDIEVAL	2 medieval coarseware jar sherds.
217	BF24	1	1150 TO 1250	1 developed Stamford ware.
402	BF25	1	ROMAN	1 Ebor-type ware rim.
503	BF26	3	LATE 12TH/EARLY 13TH CENTURY	2 gritty ware, 1 York glazed ware. All slightly abraded
801	BF27	3	LATE 13TH/EARLY 14TH CENTURY	3 Brandsby type sherds including rod handle from small jug and base of bowl.
804	BF28	4	LATE 14TH/15TH CENTURY	1 Hambleton type base, 1 gritty Brandsby jug rim, 1 gritty ware jar base lightly sooted, 1 coarsely gritted oxidised Humber type ware jar.
1001	BF29	3	LATE 12TH/EARLY 13TH CENTURY	1 gritty ware, 1 York glazed ware, 1 Roman abraded.

1101	BF30	1	13TH CENTURY	3 splashed/early Humber type ware
1401	BF31	1	ROMAN 1ST CENTURY	1 Ebor ware
1501	BF32	2	12TH CENTURY	2 splashed ware jug
1608	BF33	2	ROMAN 4TH CENTURY	1 Roman calcite gritted ware Huntcliffe type form 4th century abraded 1 fine unglazed sandy ware
1706	BF34	4	ROMAN 1ST/2ND CENTURY	4 Roman Ebor ware 1st/2nd century abraded

Table 1 Pottery by context

APPENDIX 3: CERAMIC BUILDING MATERIALS

A total of 41.959kg of ceramic building material and stone roof tile was recovered from the site, which ranged from Roman to modern in date. This was recorded to a standard YAT methodology.

Ten differing forms were present (Table 2), and all of the material was typical for York in terms of its fabrics, dimensions and the methods of manufacture. The Roman material comprised a sherd of Imbrex, four sherds of tegula and one sherd of indeterminate form (classified as Roman brick). A sherd of micaceous sandstone roof tile was probably also of Roman date.

DATE	FORM	WEIGHT IN GRAMS	PERCENTAGE OF TOTAL VOLUME
Roman	Imbrex	150	0.4
	Brick	75	0.2
	Tegula	1025	2.4
	Stone peg	975	2.3
Medieval	Flange	850	2.0
	Peg	1850	4.4
	Plain	17929	42.7
	Brick	5405	12.9
Modern	Field-drain	2900	6.9
	Brick	10800	25.7

Table 2 Ceramic Building Material by form

The earliest medieval material comprised two sheds of flanged roof tile of late 11th to early 13th century date; this form of tile is uncommon, and was usually associated with high status buildings such as churches or manor houses. Both these sherds were clearly the result of dumping (one in a medieval pit and the other occurring within the build-up of horticultural soil on the site) and they are not present in sufficient numbers to clearly indicate the presence of a high status building nearby. Medieval roofing tile of 13-16th century date included eight sherds of peg tile and 109 sherds where the method of fixing to the roof could not be determined (classified as plain tile). All the peg-holes were square (the dominant shape in York) and they ranged from 9-11mm in size. Two of the plain tiles had grip marks on the rear, one had an indented border and twelve had reduced cores. Fourteen sherds of medieval brick were present, all of which were made in sanded moulds. One of these bricks was very badly warped and clearly represented a waster.

The modern material on the site included a horse-shoe field-drain dating from sometime between the late 18th century to 1826 (when by law they had to be stamped with the word drain) was present. There were two sherds of slop-moulded brick of mid-18th century or latter date and one shed of machine made brick of late 19th century or later date.

The ceramic building material from the site was a small collection and nothing of note was present. The material is mainly of use to aid with the dating of the contexts from which it came (Table 3), but does not merit any further research.

CONTEXT	DATING	KEYWORDS
101	14-16th	Mbrick?, peg, plain
102	20th century	Brick
104	14-16th	Mbrick, Plain, Peg, Stone peg
217	13-16th	Plain
503	13-16th	Plain
505	13-16th	Plain, Roman brick
507	14-16th	Mbrick
702	Late 19th+	Brick
801	13-16th	Plain
804	Plain	Flange, plain
1001	13-16th	Plain
1101	13-16th	Plain
1103	1-4th	Tegula
1608	1-4th	Tegula
1700	Late 18th-1826	Field drain
1706	1-4th	Imbrex
2001	Late 11th-early 13th	Flange
2003	1-4th	Tegula

Table 3 Ceramic building material by context

APPENDIX 4: SMALL FINDS

Three small finds were recovered from these excavations, and comprised a pair of fired clay tobacco pipe stems of probable late 19th – early 20th century date (SF1, Context 101), some metalworking debris consisting of a smithing hearth bottom and two pieces of non-diagnostic slag (SF2, Context 104), and an unworked flint fragment (SF3, context 106).

Little can be said about this very small assemblage, apart from noting that the smithing hearth bottom and associated slag may be indicative of metalworking in the vicinity.

FIND	CONTEXT	NAME	MATERIAL
SF1	101	Tobacco Pipes	Fired Clay
SF2	104	Smithing Hearth Bottom, Non Diagnostic Slag	Slag
SF3	106	Unworked Fragment	Flint

Table 4 Small finds by context

APPENDIX 5: FAUNAL BONE

The faunal remains from St Joseph's Monastery, Lawrence Street, York, were assessed with a view to providing a preliminary characterisation of the species composition and preservation condition of faunal material from this site. 39 fragments were recovered from 6 contexts at the site, dating from the Roman and medieval periods. The assemblage was assessed in full.

1. METHODS

All material was identified to the lowest taxonomic level possible, and identifications were confirmed by comparison to reference specimens from the Department of Archaeology, University of York. Where identification to taxon was not possible (eg. for ribs, vertebrae, and shaft or cranial fragments without identifiable features), fragments were counted as unidentified. Basic age data (adult / sub-adult / juvenile) and level of fragmentation (completeness relative to whole bone) was recorded for each identifiable bone, and any further taphonomic information was recorded by means of notes for each context. Bone was defined as "adult" if fully-fused or teeth with wear; "sub-adult" if unfused; and "juvenile" if showing a poorly-mineralised bone texture and / or clearly juvenile size.

For each context, the overall assemblage condition was recorded using a qualitative scale (very good / good / reasonable / poor / variable), and the overall fragmentation was also recorded ("mostly complete" (A), "moderately fragmented" (B) or "highly fragmented" (C)). Brief taphonomic descriptions, including colouration and weathering, were also made for each context.

Bone was kept bagged by context following analysis. Data were stored as Excel spreadsheets. The assemblage was photographed according to the Hungate protocols, and images stored as .jpg files. NISP (Number of Identified Specimens) has been used as a descriptive quantification method throughout.

2. RESULTS

39 fragments were recovered from the site. Of these, approximately one quarter (10 fragments) were identified to taxon level.

2.1 ROMAN

The majority of the assemblage by fragment count (22 fragments) was recovered from Roman ditch contexts. However, fragmentation is higher in the 2 Roman contexts than in the later contexts (both recorded as C – heavily fragmented), and only 4 fragments were identified to taxon level. The condition was described as "poor", with significant spalling and surface degradation.

Context [2106] was the only context to contain identifiable material. This consisted of 3 fragments of cow femur and several refitting fragments of cow tibia. The shaft of the cow femur survived almost complete, with only the articular ends absent. It is possible that the tibia and femur belonged to the same animal, and this deposit represents the dumping of bulky refuse into ditch contexts, a practice recognised in the Roman period from elsewhere in the city (see Hungate reports for other examples).

2.2 MEDIEVAL AND LATER

Three contexts dating to the medieval period (503, 507, 804) contained animal bone, totalling 8 fragments. Three of these were identified as elements of cow (molar, humerus and metatarsal). The condition was described as reasonable, with fragmentation described as "B – moderately fragmented" or "C – heavily fragmented".

One context, [104], was described as a medieval or later "horticultural build-up". This comprised 9 fragments, of which 3 were identified as cow (scapula, mandible, astragalus). The sole mandible recovered was noted as coming from an elderly cow, with substantial tooth wear. The condition of the material was described as variable, and the fragmentation as "B – moderately fragmented". This is consistent with material recovered from a worked horticultural soil, which frequently incorporates reworked bone from various sources.

Cow was the only taxon identified from the medieval material. This is somewhat atypical for the medieval period in the city of York. While cattle predominate in the majority of medieval assemblages, it is unusual for other common taxa such as sheep, pig, chicken and goose to be entirely absent. It is likely that this is an artefact of the extremely small assemblage size, and this must remain the default explanation until such point as further material is recovered from the area.

3. RETENTION RECOMMENDATIONS

The assemblage is of a sufficiently small size that little further information may be retrieved and therefore the assemblage is of minimal extrinsic value. None of the material is therefore recommended for retention.

Context	104	503	507	804	1608	2106	Total
Cattle	3	1	1	1		4	**10**
Unid	6	4		1	12	6	**29**
Total	9	5	1	2	12	10	**39**

Table 5 Taxon representation by context. All figures given are NISP values.

APPENDIX 6: ENVIRONMENTAL ASSESSMENT

1. SUMMARY

A range of samples from pit and ditch fills assigned to the Roman and Medieval periods were submitted for processing and specialist environmental analysis. Analysis revealed a disparity between the botanical assemblages of the Roman and Medieval features, with numerous roots and only small volumes of anything else recovered from the earlier features, suggesting residuality and reworking. Nevertheless structural regeneration and industrial processes, especially metalworking, were implied and domestic hearth waste was tentatively suggested from occasional tiny fragments of bone and charcoal. The Medieval samples contained better assemblages, both in terms of artefactual and especially environmental materials. Hearth and cooking waste including both faunal remains and cereal processing was recovered from those samples, in addition to evidence of industrial processes, especially metalworking debris. The botanical assemblage from a 13th-15th C ditch fill (507) was particularly noteworthy, containing a large number of seeds of medicinal and/or fibre plants, which suggest debris from a possible physic garden or similar.

2. INTRODUCTION

Bulk soil samples from a series of ditch and pit fills from Roman and medieval periods were submitted for specialist analysis. The samples were processed and analysed to determine the range of inorganic materials and environmental evidence retained within the deposits. It was anticipated that comparative analysis of these samples would help determine the depositional and post depositional nature of the fills and contribute to the overall understanding of the archaeology of the site.

3. METHODOLOGY

3.1 BULK SAMPLE PROCESSING

Bulk samples were received within 10 litre plastic tubs, sealed to exclude light and air. They were floated for the recovery of environmental evidence and artefacts using standard methods and a *Siraf* flotation system including a bespoke pumped recycled water system with four settling tanks. Samples were disaggregated by agitating in water over a 500µm diameter mesh supported over a flotation drum. Light, primarily organic materials that floated as wash-over (flots) were retained on 500µm and 1mm calibrated mesh diameter *Endicot* sieves whilst other materials larger than 500µm that did not float remained on the mesh as the retent.

Wet retents were spread out on plastic trays and examined visually, then tagged and dried. The flot material was wrapped in blue acid-free paper, tagged and recorded before being air dried on trays in a warm drying room. Once dried, the retents were sieved using 4mm and 2mm *Endicot* sieves and sorted using magnified illuminated lamps for all categories of artefacts and ecofacts. A magnet was employed to locate magnetized stone and metals.

Sorting of flots was undertaken using a *Nikon 93756* binocular microscope at variable magnifications of between x8 and x40 with associated *Schott KL-1500 LCD* cold light source. Sorted materials were bagged and labelled for submission to specialists and weighed (where relevant) using an *Ohaus CS200* digital scale calibrated to 0.01g. Sorted residues were also weighed on a digital scale, bagged and stored pending decision regarding disposal.

3.2 BOTANICAL MATERIAL IDENTIFICATION

Botanical material from each sorted flotation retent was added to the corresponding flot before being sorted through calibrated sieves of 500µm, 1mm and 4mm mesh diameter. Charcoal >4mm was 50% or 100% identified in each case depending on volume in order to characterise the assemblage present. Charcoal identification in all cases was undertaken with reference to Schweingruber (1990) using the reflected light of a Zenith metallurgical microscope at X63 magnification. The botanical assemblage was 100% analysed for carbonised cereals, seeds and other macroplant remains. Cereal identification was achieved with reference to Jacomet (1987). Seed identification was undertaken with reference to Beijerinck (1947), Cappers (2006) and the Dickson botanical reference collection. Plant nomenclature follows Stace (1997) except cereals, which conform to Zohary & Hopf (2000).

3.3 FAUNAL REMAINS IDENTIFICATION

All faunal material recovered from the samples was examined at microscopic level and identifiable fragments assigned to the lowest taxonomic level possible. Identifications were made with comparison to reference specimens from the Zooarchaeological reference collections at the Dickson Laboratory and the Hunterian Museum. These were further supplemented with reference texts. Mammalian fragments that could not be identified, yet retained characteristics which enabled size estimation of the animal were assigned into the following categories; large mammal (eg. horse, cow, large deer), medium mammal 1 (eg. sheep, goat, pig, small deer), medium mammal 2 (eg. dog, cat, hare), small mammal (eg. rabbit, rodent). Where taxonomic identification was not possible, the following categories were used as general descriptors for bone fragments; unidentified mammal, unidentified fish, unidentified bird. Remaining fragments that could not be assigned to any of these categories, and fragments below 10mm in size without any size determinant characteristics were recorded as unidentified. All recorded identifications were compiled into a database of number of identified specimens (NISPs).

For each sample observations of bone preservation, colour, angularity of breaks and general fragment size were recorded using qualitative scales. This was completed in order to make general observations on the taphonomy of each context.

3.4 SHELL IDENTIFICATION

Marine bivalves were generally fragmented, although occasional slightly larger fragments were observed and identification was achieved using McMillan (1968).

4. RESULTS

Results are presented in Tables 6, 7 and 8 and discussed in detail below.

4.1 ROMAN (A.D.71 TO EARLY 5TH CENTURY)

Sample <1> Context (2003) Ditch fill

Sample 1 contained very small volumes of CBM and cinder. A small amount of magnetic material including stone and possible hammer scale was also recovered. Occasional slag spheres in association with hammerscale could be indicative of metal working within the immediate locus.

Only a few charcoal flecks were noted, and all were poorly preserved and too fragmentary for accurate identification. The sample also contained an abundance of roots, suggesting a

high degree of post depositional alteration of the deposit. No other botanical remains were present.

A total of three bone fragments were retrieved from context (2003) (NISP=3). Two of these were calcined and undiagnostic, both below 10mm in size. These were recorded as unidentified. The third chip was a fish bone, although it was too fragmentary for further identification and consequently was recorded as unidentified fish.

The number of fragments from this context is too few to give much information on taphonomy. The presence of calcined remains demonstrates that bone has been burnt at a high temperature. However without being able to identify the calcined bone the implications of this burning cannot be interpreted. Collectively, the assemblage is suggestive of residual general occupation detritus, probably including some industrial or structural waste.

Sample <3> Context (1606) Ditch fill

A large fragment of cream/yellow stone and possible building rubble was recovered from sample 3, along with occasional fragments of coal, cinder and CBM. Small amounts of magnetised stone and possible hammer scale were also recovered, suggestive of metalworking processes.

Charcoal was rare and only a few flecks were noted. Some botanical remains were recovered including one seed of fat hen (*Chenopodium album*), an entire silver birch fruit (*Betula pendula*) and one dock (*Rumex* sp) seed with partial tepal (papery seed coverings) fragments attached. Given the presence of the wings on the birch seed and fragmentary tepals on the dock it is quite feasible that these seeds are fairly recent in origin, possibly introduced through post depositional admixing. The abundance of root recorded would support this interpretation.

Only one fragment of bone was recovered from context (1606) (NISP=1). This was a 4x2x2mm fragment of burnt fish bone. The size of this fragment made it unsuitable for further identification other than to confirm that it was fish.

Sample <4> Context (1608) Ditch or gully fill

Sample 4 contained a significant volume of grey/white degraded limestone fragments that may have had structural origin, possibly relating to the demolition of buildings within the vicinity. A small volume of coal/cinder, magnetic stone and CBM were also recovered.

Occasional flecks of charcoal were noted and uncarbonised seeds of fat hen, fumitory (*Fumaria officinalis*) and nettle (*Urtica dioica*) were also recovered. However, as before, the abundance of roots implies bioturbation to suggest that it is quite feasible that these could be later contaminants.

A small number of bone fragments were recovered from sample <4> (NISP=12), the majority of which were less than 10mm and undiagnostic, hence recorded as unidentified. These were mostly white calcined bone. The remaining fragments were black burnt bone and un-burnt bone that was mid-brown in colour. Black bone indicates burning at lower than 1600^0C and so implies a cooler flame or less protracted burning than that required for bone to become calcined.
A further fragment was identified as a burnt piece of small mammal rib although this was too incomplete to enable more specific identification to be undertaken.

Overall the bone gives little further information as to the provenance of this sample. The presence of both burnt and calcined bone demonstrates different temperatures of burning and the preservation was fair, with fairly rounded edges suggesting some post-depositional wear. Consequently the bone is more suggestive of redeposition of materials from various burning episodes than a single deposition event. The burnt fragment of small mammal is not substantial enough to establish the purpose of burning, which could easily be a dead rodent thrown onto the fire, the remains of a meal of rabbit or some other eventuality. Collectively, the assemblage from this fill could suggest surface levelling using admixed and redeposited general urban waste.

Sample <5> Context (1706) Ditch fill
The sample contained a large fragment of laminated-sedimentary stone, which was black in colour with a possible flat worked surface on one side. Small amounts of coal/cinder, CBM and magnetic stone were also recovered. The magnetic stone could be roasted ore which becomes magnetic when heated, suggestive of industrial processes.

Few botanical remains were recovered other than an abundance of modern roots and one small fragment of carbonised hazel (*Corylus*) nutshell. Given the absence of other carbonised remains, it is quite feasible that this fragment reflects bioturbation or other reworking of material from an earlier or later deposit.

The bone recovered from sample <5> was exclusively white calcined bone (NISP=20). The assemblage consisted of undiagnostic bone chips below 10mm, recorded as unidentified. The fragments were fairly well preserved, with slightly rounded edges suggesting some post-

depositional wear. The presence of calcined fragments demonstrates that the bone has been burnt at a high temperature (above 1600^{0}C) for a protracted period, implying a well tended fire. Little more can be said about whether this burnt material relates to cooking waste or some industrial practice. However, the small volume, the state of preservation of the fragments and range of botanical remains collectively would concur with the suggestion of reworking and subsequent residuality.

Sample <6> Context (1708) Ditch fill

A small volume of coal/cinder and a very small volume of magnetic stone and possible hammer scale were recovered from sample 6. The only botanical remains noted were occasional small charcoal flecks. These were too poorly preserved and fragmentary to be further identifiable.

Similarly, very little bone was recovered from sample <6> (NISP=5). A small number of non-burnt fragments less than 10mm in size were recorded, all undiagnostic and hence recorded as unidentified. The fragments were uniformly mid-brown in colour and very poorly preserved, suggesting they had been subjected to similar taphonomic processes. This may be similarly close association with organic decomposition products, with midden contaminated ground water or another source. Regardless, a single rather than an admixed assemblage is suggested.

4.2 MEDIEVAL (12TH-16TH CENTURY)

Sample <2> Context (404) Ditch fill (Probably medieval)

Sample 2 contained a significant volume of limestone fragments, possibly derived from building materials. Small volumes of coal/cinder, slag, magnetic stone and possible hammer scale were recovered and occasional slag spheres were noted. A small volume of CBM fragments were also present. The assemblage is highly suggestive of debitage from industrial processes and metalworking.

Occasional fragments of charcoal were recovered and identified predominantly as oak (*Quercus*), with one fragment each of poplar/willow (*Populus*/*Salix*) and cherry type (Prunoideae). Evidence of cereal processing was recovered with poorly preserved indeterminate grain fragments, probably introduced through deposition of domestic hearth waste. The poor grain preservation may suggest prolonged burning at the edge of the hearth or loss during drying of wet grain. However, some abrasion as a result of reworking cannot be discounted as a further source of damage to the grain.

A total of 97 fragments of bone were recovered from context (404) (NISP=97), consisting mostly of highly fragmented chips below 10mm in size. These were undiagnostic and recorded as unidentified. The majority of them were non-burnt bone, ranging slightly in colour from mid-fawn to mid-brown and a small number were black burnt bone. The remaining chips were calcined. These last were predominantly white, with occasional dark grey patches to imply incomplete calcination.

Two pieces of fish bone were recovered but these were too fragmented for further identification and were recorded as unidentified fish.

The bone from context (404) displays a range of treatment of bones. The presence of both burnt and calcined fragments means that bone has been burnt at a range of temperatures. This could imply several fire-related events or that bone has been burnt at different distances from the epicentre of the fire, whether moving during raking or stoking. Although the presence of burnt bone is certain, the purpose of burning cannot be established because the fragments were too small for specific identification. The non-burnt bone demonstrated a slight range of colours, although without sufficient variation to suggest different events. All fragments from this context displayed similar levels of poor preservation and relatively rounded edges. This suggests that all have been subjected to similar taphonomic processes post deposition, potentially reworking within the same area of midden. The condition of the charcoal and cereal grain would support this interpretation

Sample <7> Context (503) Pit fill – 13th C

A significant volume of CBM was recovered from sample 7. A moderate abundance of magnetic stone and possible hammer scale was also recovered. In addition, a small volume of possible metal slag material and slag spheres were noted, indicative of substantial input from industrial waste. The pottery assemblage included shards of green glazed with a pink/orange fabric; orange with a grey/white fabric; orange with white pigment on outer surface and grey fabric. One fragment of porcelain type ceramic, possibly a rim fragment, was recovered. If contemporaneous with the deposition this could be particularly significant, as it would be an early example of this type.

Charcoal was derived from range of mixed woodland taxa, although oak was predominant. The oak, hazel, poplar/willow and ash (*Fraxinus*) may relate to industrial, structural or domestic processes, but birch (*Betula*) and cherry type are perhaps more likely to be domestic fuel waste. Cereal processing waste was indicated from one carbonised oat (*Avena sativa*) and occasional grains of oat/rye (*Avena*/*Secale*), along with typically associated cereal crop weeds including one carbonised trigonous sedge (*Carex* sp) seed,

and dock nutlet fragments. The sedge would concur with the oat grain to imply cultivation on marginal land. Two carbonised hazel nutshell fragments were also recovered. The botanical assemblages are highly suggestive of input from domestic waste including deposition of hearth rake out and debris from cereal processing.

A large number of fragments were recovered from sample <7> (NISP=230), the great majority of which were non-burnt bone chips below 10mm in size, suggesting butchery waste ahead of domestic consumption. They ranged in colour from light-fawn to mid-brown, although this colour disparity was not sufficient to imply significant taphonomic or depositional differences. A small number of white calcined bone chips also under 10mm were recovered. The remaining unidentified fragments were black burnt bone.

Four fragments of un-burnt bone between 10-15mm, and one 30mm in size, were recovered. Although they were not diagnostic of species, by size they were from a medium to large mammal.

A small number of specimens were identified further. One partial tooth, approximately 8x1x4mm in size, was recovered. This was too fragmented for taxonomic identification; however by size it was attributed to a medium to large mammal. Additionally, a third molar of sheep (*Ovis aries)* was also identified. The bone assemblage supports the botanical remains to imply domestic food preparation and hearth waste.

Sample <8> Context (505) Ditch fill – 13th-16th C

A copper alloy button was recorded from sample 8, with impressed lettering on the reverse, most of which was poorly preserved. A moderate amount of coal/ cinder and CBM was also recorded, together with some magnetic material, primarily stone and possible hammer scale. Small slag spheres were also recovered.

Botanical remains were not abundant and charcoal fragments were limited, identified as oak and birch. The fragments were poorly preserved and exhibited iron staining and silt infilling. Occasional carbonised cereals were recovered but were fairly abraded and vitrified so therefore indeterminate, but three were grains of probable oat/rye. The presence of carbonised cereals may be indicative of accidental loss during the parching stage of processing, and suggestive of prolonged exposure to heat. The vitrification and staining of them suggests post depositional transformation, probably related to groundwater level flux and close association with metallic debitage. No other botanical remains were recovered from this sample.

A number of bone fragments (NISP=79) was recovered from the sample, although by far the majority of these were undiagnostic bone chips under 10mm in size that were recorded as unidentified. Of these unidentified fragments, most were un-burnt bone. There was slight variation in colour between them from mid-fawn to mid-brown, although this was not deemed to be significant. The remaining unidentified fragments were white calcined bone. A further three fragments of non-burnt bone between 10-20mm were found, but were not diagnostic of species. By size they were attributed to a medium to large mammal.

An additional piece of tooth was found, approximately 2mm in size. This was too fragmentary for further identification than unidentified mammal.

The most notable fragment of bone was one fish vertebra, approximately 2mm in size. This was not identified to species but was from a moderate sized individual.

The preservation in context (505) was fair to poor. Many fragments demonstrated notably rounded edges, indicating they had been subject to a high level of post depositional wear. The presence of calcined bone demonstrates some burning at high temperatures. However since these fragments could not be identified to species, the purpose of burning cannot be established. Collectively the assemblage suggests deposition and at least some reworking of domestic midden material from a range of different events.

Sample <9> Context (509) Ditch fill – 13th-16th C
Sample 9 contained equal amounts of CBM, coal and cinder, with some magnetic material including stone (possibly roasted ore), hammer scale and some slag spheres. The industrial assemblage is indicative of waste from industrial processes such as metalworking. No pottery fragments were recovered from this sample.

Few charcoal fragments were recovered, including only oak and ash. The remaining charcoal assemblage consisted of very small, poorly preserved flecks with some degree of silt infilling that could not be identified with any confidence. Limited evidence of cereal processing was observed with carbonised grains of hulled 6-row barley (*Hordeum vulgare v vulgare*) and occasional indeterminate grains recovered, but no other botanical remains were noted.

By contrast to the botanical remains, a moderate amount of bone (NISP=66) was recovered from the sample. Predominantly, this comprised chips below 10mm in size, mostly white calcined bone, but also with some black burnt bone. Additionally a small number of non-

burnt bone chips were recovered; mid-fawn in colour with occasional black spotting to suggest either proximity to hot ashes or post depositional staining.

A further three fragments of non-burnt bone 10-15mm in size were recovered. These were not diagnostic of species but their size indicated that they were from a medium to large mammal.

One fragment of small vertebra, approximately 3mm in size, was recovered. This was not diagnostic of species but was recorded as small mammal, probably rodent. A fragment of amphibian radio-ulna was also recovered. This was recorded as frog/toad general (*Anura).* A further 2 fragments of unidentified fish bone were also recovered.

Collectively the bone assemblage from this sample is highly suggestive of domestic midden material including cooking waste with accidental inclusions from small wild species. It supports the small botanical assemblage and larger artefactual collection to suggest midden deposits including mixed urban waste.

Sample <10> Context (507) Ditch fill – 14th/15th C
Sample 10 contained several large sandstone fragments and a moderate number of smaller limestone fragments that may have had structural provenance. Further small volumes of coal/cinder, CBM, slag and magnetic material including stone and possible hammer scale were also recovered to imply industrial activities including probably structural demolition and/or urban regeneration on site. The pottery assemblage included a green glazed shard with greyish fabric.

Occasional charcoal fragments were recovered and identified as oak, hazel and alder (*Alnus*) but the remaining carbonised assemblage was limited to one indeterminate cereal grain. However, by contrast, the sample contained an abundance of uncarbonised seeds, primarily of fairly robust types. Many of the preserved seeds also displayed blue vivianite staining and encrustations which may suggest the context was once previously waterlogged, possibly with input from cess. Since the context was not described as currently waterlogged, these may be residual from a far larger assemblage. Although some of the seeds were from species that are relatively common weeds, many also have certain medicinal qualities, including fumitory (*Fumaria officinalis*), sun spurge (*Euphorbia helioscopia*), elder (*Sambucus nigra/racemosa*) and chickweed (*Stellaria media*). Others including flax (*Linum usitatissimum*) and hemp (*Cannabis sativa*) can be grown for fibres, oil or medicinal uses and do not compete well within the background urban weed flora. Similarly Together with the differing habitat requirements of the entire uncarbonised seed assemblage, the presence

of flax, hemp and sun spurge seed especially would imply that this assemblage is more than just a collection of weeds growing on waste ground. It is feasible that this assemblage is detritus from physic garden cultivation.

Three fragments of oyster shell (*Ostrea edulis*) were also recovered, probably as a result of deposition of household waste. Shell is commonly incorporated within soils to enrich them and the presence of shell concurs with the plant taxa identified to indicate highly organic, nutrient enriched soil.

A moderate bone assemblage was recovered from this sample (NISP=82). This was almost exclusively in the form of bone chips below 10mm in size, which were recorded as unidentified. The majority of these chips were un-burnt bone, all mid-brown in colour. The remaining chips were a mixture of white calcined bone and black burnt bone. The presence of both of these demonstrates burning at a range of temperatures. This may be a result of the fragments being at different distances from the epicentre of the fire, or from separate burning occurrences.

A further two fragments of small mammal long bones were found. These were burnt and black in colour. Their fragmented nature meant they could not be identified further but they could be residual from cooking, for vermin disposal or another provenance. The range of finds indicates domestic household debitage including hearth and probably butchery waste.

Sample <11> Context (804) Ditch fill - 14th/15th C

A significant volume of limestone fragments, and small quantities of CBM, coal/cinder, magnetic stone and hammer scale were recovered from sample 11. Fragments of indeterminate brown coloured concretions incorporating stone, CBM, charcoal and quartz inclusions were also recovered. The pottery assemblage was composed of 4 shards: orange/pink banded with grey fabric and green glazed with a white fabric and roulleting.

A moderate abundance of charcoal was identified, predominantly oak, with some ash, alder and cherry type fragments. Some evidence of cereal processing was recorded with the presence of two indeterminate carbonised cereal grains but no other carbonised plant macrofossils were recovered. Uncarbonised seeds of fumitory and elder were recovered in some abundance, suggestive of soil enrichment as elder does not thrive on nutrient poor soils.

A moderate bone assemblage was recovered from this sample (NISP=85), of which the greatest number were non-burnt bone chips below 10mm in size. These fragments ranged

in colour slightly from mid-fawn to mid-brown, a variation that was not necessarily significant. The remaining bone chips less than 10mm were white calcined bone, demonstrating that they have been burnt at a high temperature and implying cooking waste of industrial practices.

The remaining fragments were un-burnt and between 10-20mm. They were not diagnostic of species, although by size they must have been from a medium to large mammal.

The preservation of these fragments was fair, with some small signs of post depositional wear. The fragments did not display a significant range of colour or other notable indicators of reworking, suggesting that they were deposited in similar conditions. Collectively, the assemblage is in keeping with most of the others from this site to imply mixed urban waste form industrial and domestic sources.

5. DISCUSSION

5.1 ARTEFACTS

Many of the samples contained evidence of industrial processes, including slag, slag spheres and hammerscale. These remains would indicate the practice of smithing, and would have occurred within the immediate vicinity as hammerscale and slag spheres are never found far from the anvil (Starley 1995). Slag spheres results from the solidification of small droplets of liquid slag expelled from within the iron during hot working. This happens particularly when two components are fire-welded together, but also during the primary smithing of the bloom into a bar or billet.

The industrial debris recovered is similar to assemblages found at other known late medieval iron working sites such as Crawley, West Sussex. The remains from this site also included clay floors, pits, ditches and hearths as well as large deposits of smelting slag, smithing/forging slag and hammerscale, and small quantities of roasted ore (Cooke 2001). The magnetic stone recovered from some of the St. Josephs samples may be roasted ore as this becomes magnetic when heated. Roasting or calcining was carried out prior to smelting in order to oxidize the ore, remove water, and break it down into smaller pieces (Bayley *et al* 2001).

A small round copper alloy button was recovered from sample 505; a medieval context assigned a 13th–16thC date. The face was badly corroded and no decipherable decoration was observed. The back of the button included an eyelet/loop which had been folded back and some impressed/engraved lettering was observed but no words were legible.

Context (503) sample <7> contained pottery assigned a 13th century date and tile of a 13th-16thC date. The context also contained a rim fragment, probably made from porcelain, although this would need specialist confirmation. The presence of it here is particularly significant as porcelain was not manufactured in Europe until the 16th century, suggesting that if it is indeed porcelain, it must be an import from China.

5.2 CHARCOAL

Charcoal was not abundant within the Roman samples, with only very degraded flecks noted that were not identifiable. Many of the flecks were fragmentary and friable, with iron staining and silt infilling masking many of the identifiable features.

The predominance of oak within the medieval samples may imply industrial activities and/or structural remodelling. Oak burns at temperatures in excess of 1670^{0}C (Tylecote 1962) and the wood is usually preferentially selected for burning in industrial processes wherever possible, with ash also widely used for similar purposes. Both oak and ash are also selected as timbers for use in construction so the presence of these types of charcoal could be the result of construction and industrial activities, or the salvaging and re use of structural timbers for smithing.

The medieval samples exhibited a fairly varied charcoal assemblage, although not in any great abundance. Oak was most common, which may reflect the recurrence of metalworking waste or be an artefact of preservation, since oak often remains readily identifiable, even when poorly preserved. Nevertheless, the non-oak charcoal assemblage at least probably reflects collection of fuel from local mixed deciduous woodland resources, particularly notable in context (503). Alder, hazel, birch, cherry type and poplar/willow could reflect either structural elements including wattle panelling or collection for kindling, whether for domestic hearths or industrial fires.

5.3 CEREALS

Many of the grains were fairly abraded and vitrified suggestive of accidental loss during the parching processing and subjected to direct heat for a considerable period of time. A high proportion if indeterminate cereals are suggestive of this kind of exposure. The few cereal grains recovered were identified as oat, oat/rye and possible hulled 6-row barley, indicative of poorer soils as these cereal types can typically thrive on nutrient poor soils where other types fail to grow.

5.4 SEEDS

Very few seeds were recovered from the Roman samples, with only robust types identified that could be later contaminants introduced through bioturbation. The medieval samples contained a greater and more varied assemblage, particularly sample <10>.

Context (507) sample <10> was not waterlogged but contained an abundance of uncarbonised seeds, many of which had evidence of blue staining or contained a blue powdery residue, probably vivianite caused by biomineralisation (replacement of organic material by minerals). This is usually indicative of waterlogging and the context was probably previously at least partially waterlogged, potentially with a degree of input from cess.

The seeds were all typically fairly robust types and may represent selective preservation of a significantly more diverse assemblage. Many of these seeds have particular medicinal and/or medical properties and the close association of them here is suggestive of the relicts of a garden with physic components.

Linseed/flax capsule fragments were recovered, some still containing seeds although very poorly preserved. Linseed/flax has been grown historically for human and animal food and for the stem fibres from which linen is manufactured (Renfrew 1973, Dickson & Dickson 2000). Flax needs fertile well drained soil and cannot tolerate heavy rains or frost. The plant does not compete well with weeds so must be well maintained indicating intentional and careful cultivation. Linseed oil can be used as a laxative and the seeds retain heat for use in poultices (Dickson & Dickson 2000).

Frequent hemp seeds were also recovered from this sample, and flax and hemp can both be grown for fibres. Unless the resin of hemp was also found it is unlikely that the finds of seeds would indicate whether it was grown for fibre, oil or medicine (Dickson & Dickson 2000).

Fool's parsley (Aethusa cynapium) is a toxic plant which can easily be confused with edible parsley, but has a pungent smell that differentiates it from the edible species. Fool's parsley was frequent in this sample but also occurs as a weed on cultivated ground. It has been used historically to treat gastro intestinal disorders and as a sedative (Stuart 1989).

Seeds of sun spurge (*Euphorbia helioscopia*) were also recovered. The irritant sap of sun spurge has historically been used for the treatment of warts and numerous other uses (Stuart 1989). Seeds of fumitory (*Fumaria officinalis*) were recovered from the sample and the plant is a common weed of gardens, arable fields and waste places. It is associated with

cultivation for medicinal purposes and had in the past been considered useful to treat skin conditions. Furthermore, the flowers produce a yellow wool dye (Stuart 1989).

Elder is usually prolific on the enriched fertilised soils that result from the deposition of domestic waste. Midden deposition was evident in many of the samples, but elder was only present in samples <10> and <11> indicating significant enrichment and organic input within these particular contexts. It is found growing in hedgerows, wasteground and abandoned cultivated land and the flower and berries are edible have many culinary uses (Mabey 1996). Elder seeds are amongst the most robust of all weed seeds, so the absence of them from other samples must be considered likely to be real rather than an artefact of preservation.

Two of the samples contained fragments of carbonised hazel nutshell, but the presence of them here may be residual from earlier deposits. Hazel nutshells are commonly recovered from archaeological sites of many periods ranging from the Mesolithic to later prehistoric and historic periods (Dickson & Dickson 2000). The nuts are rich in nutrients including fats, starch and sugar and may have been used as a food source when other foods and crops were not available.

5.5 BONE

Generally, the bone recovered from the Roman samples was highly fragmented and in a relatively poor condition. This is not entirely unexpected, since the hand collected bone was also greatly fragmented. Unfortunately, this results in a limited number of identified species. The presence of fish and small mammal were noted, indicating a varied dietary range.

A mixture of burnt, calcined and un-burnt fragments was found across the Roman samples. This demonstrates burning at different temperatures and at least some is likely to represent disposal of food waste on a domestic hearth. No burnt material was noted in the hand collected bone; suggesting that the burnt material found in the samples reflects different means of disposal of meat residues. This further suggests that only small fragments were disposed of in this way, perhaps directly from the dinner plate whilst larger bones were taken out to the midden. It is also feasible that this discrepancy reflects variation in processing, with the hand collected material possibly from wider scale butchery (and disposal of larger bones) whilst the burnt material is directly as a result of daily consumption.

Overall there was little range in the colour of the non-burnt bone, either within or across the contexts to suggest similar post-deposition environmental conditions. However, overall the condition of the medieval bone fragments was slightly variable. Although some elements were identifiable, many fragments had well rounded edges, suggesting some post-

depositional wear. This would suggest a degree of reworking, although possibly very localised.

The overall preservation of the medieval bone recovered from the samples was better than the earlier Roman material. However, the samples were still dominated by unidentifiable fragmentary chips. Nevertheless, sheep, frog/toad, unidentified fish, small mammal and medium to large mammal were all recorded within the medieval bulk samples. Together, these suggest discard of domestic waste onto damp middens within which rodents and amphibians coexisted. This is strengthened by the presence of burnt, calcined and un-burnt bone.

Context (503) in particular is of note, given that it contained the most identifiable elements, but also because it is the only sample where bone was also recovered by hand. Cow (*Bovis Taurus*) was the only species identified from the hand collected bone. Combined with the sheep tooth, this supports the interpretation of discarded domestic food processing waste.

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	Sample information (Volumes in L)				Sorting %		Sample weights (g)																		
Context	**Num**	**Type**	**Vol**	**RVol**	**Enviro**	**CBM**	**C.V.**	**Plant macros**	**Wood**	**Bone**	**Shell**	**Pottery**	**CTP**	**CBM**	**Metal**	**Glass**	**Slate**	**Mortar**	**Coal**	**Plaster**	**Stone**			**Industrial**	
																					Lithic	Wked	Other	Slag	Other
1		GBA	10	0.20	100	100								2.70	0.20				0.70						
2		GBA	10	0.50	100	100	2.01							1.60	0.80				3.20					0.60	
3		GBA	10	0.50	100	100	0.32							0.50	0.10				3.00						
4		GBA	10	0.30	100	100	0.46							1.00	0.20				0.50						
5		GBA	10	0.20	100	100								0.10	0.10				0.10						building rubble 133.9
6		GBA	10	0.40	100	100	0.01								0.10				0.90						
7		GBA	10	0.80	100	100	7.44					3.10		22.60	3.00				41.70					0.40	
8		GBA	10	0.50	100	100	0.25							1.40	0.70				3.20					0.10	copper/alloy button 22.6
9		GBA	10	0.50	100	100	0.24							1.50	2.10				1.10						unidentified material 0.9
10		GBA	10	0.20	100	100	1.25				0.40	10.80		1.60	0.80				2.40				1500.00	0.10	
11		GBA	10	0.50	100	100	3.41					21.80		3.10	0.40				2.60				100.50		

Table 6 Retent sorting results

		Roman						Medieval					
St. Josephs Lawrence St. 5719	**Context**	**2003**	**1606**	**1608**	**1706**	**1708**		**404**	**503**	**505**	**509**	**507**	**804**
Yorym '13 681	**Sample**	**1**	**3**	**4**	**5**	**6**		**2**	**7**	**8**	**9**	**10**	**11**
Flot Composition (1-5 abundance scale)	**Total flot volume**	**5ml**	**<10ml**	**20ml**	**40ml**	**8ml**		**20ml**	**25ml**	**60ml**	**20ml**	**50ml**	**<5ml**
Charcoal		+	+	+	-	+		++	+++	+	++	++	+++
Cinder		+	+	+	-	++		+++	++++	+++	+++	-	++
Coal		++	++	-	-	++		+	++	-	+	-	++
Bone		-	+	-	-	-		+	++	-	+	+	-
Seeds		-	++	+	-	-		-	+	-	-	++++	+++
Cereals		-	-	-	-	-		++	++	++	++	+	+
Slag sphere		+	-	-	-	-		++	+	+	+	-	-
CBM		-	-	-	-	-		+	-	-	+	+	-
Mortar		-	-	-	-	-		-	-	-	+	-	-
Roots		+++++	+++++	+++++	+++++	+++++		++++	++++	+++++	++++	+++++	++++
Total Charcoal (F+R)													
Charcoal >4mm		0ml	0ml	0ml	0ml	0ml		0ml	2.5ml	<2.5ml	0ml	<5ml	<5ml
Charcoal <4mm		<<2.5ml	<<2.5ml	<<2.5ml	0ml	<<2.5ml		2.5ml	5ml	<.5ml	<2.5ml	<2.5ml	2.5ml
% ID >4mm		0	0	0	0	0		0	100	100	0	100	100
% ID <4mm		0	0	0	0	0		50	0	100	100	100	100
Charcoal AMS option Y / N		N	N	N	N	N		N	N	N	N	N	N
Charcoal	**common name**												
Alnus	alder	-	-	-	-	-		-	-	-	-	1 (0.05g)	1 (0.01g)
Betula	birch	-	-	-	-	-		-	3 (0.06g)	1 (0.01g)	-	-	-
Corylus	hazel	-	-	-	-	-		-	1 (0.02g)	-	-	2 (0.03g)	-
Fraxinus	ash	-	-	-	-	-		-	2 (0.05g)	-	2	-	2

											(0.01g)		(0.17g)
Populus/Salix	poplar/willow	-	-	-	-	-		1 (0.03g)	3 (0.08g)	-	-	-	-
Prunoideae	cherry type	-	-	-	-	-		1 (0.02g)	2 (0.03g)	-	-	-	1 (0.04g)
Quercus	oak	-	-	-	-	-		5 (0.06g)	12 (0.25g)	3 (0.10g)	1 (0.02g)	5 (0.07g)	8 (0.48g)
Cereals (carbonised)	**common name**												
Avena sativa	oat	-	-	-	-	-		-	1	-	-	-	-
Avena/Secale	oat/rye	-	-	-	-	-		-	7	-	-	-	-
cf Avena/Secale	oat/rye	-	-	-	-	-		-	-	3	-	-	-
cf Hordeum vulgare v vulgare	hulled 6-row barley	-	-	-	-	-		-	-	-	2	-	-
Indeterminate cereal fgmt.		-	-	-	-	-		7	-	7	3	1	2
Seeds (carbonised)	**common name**												
Carex (trigonous)	sedge	-	-	-	-	-		-	1	-	-	-	-
Seeds (uncarbonised)	**common name**												
Aethusa cynapium	fools parsley	-	-	-	-	-		-	-	-	-	16	-
Cannabis sativa	hemp	-	-	-	-	-		-	-	-	-	12	-
Chenopodium album	fat hen	-	1	2	-	-		-	-	-	-	>25	-
Euphorbia helioscopia	sun spurge	-	-	-	-	-		-	-	-	-	5	-
Fallopia convulvulus	black bindweed	-	-	-	-	-		-	-	-	-	2	-
Fumaria officinalis	fumitory	-	-	2	-	-		-	-	-	-	>25	12
Galeopsis cf tetrahit	hemp-nettle	-	-	-	-	-		-	-	-	-	1	-
Lamium sp	deadnettle	-	-	-	-	-		-	-	-	-	12	-
cf Linum usitatissimum (vpc)	flax	-	-	-	-	-		-	-	-	-	14	-
Ranunculus acris	meadow buttercup	-	-	-	-	-		-	-	-	-	4	-
Ranunculus repens/bulbosus	creeping/bulbous buttercup	-	-	-	-	-		-	-	-	-	13	-
Rumex sp	docks	-	-	-	-	-		-	-	-	-	5	1
Sambucus nigra/racemosa	elder	-	-	-	-	-		-	-	-	-	14	11
Sonchus asper	prickly sow-thistle	-	-	-	-	-		-	-	-	-	10	-
Sonchus oleraceus	smooth sow-thistle	-	-	-	-	-		-	-	-	-	4	-
Stellaria media	common chickweed	-	-	-	-	-		-	-	-	-	15	-
Urtica dioica	nettle	-	-	1	-	-		-	-	-	-	-	1
Urtica urens	dwarf nettle	-	-	-	-	-		-	-	-	-	2	-
Other (carbonised)	**common name**												
Corylus nutshell fgmt.	hazel nutshell fgmt.	-	-	-	1 (0.01g)	-		-	2 (0.03g)	-	-	-	-
Rumex sp tepal fgmt	docks	-	-	-	-	-		-	2	-	-	-	-
Other (uncarbonised)	**common name**												
Betula cf *pendula* fruit	birch	-	1	-	-	-		-	-	-	-	-	-
Linum usitatissimum capsule fgmt.	flax capsule fgmt.	-	-	-	-	-		-	-	-	-	4	-
Rosaceae thorn	rose type thorn	-	-	-	-	-		-	-	-	-	1	-
Rumex sp tepal fgmt	docks	-	3	-	-	-		-	-	-	-	-	-
Marine Shell	**common name**												
cf *Ostrea edulis* fgmt.	oyster	-	-	-	-	-		-	-	-	-	3 (0.42g)	-

Table 7 Environmental Assessment results

Context	2003	404	1606	1608	1706	1708	503	505	509	507	804	Total
Sample	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
weight (g)	0.4	1.7	0.2	1.1	0.19	0.63	25.9	3	2.7	4.2	23.07	**63.09**
sheep (*Ovis aries*)							1					**1**
frog/toad (*Anura*)									1			**1**
small mammal				1						2		**3**
medium to large mammal								3	3		5	**11**
unidentified fish	1	2	1				4	1	2			**11**
unidentified	2	95	0	11	20	5	225	75	60	80	80	**653**
Total NISP	**3**	**97**	**1**	**12**	**20**	**5**	**230**	**79**	**66**	**82**	**85**	**680**

Table 8 Animal bone results