ARCHAEOLOGICAL MONITORING AND STRIP, MAP AND SAMPLE RECORDING ON LAND AT WHITEHALL FARM, CROWNTHORPE ROAD, CROWNTHORPE, WICKLEWOOD, NORFOLK (ENF 131411)

Work Undertaken For
Richard Long Ltd

December 2013

Report Compiled by
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National Grid Reference: TG 0906 0348
Planning Application ref: 2012/2249/F
Museum Accession No: NWHCM: 2013.120
OASIS Record No: archaeol1-151268

APS Report No: **59/13**

ARCHAEOLOGICAL PROJECT SERVICES

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1. SUMMARY

Archaeological monitoring and strip, map and sample recording was undertaken on land at Whitehall Farm, Crownthorpe, Wicklewood, Norfolk. The site was archaeologically sensitive, lying within an area of cropmarks of unknown date and probably representing enclosures. Prehistoric, Roman and medieval finds had been made in the vicinity.

The investigation revealed a ditch and several pits of early medieval 11th to mid 12th century date with finds suggesting the close proximity of one or more households. Environmental evidence suggested the cultivation of cereals including hulled barley, rye and free-threshing wheat along with trade in marine resources, probably with Norwich.

Artefacts retrieved comprised Roman and 11th to 13th century medieval pottery, fired clay, quernstone, animal and fish bone and oyster shell.

2. INTRODUCTION

2.1 Definition of an Excavation

An archaeological excavation is defined as, *"a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during the fieldwork are studied and the results of that study published in detail appropriate to the project design"* (IfA 2008).

2.2 Planning Background

Planning permission (2012/2249/F) had been granted by South Norfolk District Council to construct a biomass renewable energy plant at Whitehall Farm, Crownthorpe Road, Crownthorpe, Wickelewood, Norfolk.

Permission was granted with archaeological conditions. No development was to take place other than in accordance with an approved written scheme of investigation (WSI) for archaeological monitoring and subsequent strip, map and sample recording.

This work was undertaken by Archaeological Project Services (APS) between 7th and 10th May 2013 in accordance with a WSI (Appendix 1) prepared by APS and approved by the Planning Archaeologist of Norfolk County Council.

2.3 Topography and Geology

The site at Whitehall Farm is located off Crownthorpe Road, approximately 2.4km northwest of Wymondham and 0.65km northeast of Crownthorpe in the parish of Wicklewood, Norfolk (Fig 1) centred on NGR TG 0906 0348 (Fig 2). The site lies within a gently undulating landscape at around 34m OD on soils of the Burlingham 1 Association, deep coarse and fine loamy soils developed on chalky till and glaciofluvial drift (Hodge et al 1984).

2.3 Archaeological Setting

Prehistoric artefacts including worked flints, a Neolithic axehead and scrapers have been found approximately 1km to the east of the site (NHER ref 11934).

A Scheduled Monument (SM 30628) located approximately 650 metres to the south is believed to represent the remains of a Romano-Celtic temple. Pottery and other artefacts recovered in fields to the

north of the temple site indicate the site of a possible Roman settlement. The line of a Roman road between Caistor St Edmund and Crownthorpe, principally visible as earthworks, soilmarks and cropmarks on aerial photographs, lies approximately 1km to the southeast of the site.

The Norfolk Historic Environment Record (NHER) contains a reference (29469) to cropmarks, revealed by aerial photography in 1989/90, of a possible rectangular building inside a larger enclosure, along with other linear features, within, and east of, the eastern part of the current site.

Fieldwalking in 1983 on the area immediately north of the site, now occupied by sheds and concrete hardstanding, produced prehistoric flints and multi-period pottery sherds (NHER ref 25505). A watching brief undertaken in 2009 during development of the northern part of this area, did not identify any surviving archaeological remains although this may be due to unobserved reduction of the site (Hodges 2009).

Immediately to the north of Whitehall Farm cropmarks of another undated enclosure are known (NHER ref 21720). However, small quantities of medieval pottery have been recovered within this area (NHER ref 13500).

Whitehall farmhouse (NHER ref 8909) dates to the 18th century but may include a 17th century core. It is shown within a moat on a map of 1725.

3. AIMS AND OBJECTIVES

The aims of the monitoring were to archaeologically excavate and record features in the areas of excavation and to record and interpret any archaeological features exposed during other groundworks.

The primary objectives of investigations were to determine the form and function of the archaeological features encountered, their spatial arrangement and, as far as practicable, to recover dating evidence from them and to establish the sequence of the archaeological remains present on the site.

4. METHODS

The area of development, comprising 1.19 hectares, was stripped of topsoil by mechanical excavator under archaeological supervision (Fig. 3, Plate 2).

Removal of topsoil and other overburden was undertaken using a toothless ditching bucket. The exposed surfaces of the trenches were then cleaned by hand and inspected for archaeological remains.

Each deposit exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their interpretations appears as Appendix 2. A photographic record was also compiled and sections were drawn at a scale of 1:10 and plans at 1:20. Recording of deposits encountered was undertaken according to standard Archaeological Project Services practice.

The location of the trench edges and features was surveyed using a Thales Global Positioning System (GPS).

Following excavation, the records were checked and a stratigraphic matrix produced.

5. RESULTS

The results of the archaeological investigation are described below. The numbers in brackets are the context

numbers assigned in the field.

The natural deposit revealed across the site was a moderately firm mid yellowish brown boulder clay/glacial till (002) with occasional patches of sand, common chalk flecks and common small to medium rounded and angular flints. This deposit contained significantly more flint at the west end of the site. The natural deposit was cut by a number of features.

Towards the west end of the site were two closely spaced sub-rectangular pits (Fig 4]. Pit 004 (Fig 7, Section 2, Plate 3) had near vertical sides and a flattish base and was filled with mid greyish brown clayey silt (003) which contained Roman and 11th to 12th century medieval pottery, animal bone and oyster shell. Adjacent pit [007] (Fig 7, Section 2, Plate 4) also had near vertical sides and a flattish base. Lower fill (006) was 0.35m thick mid brown, with yellowish brown mottles, clayey silt containing Roman and 11th to 12th century medieval pottery, some of it sooted, and animal bone and oyster shell. This was overlain by 0.12m thick dark greyish brown clayey silt (005) which had a high charcoal content and contained Roman and 11th to 13th century medieval pottery, fired clay and animal bone. Some of the pottery from this context was also sooted. An environmental sample from this fill produced an abundance of charred cereal grain along with legumes and fish bones suggesting the discard of food remains.

Immediately east of this pit a 17.5m length of NNE-SSW aligned linear feature [009] (Fig 4, Fig 7, Section 3) was recorded, having been truncated by ploughing at either end. This gully had a steeper west side than east side with a narrow base. It was 0.59m wide and 0.3m deep and filled with mid yellowish greyish brown clayey silt (008) which contained oyster shell.

In the central part of the site, two further adjacent pits were recorded (Fig 5). Ovoid pit [011] (Fig 7, Section 4, Plate 5) had fairly steep sides and a flat base. It was 0.75m wide and 0.35m deep and was filled with mid greyish brown clayey silt (010) which contained 11th to 12th century medieval pottery. Adjacent sub-circular pit [014] (Fig 7, Section 5, Plate 6) was 1.3m in diameter, 0.55m deep and had steep sides and a flattish base. Lower fill (013) was 0.4m thick mid yellowish greyish brown clayey silt containing 11th to mid 12th century pottery. It was sealed by 0.2m thick dark greyish brown clayey silt (012) which contained pottery of similar date.

Twenty metres to the east were two smaller pits (Fig 5). Sub-oval pit [026] (Fig 7, Section 10) had concave sides and a flat base and measured 0.8m long, 0.55m wide and 0.15m deep. It was filled with mid greyish brown clayey silt (025) which contained 11th to 13th century pottery. An environmental sample from this fill produced charred barley grains.

Adjacent sub-rectangular pit [027] (Fig 7, Section 11) had steep sides and a flattish base and was 0.78m by 0.67m and 0.37m deep. Its dark greyish brown silty sand fill (028) contained only Roman pottery but this was probably residual especially as it was abraded and an environmental sample produced rye and free-threshing wheat, typical medieval crops.

Immediately west of these features was an undated north-south aligned ditch [016] (Fig 5, Fig 7, Section 6, Plate 7). This had steep sides and a rounded base and was at least 52m long, 1.3m wide and 0.54m deep. It was filled with mid greyish brown clayey silt (015).

In the eastern part of the strip was a ditch which was aligned north-south for 25m from the south baulk of the site before veering to the northeast. Its course was then rendered indistinct by dumper ruts in

the northeast corner of the site (Fig 6). Two segments were excavated through the ditch. On the straight portion, segment [018] (Fig 7, Section 7) had convex sides and a rounded base and was 1.25m wide and 0.59m deep. Its dark greyish brown clayey silt fill (017) contained 11th to mid 12th century medieval pottery and fired clay. A further segment [022] (Fig 7, Section 9, Plate 8) was excavated through the ditch where it turned to the northeast. At this point it was 1.12m wide and 0.46m deep with fairly steep sides and a rounded base. Lower fill (024) was 0.2m thick mid to dark brown clayey silty sand (024). This was sealed by 0.26m thick dark greyish brown silty sand (023) which contained 11th to mid 12th century medieval pottery and quernstone fragments.

The ditch was probably part of an enclosure and a single feature, ovoid pit [021] (Fig 5, Fig 7, Section 8) was recorded east of it. This had steep sides and a flat base. It measured 0.95m by 0.6m n plan and was 0.35m deep. Its dark greyish brown sandy silt fill (020) contained animal bone. An environmental sample produced barley and bean seeds and hazelnut shells.

6. DISCUSSION

The natural deposit across the site was chalky boulder clay or glacial till.

The curvilinear ditch at the east end of the site was probably the enclosure revealed as a cropmark by aerial photography and this was dated to the 11th to mid 12th centuries by the pottery. It also contained fragments of imported Rhenish lava quernstone which were imported from Germany from the Roman period to the medieval period. It seems most likely that the fragments recovered here are medieval but residuality cannot be ruled out, especially given the presence of Roman ceramics at the site.

The pits excavated in small groups across the site provided evidence of domestic activity, containing pottery also of early medieval 11th to mid 12th century date. Some of the pottery was sooted suggesting cooking. Dwellings were probably located in the immediate vicinity, their remains probably having been truncated by centuries of ploughing.

Environmental samples from the pits suggested they were used for domestic waste with evidence of charred food remains suggesting the disposal of hearth debris. The cereals formed a typical medieval assemblage including hulled barly, free-threshing wheat, rye and oats. However, the samples produced no firm evidence of crop processing within the site. Marine shell and fish bones in pit [007] probably indicate trade with the nearby port of Norwich.

Residual pottery in some of the features provided further evidence of Roman activity in the area.

The undated north-south ditch was probably a later, post-medieval field boundary.

7. CONCLUSIONS

Archaeological monitoring and strip, map and sample recording was undertaken on land at Whitehall Farm, Crownthorpe, Wicklewood, Norfolk as the site was archaeologically sensitive, lying within an area of cropmarks probably representing enclosures of an unknown date,

The investigation revealed an enclosure ditch and several pits of early medieval 11th to mid 12th century date containing domestic food waste suggesting the close proximity of a household or households.

Artefacts retrieved comprised Roman and

11th to 13th century medieval pottery, fired clay, quernstone, animal and fish bone and oyster shell.

8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Richard Long Limited for commissioning the fieldwork and post-excavation analysis. The work was coordinated by Dale Trimble who edited this report along with Tom Lane.

9. PERSONNEL

Project Coordinator: Dale Trimble
Site Supervisor: Mark Peachey
Surveying: Chris Moulis
Finds Processing: Denise Buckley
Photographic reproduction: Mark Peachey
CAD Illustration: Mark Peachey
Post-excavation Analyst: Mark Peachey

10. BIBLIOGRAPHY

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales **13**

Hodges, L., 2009 *An Archaeological Watching Brief at Whitehall Farm, Crownthorpe, Norfolk* NAU Archaeology Report no. **2239**

IfA, 2008 *Standard and Guidance for Archaeological Evaluation*

11. ABBREVIATIONS

APS Archaeological Project Services

IfA Institute for Archaeologists

NAU Norfolk Archaeology Unit

NHER Norfolk Heritage Environment Record

OD Ordnance Datum

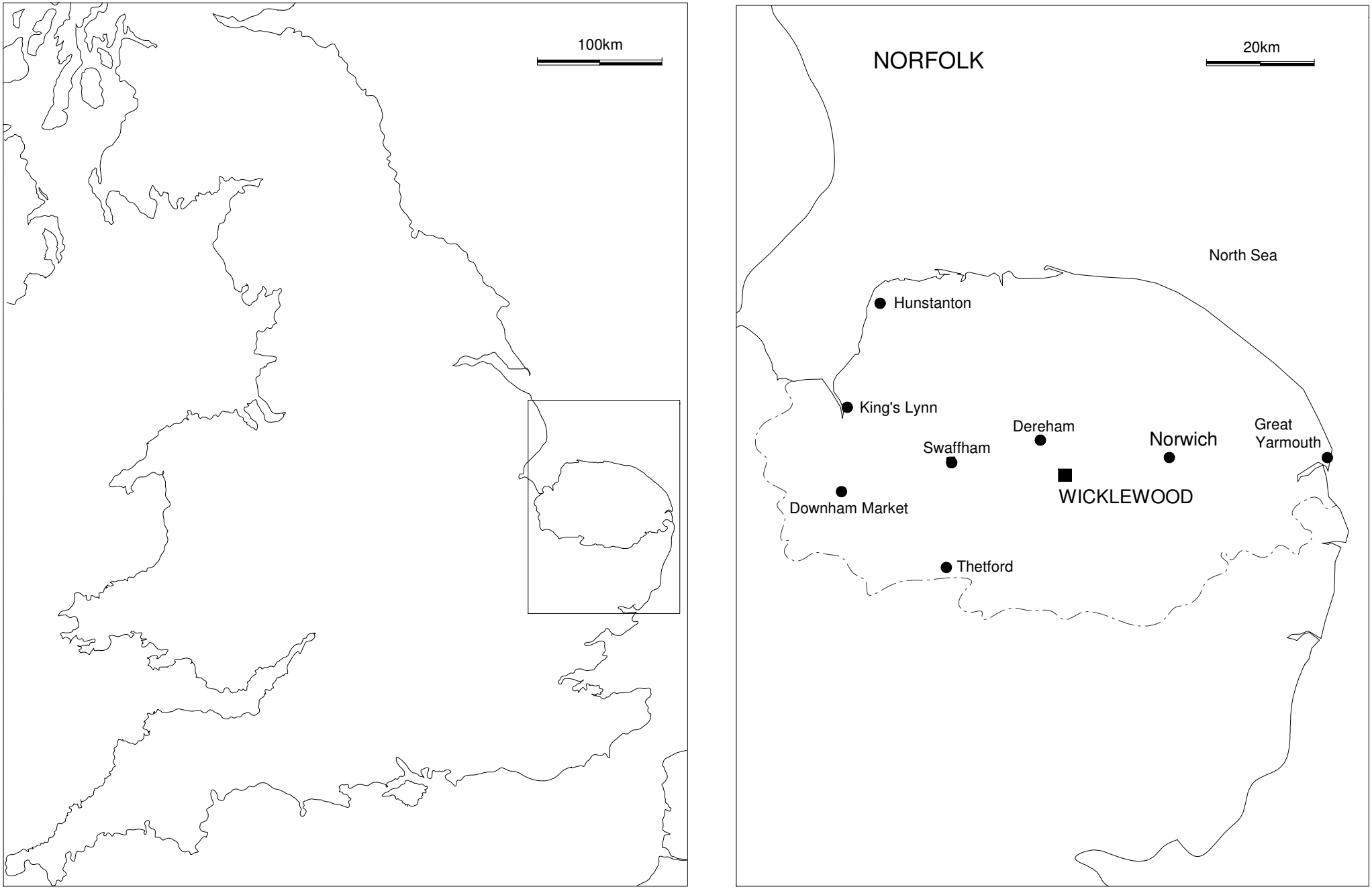

Figure 1 General Location Plan

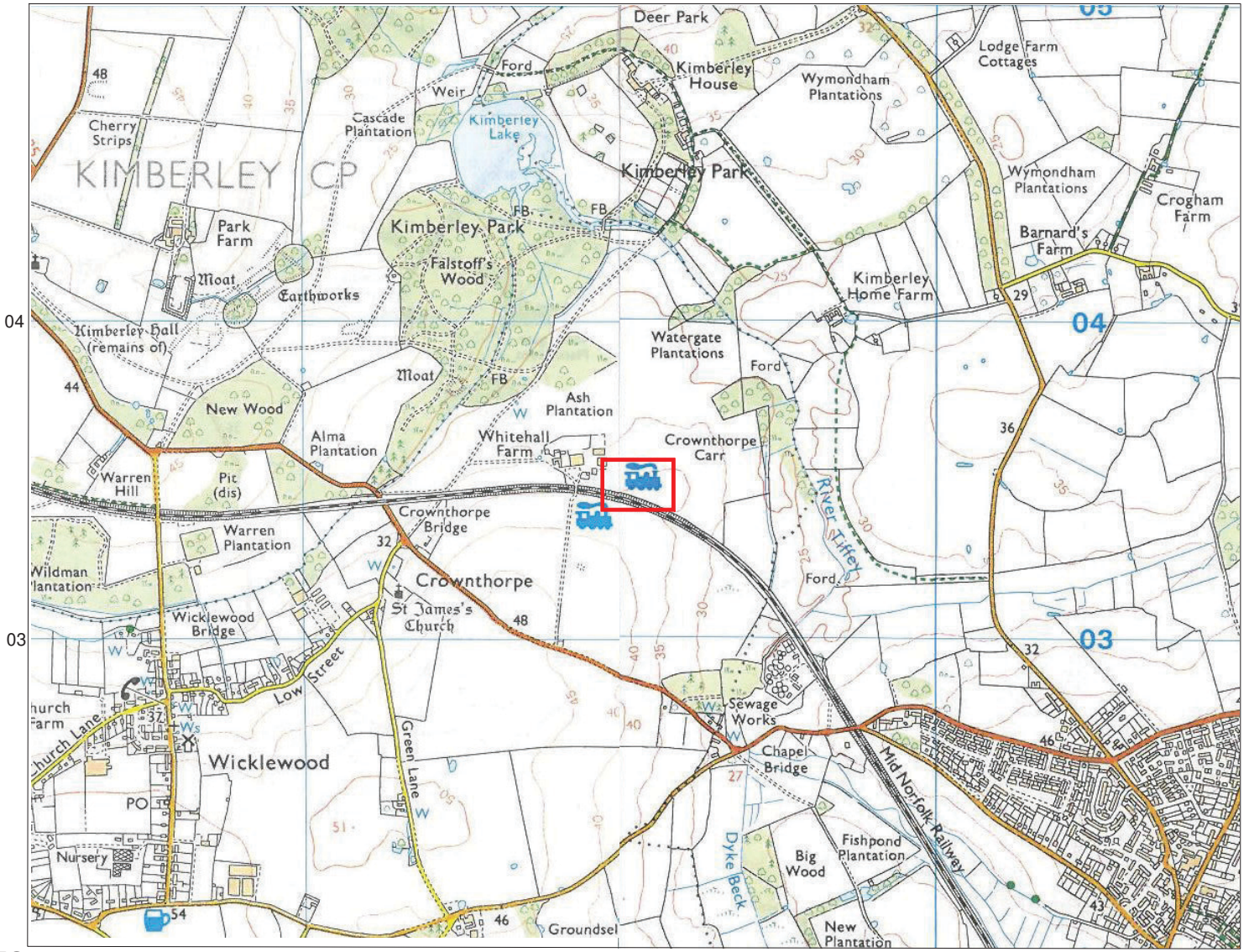

Figure 2. Site Location Plan

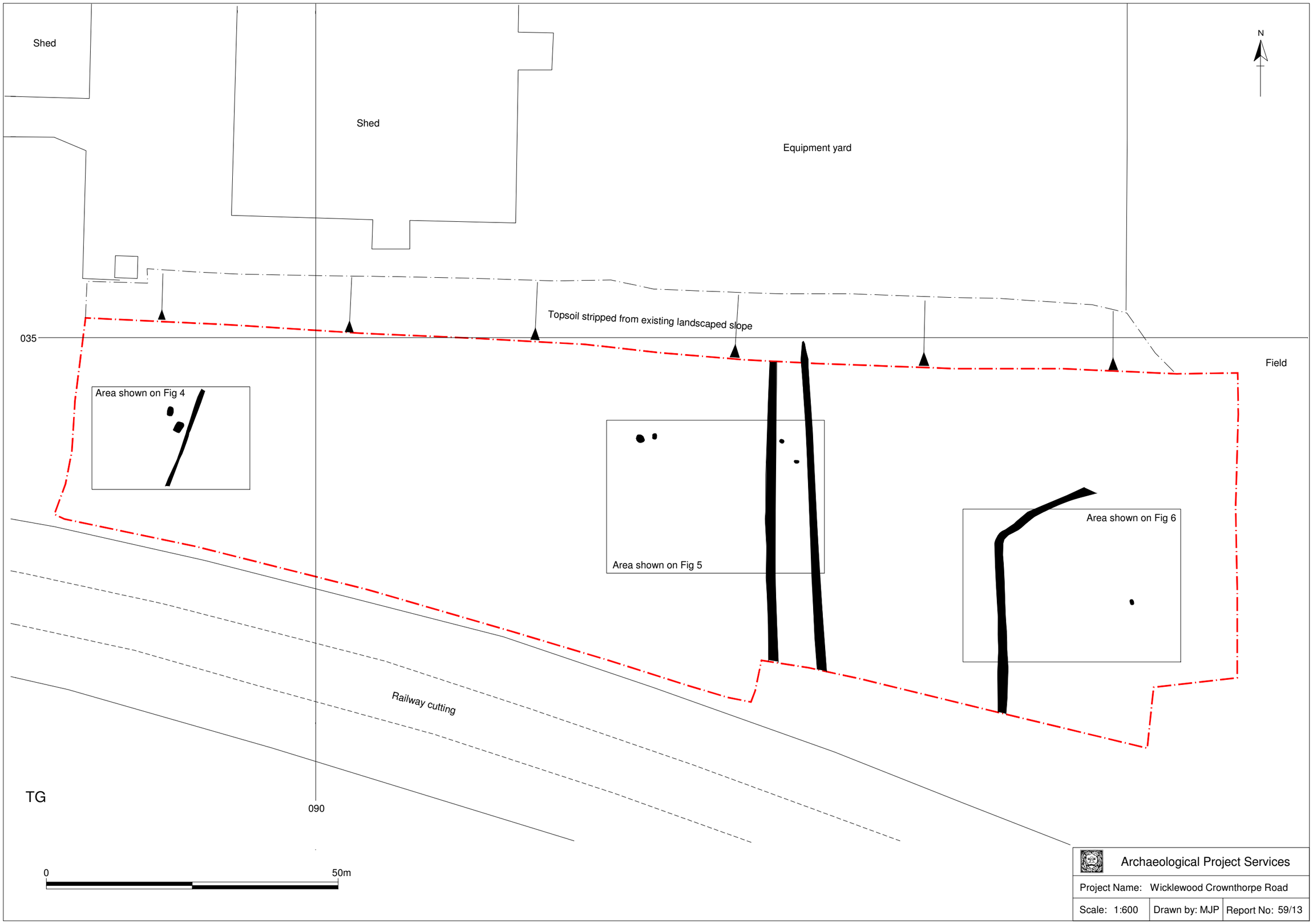

Figure 3. Trench location plan

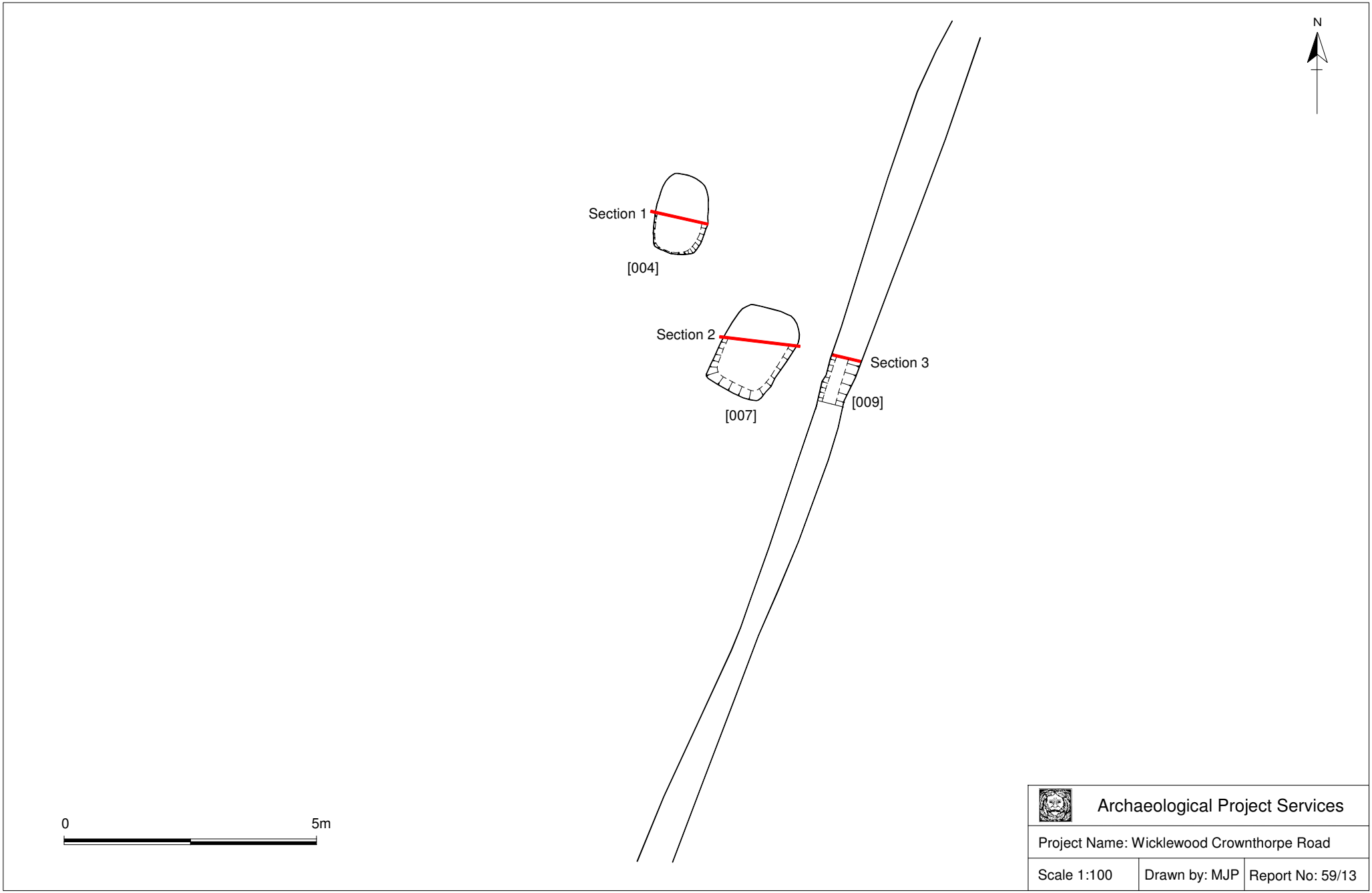

Figure 4. Plan of western features

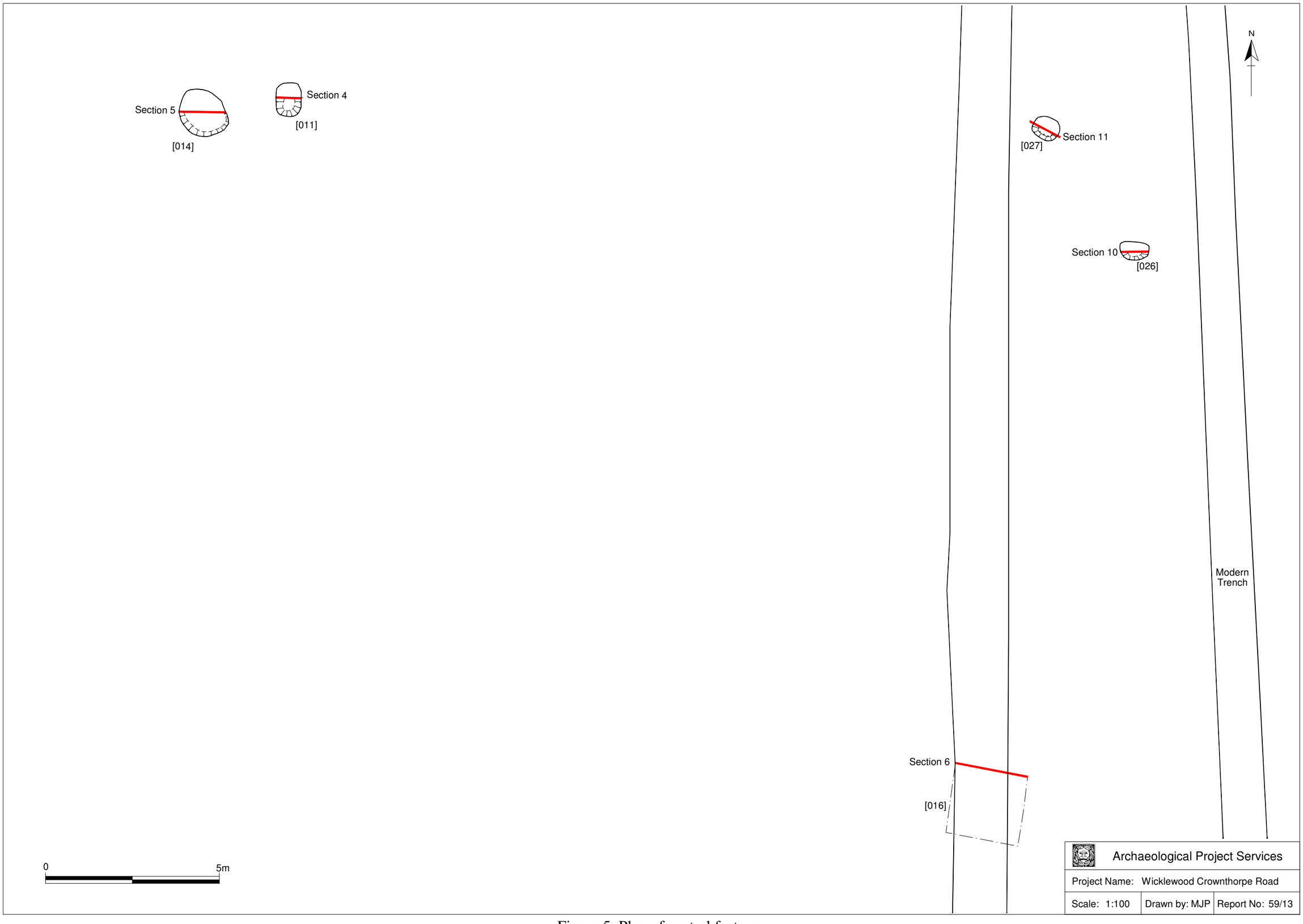

Figure 5. Plan of central features

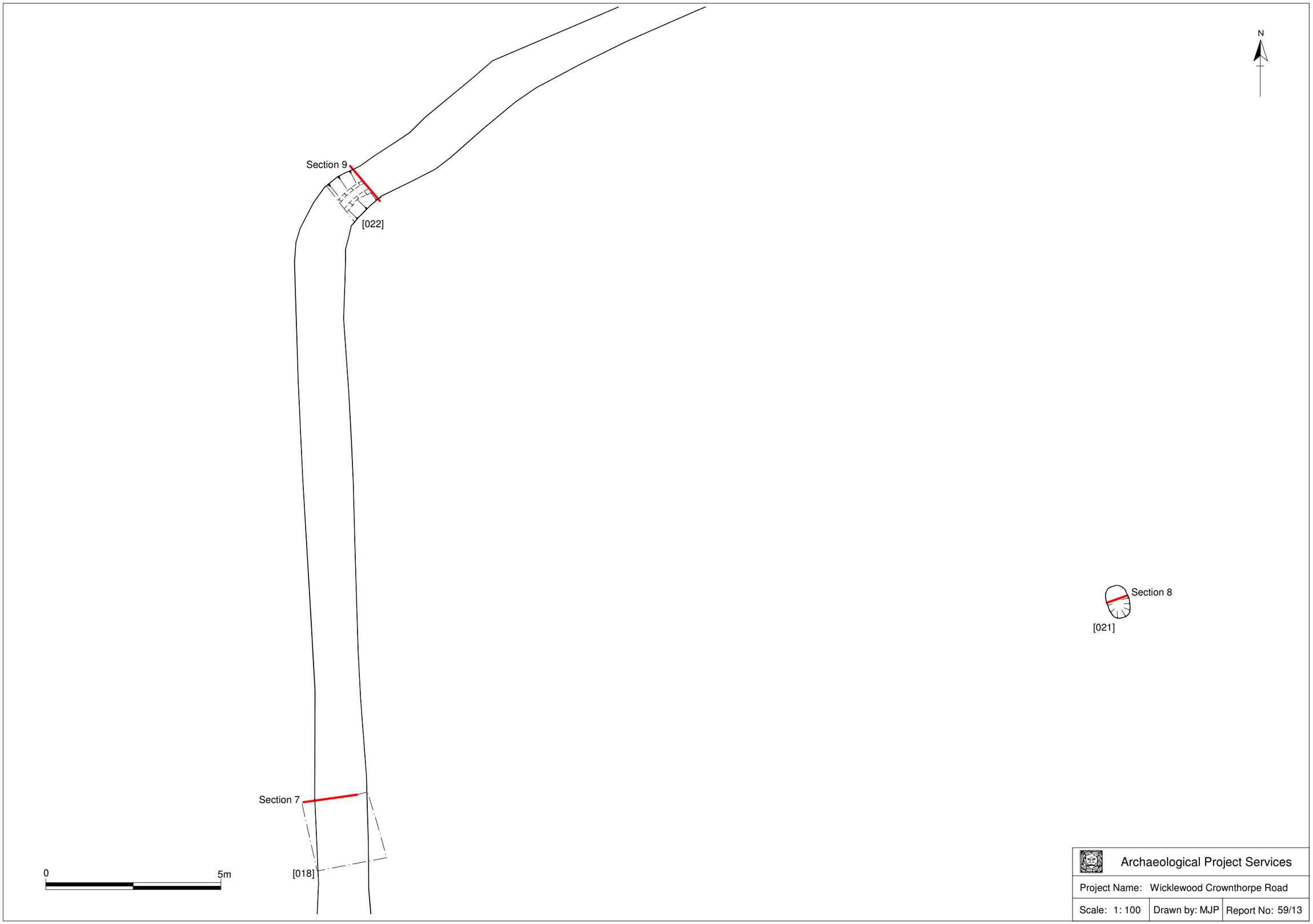

Figure 6. Plan of eastern features

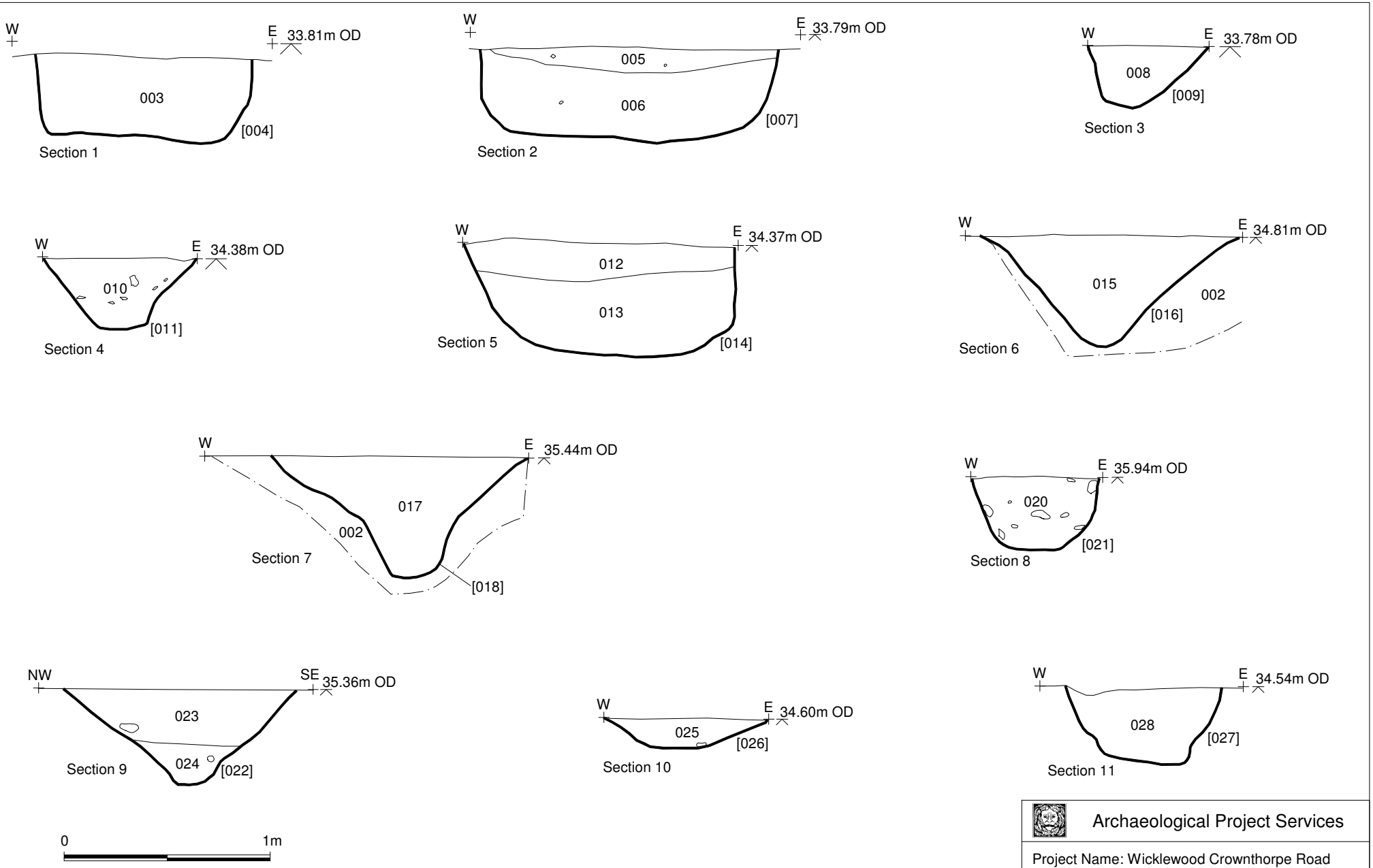

Figure 7. Sections

Plate 1. The site prior to stripping looking west

Plate 2. Stripping in progress looking northeast

Plate 3. Pit [004], Section 1, looking north

Plate 4. Pit [007], Section 2, looking north

Plate 5. Pit [011], Section 4, looking north

Plate 6. Pit [014], Section 5, looking north

Plate 7. Ditch [016], Section 6, looking north

Plate 8. Ditch [022], Section 9, looking northeast

Appendix 1: WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL MONITORING AND STRIP, MAP AND SAMPLE RECORDING

PREPARED FOR RICHARD LONG LTD

APRIL 2013

1 SUMMARY

1.1 *An archaeological investigation comprising a strip, map and sample excavation is required in advance of the construction of a biomass renewable energy plant at Whitehall Farm, Crownthorpe Road, Crownthorpe, Norfolk.*

1.2 *The Norfolk Historic Environment Record contains records of cropmarks on the site which may represent a rectangular building within a larger enclosure. Other cropmarks located immediately to the north may also represent enclosures of unknown date.*

1.3 *The archaeological work will consist of archaeological strip, map and sample within areas of the site where construction will destroy or damage any archaeological deposits.*

1.4 *On completion of the fieldwork a report will be prepared detailing the results of the scheme of works. The report will consist of a narrative supported by illustrations and photographs*.

2 INTRODUCTION

2.1 This document comprises a specification for archaeological strip, map and sample recording and monitoring of associated groundworks during construction of a biomass renewable energy plant at Whitehall Farm, Crownthorpe Road, Crownthorpe.

2.2 This document contains the following parts:

2.2.1 Overview.

2.2.2 Stages of work and methodologies.

2.2.3 List of specialists.

2.2.4 Programme of works and staffing structure of the project

3 SITE LOCATION

3.1 The site at Whitehall Farm is located off Crownthorpe Road, approximately 2.4km northwest of Wymondham and 0.65km northeast of Crownthorpe in the parish of Wickelwood, Norfolk.

4 PLANNING BACKGROUND

4.1 Planning permission has granted 2012/2249/F by South Norfolk District Council to construct a biomass renewable energy plant at Whitehall Farm, Crownthorpe Road, Crownthorpe, Norfolk.

4.2 Permission has been granted with archaeological conditions. *No development shall take place until an archaeological written scheme of investigation has been submitted to and approved in writing by the local planning authority. The scheme shall include an assessment of significance and research questions; and 1) the programme and methodology of site investigation and recording, 2) the programme for post investigation assessment, 3) provision to be made for analysis of the site investigation and recording, 4) provision to be made for publication and dissemination of the analysis and records of the site investigation, 5) provision to be made for archive deposition of the analysis and records of the site investigation and 6) nomination of a competent person or persons/organisation to undertake the works set out within the written scheme of investigation. No development shall take place other than in accordance with the*

approved written scheme of investigation. The development shall not be brought into use until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the approved written scheme of investigation and the provision to be made for analysis, publication and dissemination of results and archive deposition has been secured.

Reason for the condition

To ensure the potential archaeological interest of the site is investigated in accordance with Policy 2 of the Joint Core Strategy, Policy ENV9 of the South Norfolk Local Plan 2003 and the National Planning Policy Framework.

5 SOILS AND TOPOGRAPHY

The site lies within a gently undulating landscape at around 30m OD on soils of the Burlingham 1 Association, deep coarse and fine loamy soils developed on chalky till and glaciofluvial drift.

6 ARCHAEOLOGICAL OVERVIEW

6.1 The Norfolk Historic Enviroment Records contains a reference (29469) to cropmarks of a rectangular building within a larger enclosure and other linear features on the site. To the north of Whitehall Farm cropmarks of another undated enclosure are known (NHER ref 21720).

6.2 Prehistoric artefacts have been recovered in the area and include worked fints, a Neolithic axehead and scrapers from a location approximately 1km to the east (Her ref 11934) Small quantities of medieval pottery have also been recovered at the site (NHER ref 13500).

6.3 A watching brief undertaken in 2009 during development at Whitehall Farm did not identify any surviving archaeological remains although this may be due to unobserved reduction of the site (Rodgers, 2009).

6.3 A Scheduled Monument (SM 30628) located approximately 650 metres to the south is believed to represent the remains of a Romano-Celtic temple. Pottery and other artefacts recovered in fields to the north of the temple site indicate the site of a possible Roman settlement. The line of Roman road between Caistor St Edmund and Crownthorpe, principally visible as earthworks, soilmarks and cropmarks on aerial photographs, lies approximately 1.0km to the southeast of the site.

7 AIMS AND OBJECTIVES

7.1 The aims of the monitoring will be:

7.1.1 To archaeologically excavate and record features in the areas of excavation.

7.1.2 To record and interpret any archaeological features exposed during other groundworks.

7.2 The objectives of the scheme of works will be to:

7.2.1 Determine the form and function of the archaeological features encountered;

7.2.2 Determine the spatial arrangement of the archaeological features encountered;

7.2.3 As far as practicable, recover dating evidence from the archaeological features, and

7.2.4 Establish the sequence of the archaeological remains present on the site.

8 SITE OPERATIONS

8.1 <u>General considerations</u>

8.1.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the scheme of works.

8.1.2 The work will be undertaken according to the relevant codes of practise issued by the Institute for Archaeologists (IFA), under the management of a Member of the institute (MIFA). Archaeological Project Services is IFA registered organisation no. 21.

8.1.3 Any and all artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1996, will be removed from site to a secure store and promptly reported to the appropriate coroner's office.

8.2 Methodology

8.2.1 Strip, map and sample archaeological recording will be undertaken within all areas of the site where groundworks will disturb any archaeological remains extant on the site.

8.2.2 Removal of overburden to the depth of the first archaeological horizon or natural deposits will be supervised by Archaeological Project Services. A smooth, wide ditching bucket will be used on a 360 mechanical excavator working backwards from the edge of the stripped area. The machining will be undertaken to a standard required for archaeological recording i.e. smooth and free from loose spoil.

8.2.3 Machinery will not run on the stripped surface until archaeological deposits have been recorded to the satisfaction of the local authority Planning Archaeologist.

8.2.4 A survey grade GPS system will be used to record points for the generation of the site plan.

8.2.5 A representative sample of any exposed features will be hand-excavated. This will include: the excavation of any structures, post trenches or other structural slots; half-sectioning of postholes and pits; cross-sectioning of linear features of earlier than medieval date, where not forming parts of structures. All burials (excluding animal interments of potentially post-medieval-recent date) will be fully excavated.

8.2.6 Section drawings will be recorded at a scale of 1:10. Features recorded in plan will be drawn at a scale of 1:20. Written descriptions detailing the nature of the deposits, features and fills encountered will be compiled on Archaeological Project Services pro-forma record sheets.

8.2.7 Any finds recovered will be bagged and labelled for later analysis.

8.2.8 Throughout the scheme of works a photographic record comprising black and white print film supplemented by digital images will be compiled. The photographic record will consist of:

- the site during work to show specific stages, and the layout of any archaeology within the stripped area.
- individual features and, where appropriate, their sections.
- groups of features where their relationship is important

8.2.9 Should human remains be located the appropriate licence will be obtained before their removal. In addition, the Local Environmental Health Department and the police will be informed.

9 POST-EXCAVATION

9.1 Stage 1

9.1.1 On completion of site operations, the records and schedules produced during the scheme of works will be checked and ordered to ensure that they form a uniform sequence forming a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued and labelled, the labelling referring to schedules identifying the subject/s photographed.

9.1.2 All finds recovered during the field work will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at

The Collection, Lincoln.

9.2 Stage 2

9.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

9.2.2 Finds will be sent to specialists for identification and dating.

9.3 Stage 3

9.3.1 On completion of stage 2, a report detailing the findings of the scheme of works will be prepared.

9.3.2 This will consist of:

- A non-technical summary of the results of the investigation.
- A description of the archaeological setting of the scheme of works.
- Description of the topography of the site.
- Description of the methodologies used during the scheme of works.
- A text describing the findings of the scheme of works.
- A consideration of the local, regional and national context of the scheme of works findings.
- Plans of the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.
- Sections of the archaeological features.
- Interpretation of the archaeological features exposed, and their chronology and setting within the surrounding landscape.
- Specialist reports on the finds from the site.
- Appropriate photographs of the site and specific archaeological features.

10 REPORT DEPOSITION

10.1 Copies of the report will be sent to the Client; the Norfolk Historic Environment Service Planning Archaeologist, and to the County Council Archaeological Historic Environment Record.

11 ARCHIVE

11.1 The documentation and records generated during the investigation will be sorted and ordered into the format acceptable to the Norfolk Museums Service. This will be undertaken following the requirements of the document titled Conditions for the Acceptance of Project Archives for long term storage and curation. Event number ENF 131411 has been obtained from the Norfolk Historic Environment Record and a separate accession number will be obtained from the Norfolk Museums Service for deposition of the archive.

11.2 Upon completion and submission of the report, the landowner will be contacted to arrange legal transfer of title to the archaeological objects retained during the investigation from themselves to the receiving museum. The transfer of title will be effected by a standard letter supplied to the landowner for signature

12 PUBLICATION

12.1 Details of the investigation will be input to the Online Access to the Index of Archaeological Investigations (OASIS).

12.2 If appropriate, a report of the findings of the investigation will be submitted for inclusion in the journal Norfolk Archaeology. Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: Post-medieval Archaeology, Medieval Archaeology and Journal of the Medieval Settlement Research Group for medieval and later remains, and Britannia for discoveries of Roman date.

12.3 If appropriate, notes on the findings will be submitted to the appropriate national journals: Britannia for discoveries of Roman date, and Medieval Archaeology for findings of medieval or later date.

13 CURATORIAL RESPONSIBILITY

13.1 Curatorial responsibility for the project lies with the Planning Archaeologist of the Norfolk Historic Environment Service. As much notice as possible will be given in writing to the curator prior to the commencement of the project to enable them to make appropriate monitoring arrangements..

14 VARIATIONS AND CONTINGENCIES

14.1 Variations to the proposed scheme of works will only be made following written confirmation of acceptance from the archaeological curator.

14.2 In the event of the discovery of any unexpected remains of archaeological importance, or of any changed circumstances, it is the responsibility of the archaeological contractor to inform the archaeological curator.

14.3 Where important archaeological remains are discovered and deemed to merit further investigation additional resources may be required to provide an appropriate level of investigation, recording and analysis. In the first instance the the resources allocated to the project are adequate to excavate and record what would be expected during a strip, map and sample excavation.

14.4 Any contingency requirement for additional fieldwork or post-excavation analysis outside the scope of the proposed scheme of works will only be activated following full consultation with the archaeological curator and the client.

15 PROGRAMME OF WORKS AND STAFFING LEVELS

15.1 A work programme of three weeks has been specified in the quotation submitted to the client although the actual time on site will be determined by the programme of the groundworks which is not under the control af Archaeological Project Services. The topsoil strip will be supervised by a Project Officer experienced in similar types of work and additional assistants will be allocated as appropriate to the archaeological deposits recorded..

15.2 An archaeological project office or supervisor with experience of such monitoring will undertake the work.

15.3 Post-excavation analysis and report production will be undertaken by the supervisor, or a post-excavation analyst as appropriate, with assistance from a finds supervisor, illustrator and external specialists.

16 SPECIALISTS TO BE USED DURING THE PROJECT

16.1 The following organisations/persons will, in principle and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

Task	Body to be undertaking the work
Conservation	Conservation Laboratory, The Collection, Lincoln

Pottery Analysis	Prehistoric – David Knight Trent & Peak Archaeological Trust or Dale Trimble\Alex Beeby mentored by David Knight
Roman –	Alex Beeby, in house IFA bursary trainee mentored by Barbara Precious independent Roman pottery specialists.
	Anglo-Saxon, Medieval and Post medieval – Dr Anne A Boyle independent pottery specialist APS
Non-pottery Artefacts	J Cowgill, Independent Specialist
Animal Bones	Matilda Holmes, independent faunal remains specialist
Environmental Analysis	J Rackham or V Fryer, Independent Specialists
Human Remains Analysis	R Gowland, Independent Specialist

17 INSURANCES

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Appendix 2

CONTEXT SUMMARY

Context	Description	Interpretation	Date
001	Loose dark greyish brown clayey silt with occasional small to medium angular flints, up to 0.45m thick	Topsoil	
002	Fairly firm mid yellowish brown boulder clay/glacial till with occasional patches of sand, common chalk flecks, common small to medium rounded and angular flints	Natural	
003	Soft mid greyish brown clayey silt with common small to medium angular flints and occasional chalk flecks, 0.4m thick	Fill of [004]	11th – mid 12th C
004	Sub-rectangular cut with rounded corners, near vertical sides and flattish base, 1.55m by 1.05m, 0.4m deep	Cut of pit	11th – mid 12th C
005	Friable dark greyish brown clayey silt with frequent charcoal flecks, common small angular flints, 0.12m thick	Top fill of [007]	11th - 13th C
006	Friable mid brown with yellowish brown mottles, clayey silt with occasional clay patches (redeposited natural) and common small to medium angular flints, 0.35m thick	Main fill of [007]	11th – mid 12th C
007	Sub-rectangular cut with rounded corners, near vertical sides and flattish base 1.8m long, 1.45m wide, 0.45m deep	Cut of pit	11th - 13th C
008	Fairly firm mid yellowish greyish brown clayey silt with common small to medium angular flints, 0.3m thick	Fill of [009]	
009	NNE-SSW aligned linear cut with a steeper west side than east and a narrow base, 0.93m length excav, 0.59m wide, 0.3m deep	Cut of probable drainage gully	
010	Friable mid greyish brown clayey silt with occasional charcoal flecks, common small to medium angular flints, 0.35m thick	Fill of [011]	11th – mid 12th C
011	Ovoid cut with rounded corners, moderately steep sides and flat base, 0.75m wide, 0.35m deep	Cut of pit	11th – mid 12th C
012	Friable dark greyish brown clayey silt with occasional charcoal flecks and angular flints, 0.2m thick	Fill of [014]	11th – mid 12th C
013	Friable mid yellowish greyish brown clayey silt with occasional angular flints, 0.4m thick	Fill of [014]	11th – mid 12th C
014	Sub-circular cut with steep sides and flattish base, 1.3m diameter, 0.55m deep	Cut of pit	11th – mid 12th C
015	Friable mid greyish brown clayey silt with common small angular flints, 0.54m thick	Fill of [016]	

016	North-south aligned linear cut with steep sides and rounded base, 1.3m wide, 0.54m deep	Cut of ditch	
017	Friable dark greyish brown clayey silt with common small angular flints, 0.59m thick	Fill of [018]	11th – mid 12th C
018	North-south aligned linear cut with convex sides and rounded base, 1.25m wide, 0.59m deep	Cut of ditch	11th – mid 12th C
019	Unstratified pottery from area of pit [014]	Find	11th-13th C
020	Loose dark greyish brown sandy silt with common small to medium rounded to angular flints, 0.35m thick	Fill of [021]	
021	Ovoid cut with rounded corners with steep sides and flat base, 0.95m long, 0.6m wide, 0.35m deep	Cut of pit	
022	North-south aligned ditch, curving to northeast in north part of site with fairly steep sides and rounded base, 1.12m wide, 0.46m deep	Cut of ditch	11th – mid 12th C
023	Soft dark greyish brown silty sand with moderate flints and occasional charcoal flecks, 0.26m thick	Fill of [022]	11th – mid 12th C
024	Fairly firm mid to dark greyish brown clayey silty sand with moderate flints, occasional charcoal flecks, 0.2m thick	Fill of [022]	
025	Friable mid greyish brown clayey silt with common charcoal flecks and frags, occasional small angular flints, 0.15m thick	Fill of [026]	11th - 13th C
026	Sub-oval cut with concave sides and flat base, 0.8m long, 0.55m wide, 0.15m deep	Cut of pit	11th - 13th C
027	Sub-rectangular cut with steep sides and quite flat base, 0.78m by 0.67m, up to 0.37m deep	Cut of pit or post hole	Roman
028	Fairly firm dark greyish brown silty sand with moderate small flints and charcoal flecks, 0.37m	Fill of [027]	Roman

Appendix 3

THE FINDS

ROMAN POTTERY

By Alex Beeby

Introduction

All the material was recorded at archive level in accordance with the guidelines laid out by Darling (2004). The pottery was recorded using the codes and system developed for the City of Lincoln Archaeological Unit (Darling and Precious, forthcoming). A total of seven sherds from seven vessels, weighing 24 grams was recovered from the site.

Methodology

The material was laid out and viewed in context order. Sherds were counted and weighed by individual vessel within each context. The pottery was examined visually and using x20 magnification. This information was then added to an Access database. A summary of the pottery listed by fabric type is included in Table 1 below and a full archive can be found in Archive Catalogue 1.

Condition

The pottery is fragmentary and very abraded. Two shell tempered pieces are heavily leached of their calcareous content, probably due to hostile soil conditions.

Provenance

Pottery was recovered from pits [004], [007] and pit or Posthole [027].

Results

Table 1, Summary of the Roman Pottery

Fabric	Cname	Full name	NoS	NoV	W(g)
Samian	SAMCG	Central Gaulish Samian Ware	1	1	2
Reduced (Sandy)	GREY	Miscellaneous Sandy Grey Ware	3	3	3
Reduced (Fine)	GMICG	Grey Fine Micaceous Wares	1	1	7
Shell	SHEL	Undifferentiated Shell-Tempered	2	2	12
		Total	**7**	**7**	**24**

Range

In total there are seven sherds, including pieces of Central Gaulish Samian Ware (SAMCG), Sandy Greyware (GREY), Fine Micaceous Greyware (GMICG), and undifferentiated Shell-Tempered Ware (SHEL). These are common types in this area. Even though three features yielded Roman pottery, two of these also produced post Roman material. Three small abraded pieces from Post hole [027] could also be residual.

Both of the sherds in SHEL are very degraded and leached, and could conceivably be Iron Age rather than Roman. However one of these, from pit [004], was recovered from a context which produced Post Roman material and the second, that from pit or posthole [027] was retrieved along with Romanised Greyware.

Potential

There is limited potential for further work. The pottery should be retained as part of the site archive and should pose no problems for long term storage.

Summary

A small group of Roman pottery sherds was retrieved, most of which are largely undiagnostic. All but three pieces, those recovered came from pit or posthole [027], are residual and/or redeposited here.

POST ROMAN POTTERY
By Alex Beeby

Introduction
All the material was recorded at archive level in accordance with the guidelines laid out in Slowikowski *et al.* (2001). The pottery codenames (Cname) are in accordance with the Post Roman pottery type series for Lincolnshire, as published in Young *et al.* (2005), which can also be used to record material from surrounding counties. A total of 27 sherds from 19 vessels, weighing 187 grams was recovered from the site.

Methodology
The material was laid out and viewed in context order. Sherds were counted and weighed by individual vessel within each context. The pottery was examined visually and using x20 magnification. This information was then added to an Access database. An archive list of the pottery is included in Table 2 below. The pottery dates from the Saxo-Norman to Early Medieval period.

Condition
The pottery is fragmentary, although only two sherds are classed as abraded. The average sherd weight is very low at just 6.9 grams. Pieces from three vessels are sooted, this is good evidence of use over a hearth or fire.

Results
Table 2, Post Roman Pottery Archive

Period	Cname	Full Name	Earliest Date	Latest Date	NoS	NoV	W(g)
Saxo-Norman to Early Medieval	SNEOT	St Neots-type ware	1000	1200	1	1	5
	EMHM	Early Medieval Handmade ware	1000	1300	11	9	66
	EMNSW	Early Medieval Norfolk Sandwich ware	1000	1150	8	3	51
	THETT	Thetford-type fabrics	1000	1150	8	7	70
				Total	**27**	**19**	**187**

Provenance
Pottery was recovered from ditches [018] and [022] as well as pits [007], [011], [014] and [026].

Range
There is a restricted range of domestic Saxo-Norman to Early Medieval pottery types, including St Neots Ware (SNEOT), Early Medieval Handmade ware (EMHM), Early Medieval Norfolk Sandwich ware (EMNSW) and Thetford Type ware (THETT). With the exception of some pieces of THETT, most of the pottery is handmade, as might be expected at this time. The Early Medieval Norfolk Sandwich ware recorded here equates with Jennings'Norwich fabric EMSW Early Medieval sandwich ware, whilst the Early Medieval Handmade ware is equivalent to Type EMW (Early Medieval Ware) (Jennings 1981, 22-23).

Forms are mostly if not entirely closed types, including at least one possible pitcher in Early Medieval Norfolk Sandwich ware. All of the pottery is likely be broadly contemporary, with an 11th to mid 12th century date probable for most if not all of the material. Although some of the pottery may well be residual and/or redeposited the narrow range of types and the physical similarity and close spatial proximity of the pit features which produced the material, suggest that this is domestic waste from a nearby household or households, perhaps deposited over relatively short space of time.

Potential
This is good small domestic assemblage of 11th to 12th century date. The material is stable and should pose no problems for long term storage. The pottery should be retained as part of the site archive.

Summary
A total of five pits produced pottery of a broadly contemporary Saxo-Norman to Early Medieval date. This is likely to be domestic waste associated with a dwelling or group of dwellings within the vicinity of the site.

FIRED CLAY

By Alex Beeby

Introduction

All the material was recorded at archive level in accordance with the guidelines laid out by the Archaeological Ceramic Building Materials Group (2002).

Methodology

The material was laid out by context before being viewed visually and using 20x magnification. Pieces were then counted and weighed. This information was then added to an Access database. An archive list of the fired clay is included in Table 3 below.

Condition

The material is fragmentary but relatively unabraded. Seven pieces from context (017) are bleached, probably by exposure to salt or sunlight, and a single piece is sooted.

Results

Table 3, Fired Clay Archive

Cxt	Classification	Fabric	Comment	Date	Frags	Weight
005	FIRED CLAY	Oxidised; medium sandy; Ca; Fe; flint	Includes thin flakes and surfaceless pieces; common rounded Ca; rare Flint and Fe; bleached surfaces; one piece sooted over break; one piece wipe marks	Undated	9	46
017	FIRED CLAY	Oxidised; medium-coarse sandy; Ca; flint; Fe	Fresh; sight curve; moderate rounded Ca; rare angular flint and rounded Fe Oxide; highly fired; deep lath mark?; Oven?	Undated	1	63
				Total	**10**	**109**

Provenance

The fired clay was recovered from fill (005) in pit [007] and ditch fill (017) within feature [018].

Range

Pit [007], fill (005)

A total of nine pieces came from this pit. There is a single common fabric and all of these fragments are likely to derive from the same source. All but one piece has a rough, flat surface, one of which has heavy wiping marks. The pieces are unlikely to be from an object and could be daub, although there are no visible wattle impressions.

Ditch [018], fill (017)

The piece is highly fired with a single curved surface. The surface is rough and has a deep flat impression pressed into it; perhaps from a lath. It seems likely that the fragment derives from a structure of some sort, rather than an object. The piece has clearly been exposed to a high heat, perhaps within an oven or kiln.

Potential

There is limited potential for further work. The material should be retained as part of the site archive and should pose no problems for long term storage.

Summary

A total of 10 fragments of fired clay were recovered. The pieces may be structural, although none of the pieces can be confidently identified as such.

FAUNAL REMAINS
By Paul Cope-Faulkner

Introduction
A total of 33 (453g) fragments of animal bone were recovered from stratified contexts. An additional 5 fragments of mollusc shell weighing 49 grams was also recovered.

Methodology
The faunal remains were laid out in context order and reference made to published catalogues (e.g. Schmid 1972; Hillson 2003). All the animal remains were counted and weighed, and where possible identified to species, element and side. Also fusion data, butchery marks, gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (mouse size), small (rabbit size), medium (sheep size) or large (cattle size).

The condition of the bone was graded using the criteria stipulated by Lyman (1996). Grade 0 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

Provenance
The bone was retrieved from the fills of pits (003, 005, 006 and 020) and the fill of a gully (008)

Condition
The overall condition of the remains was good to poor, averaging at grades 2-4 on the Lyman Criteria (1996).

Results
Table 4, Fragments Identified to Taxa

Cxt	Taxon	Element	Side	Number	W (g)	Comments
003	large mammal	skull	-	1	3	
	sheep/goat	astragalus	L	1	35	
	medium mammal	mandible	-	1	4	
	medium mammal	long bone	-	1	2	
005	large mammal	metacarpus	-	6	52	
	sheep/goat	mandible	R	1	27	
	medium mammal	radius	-	2	12	
	bird	unidentified	-	3	4	Large bird
006	cattle	mandible	-	1	34	
	cattle	metatarsal	-	1	97	
	large mammal	skull	-	3	56	
	large mammal	long bone	-	3	45	
	large mammal	sacrum	-	1	38	
	large mammal	rib	-	1	12	
	medium mammal	scapula	-	2	13	
	medium mammal	unidentified	-	2	4	
020	large mammal	long bone	-	1	8	
	medium mammal	long bone	-	1	6	
	sheep/goat	incisor	-	1	1	

Table 5, The Molluscs

Cxt	Taxon	Element	Side	Number	W (g)	Comments
006	Oyster	shell	U/L	2	37	
008	oyster	Shell	U	3	12	

Summary
As a small assemblage the faunal remains have limited potential, falling below the 300 count required for meaningful analysis. Cattle and sheep/goat were identified to species as was oyster. Cattle and sheep/goat are likely to account for the large mammal and medium mammal categories. The faunal remains are all from medieval contexts, apart from the oyster shell from (008) which is undated. The assemblage is typical of the period.

All the faunal remains are likely to represent food waste.

The faunal remains are relatively stable and should be retained as part of the site archive.

OTHER FINDS
By Gary Taylor

Introduction
Fourteen items weighing 87g were recovered.

Condition
The other finds are in good condition, although the quern fragments are friable.

Results
Table 6, Other Materials

Cxt	Material	Description	NoF	W (g)	Date
006	Stone	Burnt	1	11	
023	Stone	Degenerated quernstone	13	76	medieval or earlier

Provenance
The other finds were recovered from a pit fill (006) and a ditch fill (023).

Range
Several pieces from a degraded quernstone were recovered. This was manufactured from Rhenish lava from the Rhineland area of Germany. Querns made from this stone, or unfinished articles, were imported into England from the Roman period until the medieval period.

Potential
The other finds are of limited potential though the quern fragments indicate the grinding of foodstuffs at the site in the medieval period or earlier.

SPOT DATING
The dating in Table 7 is based on the evidence provided by the finds detailed above.

Table 7, Spot dates

Cxt	Date	Comments
003	11th-M12th	
005	11th-13th	
006	11th-M12th	
010	11th-M12th	
012	11th-M12th	
013	11th-M12th	
017	11th-M12th	
019	11th-13th	
023	11th-M12th	
025	11th-13th	
028	Roman	

ABBREVIATIONS

ACBMG	Archaeological Ceramic Building Materials Group
BS	Body sherd
CBM	Ceramic Building Material
CXT	Context
LHJ	Lower Handle Join
NoF	Number of Fragments
NoS	Number of sherds
NoV	Number of vessels
TR	Trench
UHJ	Upper Handle Join
W (g)	Weight (grams)

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ARCHIVE CATALOGUES

Archive catalogue 1, Roman Pottery

Context	Cname	Form	Vessel	Alter	Comments	Join	Sherds	Weight
003	GREY	BK	1	ABR	BS		1	1
003	SHEL	U	1	LEACH	BS; IA?		1	8
003	ZDATE				RO			
005	GMICG	JCEV	1	YELLOW CONCRETION OVER BREAK; V ABR	RO		1	7
005	ZDATE				ROMAN			
006	SAMCG	U	1	VABR	BS		1	2
006	ZDATE				2C			
028	GREY	U	1	VABR	BS		1	1
028	GREY	JBK	1		BS		1	1
028	SHEL	U	1	LEACH	IA?; BASE		1	4
028	ZDATE				RO			

Archive catalogue 2, Post Roman Pottery

Cxt	Cname	Form	NoS	NoV	Weight	Part	Description	Date
003	EMNSW	Pitcher?	6	1	35	Base; BS	Scored prefired line - dec?; perhaps thickening to spout or handle	11th-M12th
003	THETT	Jar	1	1	12	BS		
005	EMHM	Jar	2	2	6	BS	Sooted	11th-13th
006	SNEOT	Jar	1	1	5	BS	Sooted exterior	11th-12th
006	EMNSW	?	1	1	8	BS		11th-M12th
006	EMHM	Jar	2	1	9	Rims	Burnt	
010	EMHM	Jar	1	1	2	BS		
010	THETT	Jar	1	1	27	BS	Partially reoxidised; abraded	11th-M12th
012	THETT	Jar	3	2	2	BSS	One piece sooted exterior	11th-M12th
012	EMHM	Jar	3	2	8	BSS		
012	EMHM	Jar	1	1	14	BS		
013	THETT	Jar	1	1	6	Rim	Everted rim	11th-M12th
017	THETT	Jar	1	1	12	Rim	Deep hollow everted rim	11th-M12th
019	EMHM	Jar	1	1	15	Rim	Deep hollow everted rim	11th-13th
023	THETT	?	1	1	11	BS		
023	EMNSW	?	1	1	8	BS	Abraded	11th-M12th
025	EMHM	Jar	1	1	12	BS		11th-13th

Appendix 4: Environmental Archaeology Assessment by James Rackham

Introduction

A strip and record excavation was conducted by Archaeological Project Services at Crownthorpe Road, Wicklewood. The features excavated were primarily of 11th-13th century date, although one deposit produced Roman pottery, and four samples were collected for four pits (Table 1), two identified as of 11-13th century date and one undated but presumed to be broadly contemporary and one of Roman date. The samples were submitted to the Environmental Archaeology Consultancy for processing, assessment and analysis.

Table 1. Wicklewood – WWCR13. Samples collected for environmental study

sample no.	context no.	feature	samp. vol (l).	sample weight (kg)	Context type	phase
1	005	Pit 007	22	30	Top fill of pit	11-13th C
2	025	Pit 026	10	15	Fill of pit	11-13th C
3	028	Pit or PH 027	30	30	Fill of pit or post hole	Roman
4	020	Pit 021	15	18	Fill of pit	undated

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet-sieve of 1mm mesh for the residue. Both residues and floats were dried, and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots were measured, and the volume and weight of the residues recorded.

The residues were sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheets and bagged independently. A magnet was run through the residues in order to recover magnetised material such as hammerscale and prill. The residues were then discarded. The floats of the samples were studied under a low power binocular microscope. The presence of environmental finds (ie snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheets. The floats were then bagged. The floats and finds from the sorted residues constitute the material archive of the sample.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2 and 3, and the charred plant remains were subsequently identified and analysed in detail (Table 4).

Results

The four bulk samples washed down to a residue of angular and sub-angular flint and mineralised sediment concretions, with occasional pebbles, ironstone and sand. A little fired earth and charcoal was also present. Finds (Table 2) included pottery, possible flint debitage in two samples, firecracked flint, fired earth, a little animal bone and marine shell. A magnetic component generally of ironstone and concreted material includes fired earth in 005 but no hammerscale or other evidence of smithing. The fired earth from 005 has smoothed faces suggesting structural debris, possibly from an oven or hearth.

Table 2: Wicklewood – WWCR13 – Archaeological finds from the samples

sample	cont	vol in l.	residue vol .in ml.	pot no/wt g	Flint no/wt g	Fire-cracked flint wt g.	Fired earth wt g.	magn. comp. g.	bone wt g.	marine shell wt g.	other
1	005	22	2000	20/49	22/1.6	132	170	3	16	0.4	Fired earth material looks structural (oven/hearth); flint includes possible debitage
2	025	10	500	2/2	4/0.6	7	6	8.5	0.6		Flint - probable natural chips
3	028	30	1800	3/3	9/3.5	133	2.4	2.4	0.4		Flint - probable natural chips
4	020	15	2000	1/0.5	13/1	12	-	2.4	1		Flint – may include some debitage; pot – possible eroded small sherd

Table 3: Wicklewood – WWCR13**.** Environmental finds from the samples

sample	cont.	vol. in l.	flot vol. ml.	char-coal $	ch'rd grain *	ch'rd chaff	ch'rd seed *	snail *	comment
1	005	22	60	3/5	5	1	3	3	Barley, wheat, oat, rye – most grain poorly preserved; pea?, legumes, docks; vole, frog/toad, ee (x5), cyprinid (x1), herring (x1) and other indet small fish (x7); oyster; snails – *Aegopinella nitidula, Oxychilus* sp.*, Trichia hispida, Vallonia excentrica, Vallonia pulchella, Cochlicopa* sp.*, Cecilioides acicula*, slug
2	025	10	52	5/5	2	-	3	1	Barley – grain poorly preserved; several charred weed species; indet bone; snails – *Cecilioides acicula*
3	028	30	40	4/5	2	-	2	2	Barley, oats, wheat, rye – many grain poorly preserved; docks, legumes, *Chenopodium*, small grasses; vole, shrew, indet bird, small fish; snails – *Cecilioides acicula, Vallonia excentrica*
4	020	15	40	4/5	1	-	2	2	Barley – most grain poorly preserved; charred hazel nutshell, bean, small seeds; indet burnt bone; snails – *Cecilioides acicula, Carychium* sp.*, Vallonia excentrica*

$ - frequency of >2mm/<2mm fragments of charcoal

* frequency of items: 1=1-10; 2= 11-100; 3=101-250; 4=251-500; 5=500-1000; 6+>1000

diversity as follows: 1=1-3; 2=4-10; 3=11-25; 4=26-50 taxa

Pit 007
This sub-rectangular pit of 11-12th century date had two fills, the upper or secondary fill (005) of which was sampled. The sample produced an abundance of charred cereal grain with barley, wheat, oats and rye represented (Table 4). The grain is generally poorly preserved but barley and wheat are the most abundant cereals identified. Cereal chaff is relatively rare but charred weeds seeds are common, and charcoal is abundant although largely fragmented. The charred plant assemblage appears to be a partially cleaned crop and with the presence of legumes, several fish bones and oyster fragments suggests the discard of food remains and accidentally charred grain. A small assemblage of terrestrial snails includes taxa of both open country and shaded habitats.

Pits 026 and 027
Two nearby pits or postholes in the central area had there single fills sampled. One, 026, has a fill that produced 11-13th century ceramics, while the other, 027, produced Roman ceramics. About a dozen charred cereal grains were present in the flot of 025 and rather more in 028, but in both samples the grain was poorly preserved although barley, wheat, oats and rye have been identified in 027 and only barley in 025 (Table 3). The presence of rye and free-threshing wheat suggests this deposit is of medieval rather than Roman date, since both cereals are seen as typical medieval crops (Greig 1991). Charred weeds seeds are more abundant than cereals, but no chaff has been recorded in either sample. Both samples contain abundant charcoal fragments with several larger identifiable pieces. Other finds are limited with little large mammal bone, but one small fish vertebrum in 028, along with vole and shrew bones. Snails are infrequent and in 025 only the blind burrowing snail *Cecilioides acicula* was identified and is probably intrusive, while in 028 shells of the open country taxa *Vallonia excentrica* are present.

Pit 021
A single small pit was uncovered in the eastern area with a stoney fill, 020. This feature is undated although a very small fragment sorted from the residue may be pottery. A little identifiable barley grain is present among a small collection of poorly preserved cereal grains. Charred hazel nutshell is present with bean and several other small charred seeds. A few small fragments of unidentifiable burnt bone were sorted from the sample residue, and a few terrestrial snail shells among which *Cecilioides acicula, Carychium* sp. and *Vallonia excentrica* have been identified.

The charred plant remains
John Giorgi

The flots were divided into different fractions using a stack of sieves for ease of sorting, with all potentially identifiable botanical material extracted and identified using a binocular microscope (with a magnification of up to x40) and modern and charred reference material and reference manuals (Cappers *et al* 2006; Jacomet 2006). All the plant remains were quantified except for charcoal, indeterminate cereal fragments (smaller than 2mm), *Corylus avellana* (hazel) nutshell fragments and indeterminate items. The frequency of these materials was estimated using the following rating system: + =1-10; ++=11-100; +++=101-250; ++++=251-500; ++++++=>500 items.
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Results

A list of the charred plant remains in each sample is shown in Table 4, with taxonomic order following Stace (2005), also used for habitat and ecological data together with Hanf (1983) and Wilson *et al* (2003). Fragmented charcoal made up the bulk of the charred plant remains although almost 1200 other items were counted. Cereal grains accounted for around 90% of the quantified remains and wild plants/weed seeds for most of the remaining material although there were traces of other cultivated and wild plant foods. There was just one chaff fragment in the samples. The great majority of the quantified remains were from the early medieval pit fill [5], which contained over a thousand items, while the other three pit fills produced relatively small assemblages.

Cereals

Preservation of the cereal grains was generally very poor and over half could not be identified further, while there were un-counted and indeterminate small cereal fragments in all the flots. Most (95%) of the grains were from early medieval pit fill [5].

Hordeum vulgare (barley) was the best represented cereal (making up 43% of the quantified grains) with the few well preserved hulled and twisted grains showing the presence of six-row hulled barley. *Triticum* (wheat) was the second best represented cereal (33% of the grains) with the better preserved remains being from free-threshing wheat, *Triticum aestivum/turgidum* (bread/rivet wheat) followed by smaller amounts (19%) of *Secale cereale* (rye) (also identified on the basis of a single rye rachis fragment from pit fill [5]), and *Avena* (oats), which accounted for 19% and 5% of the quantified grains respectively. Barley was identified in all four samples while the other three cereals were identified in two samples, from pit/post-hole fill [28] and early medieval pit fill [5].

Archaeobotanical and historical evidence shows that the four cereals, free threshing wheat, hulled barley, rye and oats, all identified in the rich grain assemblage from the early medieval pit fill [5], were the main cereals cultivated during the medieval period in southern Britain (Greig 1991, 321, Moffet 2006, 45). Barley was also the main cereal in a late 13th-century deposit at Alms Lane, Norwich, 11 miles east of Wicklewood (Murphy 1985). It is difficult to comment on the range of cereals identified in the pit/post-hole fill [28] because of the paucity and poor preservation of the remains although the few better preserved grains also included free threshing wheat, hulled barley, rye and oats. Hulled wheat and hulled barley are usually the main cereals found in Roman deposits while oats and rye are uncommon and usually considered to be weeds. On this basis, it is possible that the grains in fill [28] are intrusive.

The four cereals in the samples may have been used for food (bread, pottage) and oats and barley for animal feed. Wheat was the preferred bread-making grain while poorer quality rye bread was consumed largely by the poor (Hammond 1995, 28). All the cereals, particularly barley, may have been used for ale and beer although poor grain preservation meant that it was not possible to establish if any had germinated as evidence for on-site brewing.

Other foodstuffs

A small assemblage of poorly preserved Fabaceae (legume) seeds were recovered as charred remains from all four samples, with one seed identified as *Vicia faba* (broad bean) from the possible early medieval pit fill [20]; the remaining indeterminate charred legume seeds, at best only identified as *Vicia/Lathyrus* (vetch/tare/vetchling), could be from either cultivated and/or wild plants. Beans are often found usually in small amounts in medieval deposits (Moffet

2006, 53) and may have been used as animal fodder and also human food, by the poor in pottage (Hammond 1995, 32) and following poor cereal harvests (Wilson 1991, 201-2). Pulses were also grown as a means of restoring nitrogen to the soil as part of crop rotation (Campbell *et al* 1993, 134). A few charred *Corylus avellana* (hazelnut) shell fragments were also found in pit fill [20], the remains of this wild food resource often recovered from archaeological sites of all periods.

Wild plants/weed seeds
The wild plant/weed seeds in the samples were mainly from plants of disturbed (including cultivated) ground and waste places, particularly in early medieval pit fill [25], although individual species were mostly represented by only occasional or small numbers of seeds. These remains are probably from arable weeds given their association with the cereal grains and therefore may provide information on crop-husbandry and crop-processing activities on site.

Crop husbandry
A few of the weeds suggest the use of sandy soils for cereal cultivation, including a small number of seeds of *Raphanus raphanistrum* (wild radish), an acid soil indicator (Hanf 1983) and *Rumex acetosella* (sheep's sorrel) and single seeds of *Fallopia convulvulus* (black bindweed), *Agrostemma githago* (corn cockle) and *Centaurea cyanus* (cornflower), the last two weeds once frequent contaminants of rye (Wilson *et al* 2003). *Centaurea cyanus* may also be found in other soils including calcareous clays, the cultivation of which is also indicated by seeds of *Anthemis cotula* (stinking chamomile). This corresponds fairly well with the nature of the soils in the vicinity of the site which consist largely of glacial sands and gravels and alluvial clays and silts. The cereals in the samples may grow in a range of soils although bread wheat and oats (and beans) grow best on heavier soils and rye is often found on sandy soils while barley prefers lighter well drained soils. Seeds of *Carex* (sedges) and *Eleocharis* (spike-rushes) could also suggest the cultivation of damper areas of ground although both these plants may have been gathered for use as building/flooring materials or simply for fuel.

There is tentative evidence from the weed seeds to suggest both the spring and autumn sowing of cereals, with *Centaurea cyanus* which mainly germinates in autumn, and *Raphanus raphanistrum* and *Fallopia convolvulus,* usually found in spring-sown crops. All the cereals in the samples, however, may be sown in both autumn and spring although wheat and rye are usually winter sown. There is little evidence for harvesting methods although the presence of twining weeds (*Fallopia convulvulus*) and free-standing weeds of various heights may suggest that the cereals were cut fairly low on the straw.

Crop processing activities
The bulk of the charred plant remains (other than charcoal) represent almost fully processed cereal grains, which may have been accidentally burnt while being dried before storage, hardened before milling or during food preparation/cooking. The occasional large weed seeds in the samples of a similar size to grains are also characteristic of almost fully processed crops because they are difficult to separate other than by hand-sorting, for example, *Agrostemma githago, Raphanus rapahistrum*, *Bromus* and other large grass and large legume seeds. Debris from activities associated with the earlier stages of crop-processing is limited to the smaller weed seeds, including *Atriplex/Chenopodium* (oraches/goosefoots etc.), *Rumex* (dock), *Anthemis cotula* and small grass and small legume seeds, which would have largely been removed using the 'wheat' sieve (Hillman 1984, Fig. 2, 4).

Table 4. Identified charred plant remains

_	Period	ROM	11-13th C		?
	feature	PIT/PH	PIT	PIT	PIT
	cut number	27	7	26	21
	context number	28	5	25	20
	sample number	3	1	2	4
	vol sample (l)	30	22	10	15
	vol flot (ml)	40	60	52	40
LATIN_NAME	ENGLISH				
Cereal grains					
Triticum aestivum/turgidum type	free-threshing wheat	1	20		
T. cf. *aestivum/turgidum* type	?free-threshing wheat		70		
Triticum spp.	wheat		32		
cf. *Triticum* sp(p).	?wheat	1	31		
Triticum/Secale cereale L.	wheat/rye		21		
Secale cereale L.	rye	1	18		
cf. *S. cereale*	?rye	2	64		
Hordeum vulgare L.	barley, hulled twisted		4	1	
H. vulgare L.	barley, hulled		15	2	
H. vulgare L.	barley, indet	5	148		3
cf *H. vulgare*	?barley	1	33		1
Avena sp(p).	oat	1	10		
cf. *Avena* spp.	?oat	2	13		
Cerealia	indet. cereal	31	516	7	4
Cerealia	indet cereal fragments <2mm	++	+++	++	++
Cereal chaff					
Secale cereale L.	rye rachis fragments		1		
Other plant/weed seeds					
Urtica spp.	nettle			2	
Corylus avellana L.	hazelnut shell fragments				+
Atriplex spp.	orache			7	
Chenopodium spp.	goosefoots etc.	3			
Atriplex/Chenopodium sp(p).	orache/goosefoots etc		1	2	
Agrostemma githago L.	corncockle			1	
Fallopia convuluvulus (L.) A Love	black bindweed			1	
Rumex acetosella agg.	sheep's sorrel	1		2	
Rumex sp(p).	dock	1	2	5	
Polygonaceae indet				2	
Raphanus raphanistrum L.	wld radish		9	2	
Vicia faba L.	broad bean				1
Vicia/Lathyrus sp(p).	vetch/tare/vetchling		9	4	
Fabaceae indet	large fragments/cotyledons		3		
Fabaceae indet	small rounded legumes	3	6	2	2
Centaurea cyanus L.	cornflower	1			
Anthemis cotula L.	stinking chamomile	5	1	11	
Asteraceae indet.				11	
Eleocharis palustris/iuniglumis	spike-rush			2	
Carex sp(p).	sedge		1	12	
Cyperaceae indet..			1		
Bromus sp.	brome	1			
cf. *Bromus* sp(p).	?brome	2	1		
Poaceae indet.	grasses (large seeds)		1	1	
Poaceae indet.	grasses (small seeds)	2		5	
indeterminate	wood charcoal	+++++	+++++	+++++	+++++
indeterminate		+	+	++	+
	TOTAL	**64**	**1031**	**82**	**11**
	item density (per litre of processed soil)	***2.1***	***46.9***	***8.2***	***0.7***

key: Item frequency: + =1-10; ++ = 11-100; +++ =101-250; ++++=251-500; +++++ = >500 items
ROM = Roman; PH = post-hole

The samples

Almost 87% of the quantified charred plant remains were from the early medieval pit [007] consisting almost entirely of accidentally burnt virtually cleaned grains and a fairly high item density of 47 per litre of processed soil. These remains may represent debris (along with the charcoal) from a hearth/oven, possibly close-by, dumped in the pit along with other food residues (fish bones, oyster fragments).

The charred plant remains in the other three samples consisted largely of fragmented charcoal with only small assemblages of grains and weed seeds (mainly in early medieval pit [026]) with the low item densities ranging from less than one to eight per litre of processed soil. This material represents scatters of debris from activities associated with the final stages of crop-cleaning possibly taking place at some distance away and incidentally incorporated into these pits. The sedges represented in pit [026] may be the residues of flooring materials.

Discussion

All four pits appear to hold domestic waste, with the evidence of charred food remains and charcoal suggesting disposal of hearth debris into the features along with other domestic debris such as pot and animal bone. The absence of chaff implies partially cleaned cereals, although a number of charred crop weeds are present. If the flint debris includes debitage then it would suggest an earlier episode of acivity on the site. There is no evidence for industrial activity among the samples.

The poor condition of much of the cereal grain has meant that many will cannot be identified to species, but quantification of the identifiable grain in 005, and the sample from 028 asigned to the Roman period, gives a broad indication of which cereals were most abundant in the deposits. These results suggest the cultivation and use of a range of cereals with hulled barley and free-threshing wheat the most abundant among the identified remains, but rye and oats also present in both samples. This is a 'typical' medieval assemblage (Greig 1991) and is not characteristic of the Roman period and it raises a question concerning the phasing/dating of pit [027]. While the rye could be intrusive or both rye and oats weeds in the Roman cereal crops it seems equally likely that any ceramics in this pit could be residual from earlier Roman activity on the site. The dating of this pit should perhaps be reviewed and the condition and quantity of the Roman ceramics in the fills be assessed for their possible residual character. Beans may have also been grown. The charred weed seeds are fairly abundant and less effected by poor preservation. The weed seeds may suggest the use of both sandy soils and heavier soils around the site. A few weed seeds tentatively suggest both the autumn and spring sowing of crops and harvesting by cutting fairly low on the straw. Virtually all the remains were from early medieval pit [007] which consisted of a virtually clean and accidentally burnt crop, with little debris from the earlier stages of crop cleaning except for smaller weed seeds, particularly in the early medieval pit [026]. The abundance of charred 'cleaned' grain in pit [026] along with fired clay of a 'structural character' perhaps reflects the oven or hearth being used for cooking or drying the grain.

The presence of marine shell and herring in pit [007] indicates trade in marine resources presumably with the port in nearby Norwich, while the cyprinid and eel bones could have been caught in local waters, such as the nearby River Tiffey or its tributaries. Crownthorpe Road lies on Anglian till of the Lowestoft formation, a chalky diamicton (http://mapapps.bgs.ac.uk/geologyofbritain/home.html), but sands and gravels and alluvial deposits occur nearby in the river valleys affording a range of soils from slightly acid loamy and clayey soils with impeded drainage (https://www.landis.org.uk/soilscapes/) on the

diamicton to loamy and sandy soils in the valleys. Both soils are used for arable and pasture at the present day and the wheat and oats could have been grown on the soils upon which the site lies, the clayey soils, while the barley and rye may have been grown in the valleys on the terrace deposits that border the alluvium.

In general the assemblages are typical of medieval domestic food waste, with local and more distant resources being exploited, but no real evidence for crop processing activities within the excavated area.

Acknowledgements
We should like to thank Trude Maynard and Angela Bain for the sample processing.

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Appendix 5

GLOSSARY

Context	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, e.g. [004].
Cropmark	A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.
Cut	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, etc. Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
Fill	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).
Layer	A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
Neolithic	The ‘New Stone Age’ period, part of the prehistoric era, dating from approximately 4500 - 2250 BC.
Post hole	The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post. Alternatively, the posthole may have been formed through the process of driving the post into the ground.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Till	A deposit formed after the retreat of a glacier. Also known as boulder clay, this material is generally unsorted and can comprise of rock flour to boulders to rocks of quite substantial size.

Appendix 6

THE ARCHIVE

The archive consists of:

4	Daily record sheets
1	Section register sheet
1	Plan register sheet
1	Photographic register sheet
2	Context register sheets
28	Context record sheets
1	Sample record sheet
4	Environmental sample sheets
8	Sheets of scale drawings
1	Box of finds

All primary records are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

Norfolk Museums Service
Union House
Gressenhall
Dereham
Norfolk
NR20 4DR

Norfolk Historic Environment Service Site Code:	ENF 131411
Archaeological Project Services Site Code:	WWCR 13
Museum Accession No:	NWHCM: 2013.120
OASIS Record No:	archaeol1-151268

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.