WYAS Archaeological Services

Land East of Stumpcross Lane

Pontefract

West Yorkshire

Archaeological Evaluation

Report no. 2776
July 2015

Client: Taylor Wimpey Yorkshire

West Yorkshire Joint Services

Land East of Stumpcross Lane, Pontefract, West Yorkshire

Archaeological Evaluation

Summary

A scheme of archaeological evaluation by trial trenching was carried out in an area of known archaeological potential, ahead of a residential development on land east of Stumpcross Lane, Pontefract. Seven trenches were excavated, two of which were targeting possible archaeological anomalies detected as part of an earlier geophysical survey. On excavation, no explanation for the anomalies was identified but an alignment of four post-holes was excavated at the northern end of the site in Trench 1, with ridge and furrow extending across much of the area.

WYAS Archaeological Services

Report Information

Client:	Taylor Wimpey Yorkshire
Address:	Sandpiper House, Peel Avenue, Wakefield. WF2 7UA
Report Type:	Archaeological evaluation
Location:	Pontefract
County:	West Yorkshire
Grid Reference:	SE 47077 23094
Period(s) of activity:	Medieval/Post-medieval, Undated
Report Number:	2776
Project Number:	6035
Site Code:	STC15
OASIS ID:	archaeol11-217370
Planning Application No.:	
Date of fieldwork:	June 2015
Date of report:	July 2015
Project Management:	Jane Richardson PhD MCIfA
Fieldwork:	Matt Wells BSc MA
	Rosie Scales
Report:	Matt Wells
Illustrations:	Matt Wells
Photography:	Matt Wells, Rosie Scales
Specialists:	Diana Alldritt (botanical remains)

Authorisation for distribution: ----------

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Contents

List of Figures

List of Plates

List of Tables

1 Introduction

Archaeological Services WYAS (ASWYAS) was commissioned by Taylor Wimpey Yorkshire to undertake a programme of archaeological trial trenching in advance of a proposed residential housing development. The evaluation was carried out in accordance with the requirements of the National Planning Policy Framework (2012), employing standards laid down by English Heritage (2006; 2008) and the Chartered Institute for Archaeologists (2014).

Site location, topography and land-use

The proposed development area (PDA) comprises a single elongated field located directly to the east of Stumpcross Lane, and directly to the north of Sowgate Lane, Pontefract. The field is centred at SE 47077 23094. The land is flat, and is covered by short scrub vegetation. The natural topography of the site gently undulates from *c*. 28 m Above Ordnance Datum (AOD) in the north to *c*. 22 m AOD in the south.

Soils and geology

The underlying bedrock comprises sedimentary Dolostone of the Cadeby Formation (British Geological Survey 2015). The soils in this area are classified in the Aberford association, and consist of well drained calcareous fine loamy soils over limestone (Soil Survey of England and Wales 1983).

2 Archaeological Background

A desk-based assessment (DBA) produced by CgMs Consulting (2013), on behalf of the client, revealed no designated archaeological assets within the site boundary and that the development of this land would not have any impact on the setting of any designated assets in the vicinity. The DBA also determined that the potential for the discovery of archaeological features of Saxon, medieval or later date was low.

However, there is evidence that the wider area in which the site is situated would once have been an area of Iron Age and Roman activity. The site sits within a wider landscape of crop marks relating to this period, some of which have been investigated and confirmed to be of this date. The site falls within the area covered by asset HER 989, which is listed as agricultural crop marks identified from various aerial photographs, and is a HER Class III monument, thus warranting field investigation. The potential for assets of this period to exist within the site was determined to be high.

Following the desk-based assessment, a geophysical survey took place which identified two weak anomalies which were interpreted as possible intersecting ditches. Further anomalies

seen across much of the site appeared to be ridge and furrow (Goulding 2015). No further possible archaeological anomalies were detected.

3 Aims and Objectives

The overall aim of the evaluation was to provide information on the presence or absence and the extent, character, date, depth of burial and degree of survival of any archaeological features or deposits within the PDA. The results of the trial trenching, in conjunction with the geophysical survey results, were used to inform the level and type of mitigation work that might be required in order to ensure that the archaeological resource was adequately recorded before development.

To achieve this aim, seven trenches were excavated within this scheme of investigation, each measuring 30m x 2m. Two trenches were placed in an attempt to locate the possible intersecting ditches found during the geophysical survey, with the rest targeting apparently blank areas across the site.

4 Methodology

Excavation of the trenches was carried out using a mechanical excavator equipped with a toothless ditching bucket until either the top of the first archaeological horizon or undisturbed natural was reached. The resulting surface was inspected for archaeological remains. Linear features were excavated in slots at least 1m in length in order to investigate their depth and profile and to recover finds, whilst discreet features were at least 50% sampled.

A full written, drawn and photographic (35mm monochrome and digital) record of all material revealed during the course of the work was made. The trench locations were set out using GPS survey equipment with hand drawn trench plans and sections produced at a suitable scale and tied to the Ordnance Survey National Grid. All sections, plans and elevations included spot-heights related to Ordnance Datum in metres as correct to two decimal places.

All artefacts recovered were retained and removed from the site for assessment. Soil samples were taken of deposits, where appropriate, in order to identify and recover carbonised and waterlogged remains, vertebrate remains, molluscs and small artefactual material.

An inventory of the primary archive is presented in Appendix 1, and a concordance of finds and samples by context, is presented in Appendix 2. ASWYAS currently hold the site archive in a stable and secure location, but it will be deposited with Wakefield Museum for long-term storage in due course.

All excavation was undertaken in line with the CIfA guidelines Standard and Guidance for Archaeological Field Evaluation (2014), the English Heritage MoRPHE PPN3: Archaeological Excavation (2008) and in compliance with ASWYAS's own methodologies (ASWYAS 2011). A specification produced by West Yorkshire Archaeology Advisory Service was followed (Appendix 3).

5 Results

The results from the interventions are summarised in Table 1 and trench locations are shown in Fig. 2.

A dark brown sandy-silt topsoil was encountered across the entire site, varying in depth from 0.30m and 0.50m and in places this sealed a mid or dark brown sandy-silt subsoil. In Trench 1, the subsoil increased in depth from around 0.10m at the south-western end to around 0.40m at the north-eastern end. A similar deposit was seen in Trench 5, 6 and 7, reaching 0.65m in depth at the southern end of Trench 7. Wherever it was encountered it appeared to generally increase in depth further downslope and is probably a colluvium deposit. Beneath this, natural limestone geology was encountered, which was heavily weathered in most places with occasional outcrops of harder stone.

Clear archaeological features were encountered in Trench 1 with a less obvious feature investigated in Trench 3. In both trenches they cut into the natural and were sealed by topsoil and/or subsoil. These are discussed in detail below. Trenches 3 and 4 targeted geophysical anomalies but no trace was found. Within trenches 1 – 6 shallow remnants of plough furrows, all following a roughly parallel alignment with Stumpcross Lane with an even spacing of around 8m, were observed. Trench 7 encountered no archaeological remains. Trench 5 had to be moved 12m south-east from its proposed location due to health and safety concerns related to working underneath overhead power lines.

Table 1. Summary of results from the individual interventions

Trench No.	**Dimensions**	**Total Depth**	**Observations**
1	30m x 2m	0.70m	Archaeological remains present, see below
2	30m x 2m	0.40m	No archaeological remains present
3	30m x 2m	0.50m	Trench targeting potentially archaeological linear geophysical anomalies. Archaeological remains present, see below
4	30m x 2m	0.45m	Trench targeting potentially archaeological linear geophysical anomalies. Ridge and furrow present (Plate 1)

Trench No.	Dimensions	Total Depth	Observations
5	30m x 2m	0.50m	Ridge and furrow present
6	30m x 2m	0.80m	Ridge and furrow present
7	30m x 2m	0.95m	No archaeological remains present

Trench 1 (Fig. 3, Plate 2 and 3)

A series of four post-holes were excavated, forming a slightly curving alignment, approximately south-west to north-east. All had a rounded shape and were filled with a mid-orangey-brown sandy-silt fill with occasional limestone inclusions, but no dating evidence was recovered. Post-hole 100 was found against the south-eastern baulk, 16m from the south-western end of the trench and measured 0.64m in length and 0.25m deep. Post-hole 102 lay 2.5m to the north-east, in the centre of the trench, and had a circumference of 0.79m and a depth of 0.24m. Post-hole 104 extended beyond the north-western baulk, another 2.5m to the north-east and measured 0.30m in length and 0.25m deep. Post-hole 106 again extended beyond the north-western baulk, 3m to the north-east of 104, and measured 0.58m in length but was much shallower than the other features at 0.09m deep. The function of the post-holes could not be determined.

Trench 3 (Fig. 4, Plate 4)

Trench 3 was positioned to target one east-west aligned linear geophysical anomaly running across the northern end of the trench and a second north-south anomaly at the southern end. No trace of either was found in the trench. Shallow plough furrows were seen at each end of the trench, running parallel with Stumpcross Lane, with a more substantial linear feature investigated around 10m from its northern end on a slightly different alignment. Feature 302 measured 0.70m and 0.07m deep and had an irregular, poorly defined profile. It was filled with a mid-orangey-brown sandy-silt with no finds (301). It does lie near to one of the targeted geophysical anomalies but it is probably too far south and on a different alignment to be the cause of it. The feature may be a largely ploughed out field boundary or a well defined furrow, but its shallowness and poor definition suggests it has a natural origin.

6 Environmental Record

The environmental samples by Diane Alldritt

Bulk environmental samples were processed by ASWYAS using a Siraf-style water flotation system (French 1971). Four flots were dried before examination under a low power binocular microscope typically at x10 magnification. All identified plant remains including charcoal were removed and bagged separately by type. Wood charcoal was examined using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

The flots are generally very small and produced low amounts of carbonised material, indeed most of the burnt remains were found to be fragments of clinker-like vesicular residue. Traces of wood charcoal are occasionally present, but mainly decayed, crushed and too small to identify. Modern roots are present in amounts up to 10ml along with occasional earthworm egg capsules and some snail shells indicative of a degree of bioturbation in the deposits.

Samples 1 (101), 2 (103) and 3 (105) contain clinker-like vesicular material along with snail shell and earthworm egg capsules, suggesting post-medieval activity or disturbance in the deposits (Table 2). Sample 4 (107) is slightly different producing a few decayed fragments of charcoal measuring 2-3mm, but too small to identify.

Table 2. Carbonised plant macrofossils and charcoal

	Sample	1	2	3	4
	Context	101	103	105	107
	Total CV	<2.5ml	5ml	2.5ml	<2.5ml
	Modern	10ml	5ml	5ml	2.5ml
Burnt vesicular/clinker		4	5+	5+	
Non-marine mollusc (snail) shell		10+	20+	10+	5+
Earthworm egg capsules			1		

CV= carbonised volume

7 Conclusions

The evaluation methodology used here has been largely successful in understanding the character, depth and survival of archaeology on the site. Alongside the geophysical survey, the results of the trial trenching indicate largely where development is likely to have an impact on surviving archaeological remains.

Ridge and furrow was detected across much of the site during the geophysical survey which was confirmed in the trenches, albeit with only ephemeral remains. Their roughly parallel alignment with Stumpcross Lane and the long, thin shape of the field suggest that the current field represents several medieval strip fields. It seems likely, therefore, that the site has been under cultivation from the medieval or post-medieval period onwards.

The geophysical survey detected weak linear anomalies, suggested as potential field boundaries, but neither Trench 3 nor 4 found any evidence for them. Aside from the unreliable linear feature in Trench 3, the evaluation found no evidence to suggest the presence of field boundaries or enclosures which have been detected as cropmarks elsewhere in the local landscape.

Trench 1 produced the most interesting archaeological remains with four substantial post-holes arranged in a slightly curved alignment though their interpretation beyond this is problematic, especially given the lack of clear dating evidence. While they may be part of a post-built structure, they may also represent a hitherto unrecorded fence line.

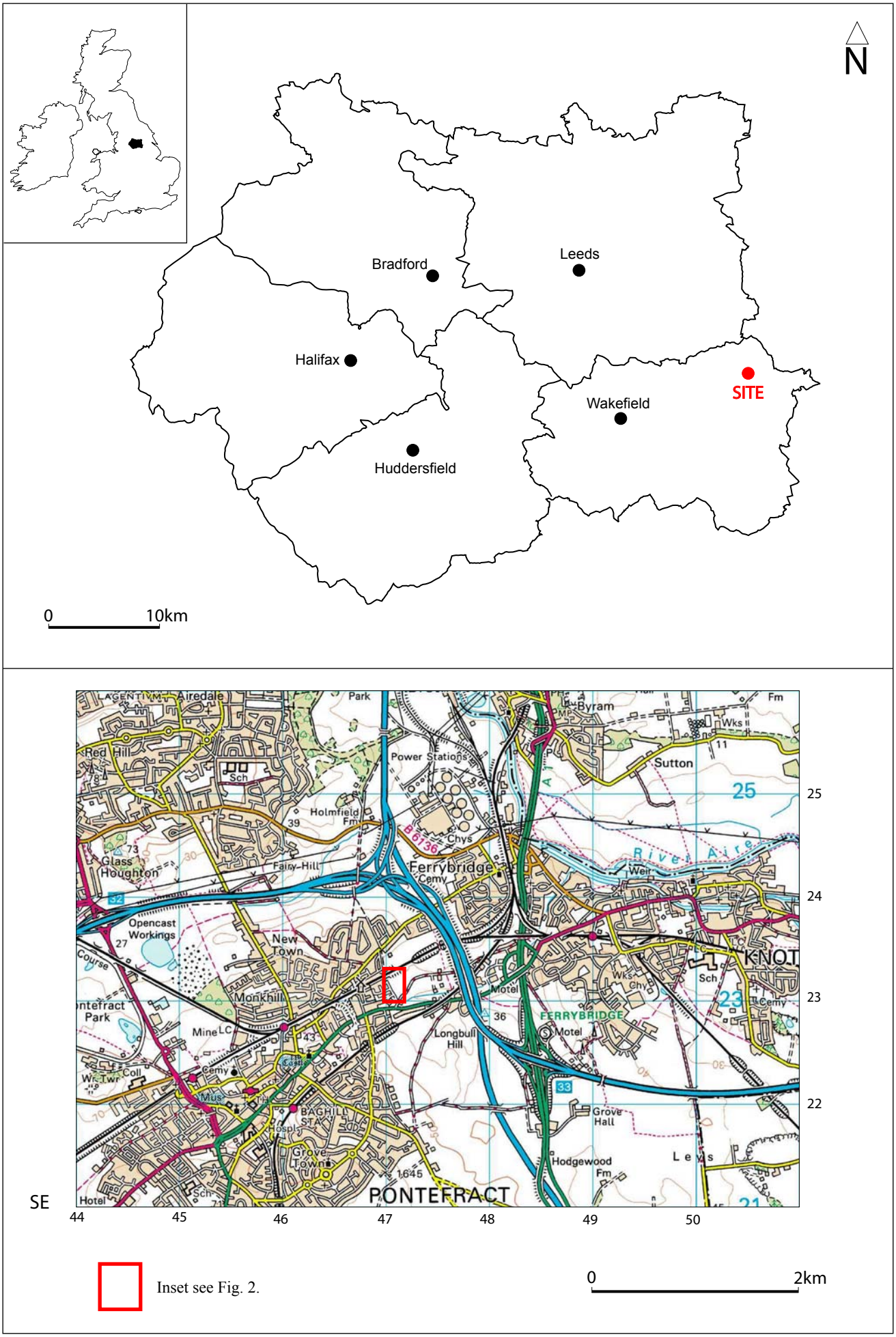

Fig. 1. Site location

PROPOSED DEVELOPMENT BOUNDARY

TRENCH LOCATIONS

N

Stone

Stone

1

2

3

4

5

6

7

6

STUMPCROSS CLOSE

109

1

105

2

6

8

10

STUMPCROSS WAY

103

101

1

3

5

STUMPCROSS LANE

SOWGATE LANE

Pontefract Fire Station

25

23

Sewage Works

Nu

OSS

4232 00

4231 00

4230 00

4470 00

4471 00

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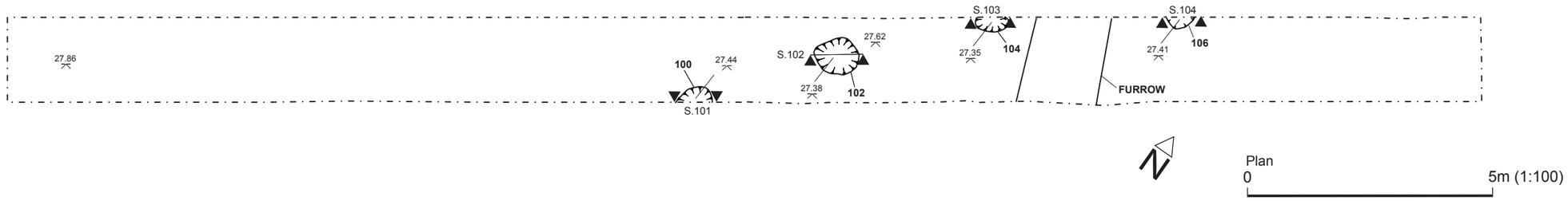
0 30m

Fig. 2. Site plan showing trench positions and the results of the geophysical survey (1:750 @ A3)



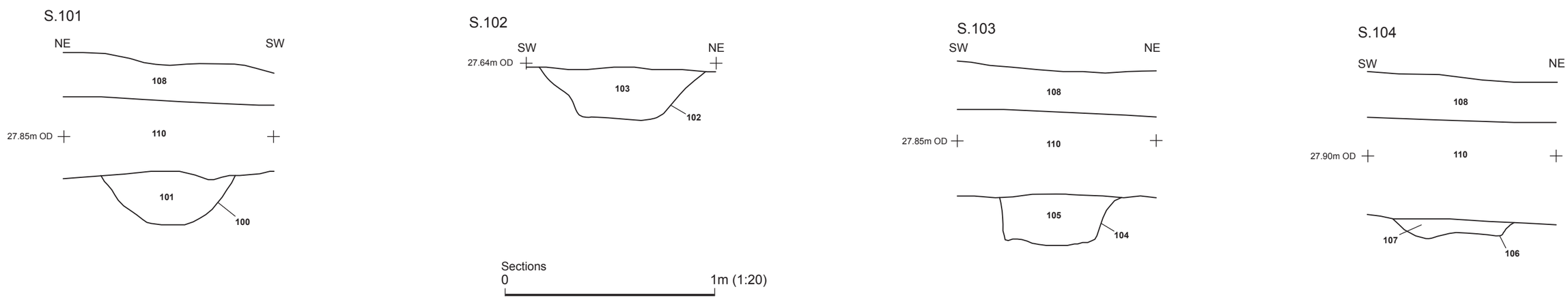


Fig. 3. Trench 1 plan and sections

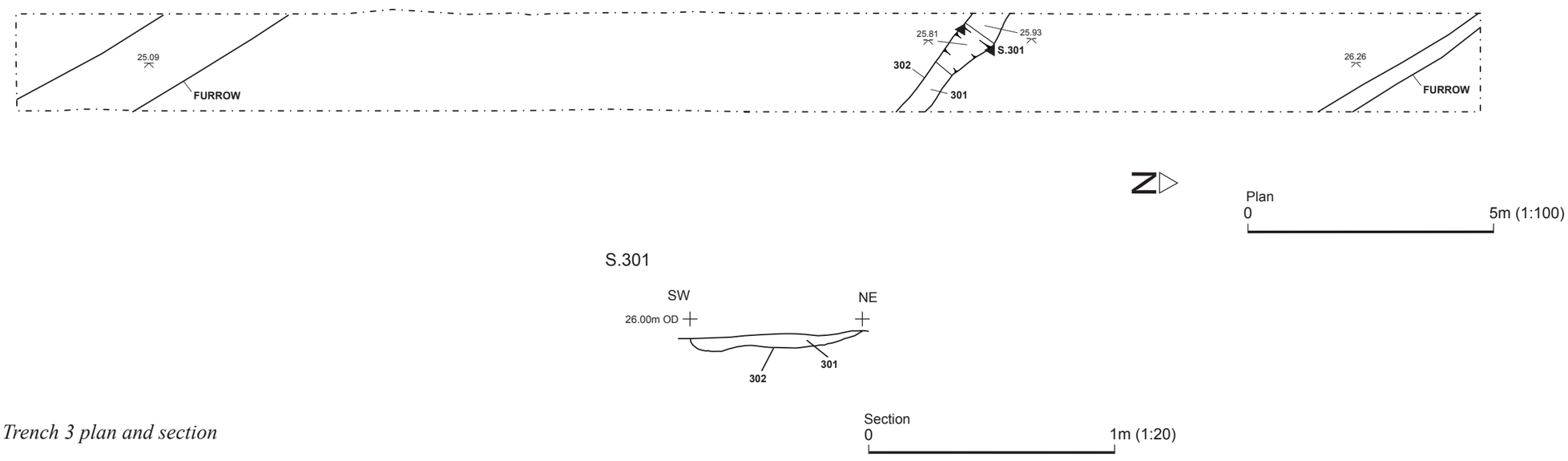


Fig. 4. Trench 3 plan and section

Plate 1. Trench 4 with remnants of a furrow in the foreground, looking south

Plate 2. South-east-facing section of post-hole 102

Plate 3. Post-hole group in Trench 1, looking south-east

Plate 4. South-facing section of linear 302, looking north

Appendix 1: Inventory of primary archive

File	Description	Quantity
File 1	Trench record sheet	7
	Context cards	10
	Digital photo record sheet	1
	Photo record sheet (film no. 9264)	1
	Permatrace sheets	2

Appendix 2: Concordance of contexts yielding artefacts or environmental remains

Context	Trench	Description	Artefacts and environmental samples
100	1	Cut of post-hole	
101	1	Mid orangey-brown fill of 100	GBA 1
102	1	Cut of post-hole	
103	1	Mid orangey-brown fill of 102	GBA 2
104	1	Cut of post-hole	
105	1	Mid orangey-brown fill of 104	GBA 3
106	1	Cut of post-hole	
107	1	Mid orangey-brown fill of 106	GBA 4
108	1	Topsoil	
109	1	Subsoil/Colluvium	
110	1	Natural limestone	
300	3	Topsoil	
301	3	Mid orangey-brown fill of 302	
302	3	Cut of south-east to north-west aligned linear feature	
303	3	Natural limestone	

Appendix 3: Specification

WEST YORKSHIRE ARCHAEOLOGY ADVISORY SERVICE (WYAAS): SPECIFICATION FOR TRIAL TRENCHING TO EVALUATE AND RECORD ARCHAEOLOGICAL REMAINS IN ADVANCE OF DEVELOPMENT AT STUMP CROSS LANE PONTEFRACT (SE 47075 23086)

Specification prepared on behalf of Wakefield Metropolitan District Council at the request of Jane Richardson (Planning Application reference 13/02258/OUT)

1.0 **Summary**

1.1 A limited amount of archaeological work consisting of trial trenching is proposed to help establish the below ground archaeological survival at the above site and to record it if encountered. **Any significant additional work that may be necessary will be covered by a supplementary specification.** This specification has been written by the West Yorkshire Archaeology Advisory Service (WYAAS), the holders of the West Yorkshire Historic Environment Record. Depending upon the results obtained, additional archaeological work may need to be carried out. This additional work will be governed by separate specifications.

NOTE: The requirements detailed in paragraphs 6.3, 6.4, 6.5, 6.6 and 8.1 are to be met by the archaeological contractor **prior** to the commencement of fieldwork by completing and returning the attached form to the WY Archaeology Advisory Service.

2.0 **Site Location & Description** (please refer to attached Figure 1)

Grid Reference: SE 47075 23086

2.1 The site is located in a relatively narrow plot aligned north-west to south-east defined by a railway line to its north, Pontefract Lane to the west, Sowgate Lane to the south and agricultural land to the east. It has an area of c. 1.1ha and the underlying geology comprises the Zechstein Group of dolomitised limestone and dolomite.

2.2 The site lies between the 20 and 30 meter contours and rises gently to the north. An electricity transmission line crosses its central area from east to west.

2.3 The site is located in Wakefield Metropolitan District and the historic township of Ferry Fryston.

3.0 **Planning Background**

3.1 A planning permission (1302258OUT Stump Cross Pontefract) for residential development has been granted by Wakefield Metropolitan District Council.

3.2 The Planning Authority have attached an archaeological condition to the above planning permission (Condition 22) as they have been advised by the WYAAS that there is reason to believe that important archaeological remains may be affected by the proposed development and that an archaeological evaluation is required to establish the degree of archaeological recording that is necessary.

3.3 This specification has been prepared by the WYAAS at the request of Jane Richardson of Archaeological Services West Yorkshire Archaeology Service, acting on behalf of the applicants, to detail what is required for the evaluation and to allow an archaeological contractor to provide a quotation.

4. Archaeological Interest

4.1 Aerial photography shows that the site lies in an extensive archaeological landscape consisting of backfilled ditches that formed field boundaries and track ways; enclosures (some of which clearly exhibit internal features); pits and pit alignments (West Yorkshire Historic Environment Record PRN 991). Whilst primarily considered to be of Iron Age and Romano-British date but Bronze Age features are also known witin the wider landscape.

A particularly well defined pair of enclosures with associated field and track way ditches are present to the north-east of the site beyond the railway line. A geophysical survey of the site by Archaeogical Services West Yorkshire Archaeology Service (Report No. 2757) identified a pair of intersecting ditches which may relate to this period of activity although much of the site's archaeological potential was apparently masked by dumped material.

The site and neighbouring fields retain the narrow strip pattern of medieval cultivation and it is unusual that this earlier form of land holding was not obscured when the township was enclosed (the enclosure of Ferry Fryston is currently believed to have taken place in 1831 though no Act of Parliament is held by the West Yorkshire Archive Service). It has been suggested that part of the Yorkist Army camped in the vicinity of Stunmpcross Lane prior to the Battle of Towton (29th March 1461; WYHER 5409). The find spots of a medieval coin and jetton are located nearby, both were discovered by metal detectorists (WYHER 13727 &13787).

Archaeological evaluation by trail trenching is necessary to evaluate the known and likely archaeological anomalies and other areas in which the site's potential has been concealed.

5. Aim of the Specified Work

5.1 The aim of this project is to gather sufficient information to establish the extent, condition, character and date (as far as circumstances permit) of any archaeological features and deposits within the proposed development area, and to record at an appropriate level, archaeological features encountered in the excavation trenches, with the aim of elucidating the archaeological potential discussed in section 4.

5.2 It is conceivable that a larger, more open area excavation may be identified as being warranted, or alternatively a wider watching brief may be required during ground-works for the development, possibly with provision for rapid salvaging recording. All possibilities will be considered depending upon the results of this exercise and it would be anticipated that if further significant fieldwork is required, then the contractor would draft the specification and agree it with the WYAAS. It is a primary aim of the specified work that all aspects should be placed in the public domain by depositing the results with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE)

6. General Instructions

6.1 Health and Safety

6.1.1 The archaeologist on site will naturally operate with due regard for Health and Safety regulations. This work may require the preparation of a Risk Assessment of the site, in accordance with the Health and Safety at Work Regulations. The WYAAS and its officers cannot be held responsible for any accidents or injuries that may occur to outside contractors while attempting to conform to this specification. Any Health and Safety issues which may hinder compliance with this specification should be discussed with WYAAS at the earliest possible opportunity (see section 13.2).

6.2 Location of Services, etc.

6.2.1 The archaeological contractors will be responsible for locating any drainage pipes, service pipes, cables *etc*. which may cross any of the trench lines, and for taking the necessary measures to avoid disturbing such services.

6.3 Confirmation of Adherence to Specification

6.3.1 Prior to the commencement of *any work,* the archaeological contractor **must confirm adherence to this specification in writing to the WYAAS**, or state (with reasons) any proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of the West Yorkshire Archaeology Advisory Service to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor. **Modifications presented in the form of a re-written specification/project design will not be considered by the WYAAS.** Any technical queries arising from the specification detailed below should be addressed to the WYAAS *without delay*.

6.4 Confirmation of Timetable and Contractors' Qualifications

6.4.1 Prior to the commencement of *any work*, the archaeological contractor **must** return the enclosed notification form or provide WYAAS **in writing** with:

- a projected timetable for the site work;
- details of the staff structure and numbers;
- names and *CVs* of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*),

6.4.2 All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard, subject to the ultimate judgement of WYAAS.

6.5 Notification

6.5.1 WYAAS should be provided with **as much notice as possible in writing** (and certainly not less than one week) of the intention to start work. A copy of the archaeological contractor's risk assessment of the site should accompany the notification.

6.5.2 The district's museums officer should be notified in writing of the commencement of fieldwork at the same time as WYAAS. In this case Mr David Evans Wakefield

M.D.C. Museum and Arts, Pontefract Museum, 5 Salter Row, Pontefract, WF8 1BA. telephone 01924 305352 (davidevans@wakefield.gov.uk)..

6.5.3 The Historic England Regional Science Adviser, Andy Hammon, should also be notified of the intention to commence fieldwork. (Tel.: 01904 601983; email: andy.hammon@HistoricEngland.org.uk).

6.6 Documentary Research

6.6.1 Prior to the commencement of *fieldwork*, the HER should be visited by either the project manager or the site supervisor, in order to gain an overview of the archaeological/historical background of the site and environs. In addition to providing a knowledge base for the work in hand, the results of this assessment may be incorporated into the contractor's report where they are considered to contribute to that report, but any extraneous material should be omitted. Please note that the HER makes a charge for consultations of a commercial nature. The results of this exercise should be used to inform the whole project. A formal desk-based report is not required and the results of this stage of work should be incorporated in the final report.

7.0 Trenching Methodology

7.1 Trench Size and Placement (Figure 1)

7.1.1 The work will involve the excavation of seven 30m x 2m trenches, which can be machine-opened. The contractor should also allow for a contingency amount of 40m^2 square metres. The use of the contingency will depend upon the results obtained in the initial trial trenching. The use of the contingency will be at the decision of the WYAAS, whose decision will be issued in writing, if necessary in retrospect after site discussions. Proposed trench locations are shown on Figure 2.

Trench No	Dimensions (m)	Area (m^2)
1	30 x 2	60
2	30 x 2	60
3	30 x 2	60
4	30 x 2	60
5	30 x 2	60
6	30 x 2	60
7	30 x 2	60

Total site area: **4400m^2**
Total area of trenching: **420m^2**
Contingency trenching: 40**m^2**

7.2 Method of Excavation

7.2.1 The trial trenches may be opened and the topsoil and recent overburden removed down to the first significant archaeological horizon in successive level spits of a **maximum** 0.2m. thickness, by the use of an appropriate machine using a wide toothless ditching blade. **Under no circumstances should the machine be used to cut arbitrary trenches down to natural deposits.** Any machine work must be carried out under direct archaeological supervision and the machine halted if significant archaeological deposits are encountered. The top of the first significant archaeological

horizon may be exposed by the machine, but must then be cleaned by hand and inspected for features and then dug by hand.

7.2.2 All archaeological remains will be hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the project. The **complete** stratigraphic sequence, down to naturally occurring deposits will be excavated and the work will investigate and record **all** inter-relationships between features. The contractor should make provision for the use of shoring/stepping to accomplish this if necessary. All trenches are to be the stated dimensions at their base. The following strategy will be employed:

- Linear boundary features: a minimum sample of 20% of each linear boundary feature such as ditches and track ways. Each section should be at least 1m wide and, where possible, sections will be located and recorded adjacent to the trench edge. All intersections will be investigated to determine the relationship(s) between the component features. All termini will be investigated.
- Other linear and discrete features: all stake-holes, post-holes, pits, ring ditches, kilns, and other structural/funerary/industrial features will be 50% excavated in the first instance, recorded in section, and then fully excavated. All intersections will be investigated to determine the relationship(s) between the component features. Where possible, sections will be located and recorded adjacent to the trench edge.
- Built structures: walls, floors etc. will be excavated sufficient to establish their form, phasing, construction techniques. All intersections will be investigated to determine the relationship(s) between the component features.

7.2.3 All artefacts are to be retained for processing and analysis except for unstratified 20th-century material, which may be noted and discarded. Finds will be stored in secure, appropriate conditions following the guidelines in First Aid for Finds (3rd edition).

7.3 Method of Recording

7.3.1 The trenches are to be recorded according to the normal principles of stratigraphic excavation. The stratigraphy of each area is to be recorded, even when no archaeological deposits have been identified.

7.3.2 Section drawings (at a minimum scale of 1:20) must include heights A.O.D. Plans (at a minimum scale of 1:50) must include O.D. spot heights for all principal strata and any features. At least one section of each trench edge, showing a representative and complete sequence of deposits from the modern ground surface to the natural geology, will be drawn and reproduced in the report.

7.3.3 The actual areas of excavation and all archaeological (and possibly archaeological) features should be accurately located on a site plan and recorded by photographs, scale drawings and written descriptions sufficient to permit the preparation of a detailed archive and report on the material. The trench locations, as excavated, will be accurately surveyed, tied into the O.S. National Grid and located on an up-to-date 1:1250 O.S. map base.

7.3.4 Except where otherwise requested, black and white photography using orthodox monochrome chemical development should be used. Film should be no faster than ISO400. Slower films should be used where possible as their smaller grain size yields higher definition images. Technical Pan (ISO 25), Pan-F (ISO50), FP4 (ISO125) and HP5 (ISO400) are recommended. The use of dye-based films such as Ilford XP2 and Kodak T40CN is unacceptable due to poor archiving qualities. Black and white photography should be supplemented by colour photography; this should be in transparency format (i.e. slides or digital photography as an acceptable alternative, see paragraph 7.3.5 below).

7.3.5 Digital photography: as an alternative for colour slide photography, good quality digital photography may be supplied, using cameras with a minimum resolution of 8 megapixels. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied in three file formats (as a RAW data file, a DNG file and as a JPEG file). The contractor must include metadata embedded in the DNG file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. **Any digital images are to be supplied to WYAAS on gold CDs by the archaeological contractor accompanying the hard copy of the report.**

7.4 Use of Metal Detectors

7.4.1 Given the sites possible link to the Towton campaign both the trench locations and spoil heaps are to be scanned for non-ferrous metal artefacts using a metal detector capable of making this discrimination, operated by an experienced metal detector user (if necessary, operating under the supervision of the contracting archaeologist). Modern artefacts are to be noted but not retained (19th-century material and earlier should be retained.)

7.4.2 If a non-professional archaeologist is to be used to carry out the metal-detecting, a formal agreement of their position as a sub-contractor working under direction must be agreed in advance of their use on site. This formal agreement will apply whether they are paid or not. To avoid financial claims under the Treasure Act a suggested wording for this formal agreement with the metal detectorist is: "In the process of working on the archaeological investigation at [*location of site*] between the dates of [*insert dates*], [*name of person contributing to project*] is working under direction or permission of [*name of archaeological organisation*] and hereby waives all rights to rewards for objects discovered that could otherwise be payable under the Treasure Act 1996."

7.5 Environmental Sampling Strategy

7.5.1 Bulk samples must be taken from **all** securely stratified deposits using a strategy which combines systematic and judgement sampling, but which also follows the methodologies outlined by English Heritage in 'Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (Second Edition)' guidance

7.5.2 Samples for specialist environmental analysis and scientific dating (soil profiles, archaeomagnetic dating, dendrochrology etc.) should be taken if suitable material is encountered during the excavation. The Historic England Science Advisor should be consulted (Dr Andy Hammon, tel.: 01904 601983, email: andy.hammon@HistoricEngland.org.uk) and provision should be made for an appropriate specialist(s) to visit the site, take samples and discuss the sampling strategy, if necessary.

7.6 Conservation Strategy

7.6.1 A conservation strategy must be developed in collaboration with a recognised laboratory. All finds must be assessed in order to recover information that will contribute to an understanding of their deterioration and hence preservation potential, as well as identifying potential for further investigation. Furthermore, all finds must be stabilised and packaged in accordance with the requirements of the receiving museum. As a guiding principle, only artefacts of a "displayable" quality would warrant full conservation, but metalwork and coinage from stratified contexts would be expected to be x-rayed if necessary, and conservation costs should also be included as a contingency.

7.7 Human Remains

7.7.1 Any human remains that are discovered must initially be left *in-situ*, covered and protected. WYAAS will be notified at the earliest opportunity. If removal is necessary the remains must be excavated archaeologically in accordance with the *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* published by English Heritage (2005), a valid Ministry of Justice licence, if appropriate, and any local environmental health regulations.

7.8 Treasure Act

7.8.1 The terms of the Treasure Act 1996, as amended, must be followed with regard to any finds that might fall within its purview. Any finds must be removed to a safe place and reported to the local coroner as required by the procedures as laid down in the "Code of Practice". Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.

7.9. Unexpectedly Significant or Complex Discoveries

7.9.1 Should there be unexpectedly significant or complex discoveries made that warrant, in the professional judgement of the archaeologist on site, more detailed recording than is appropriate within the terms of this specification, then the archaeological contractor should urgently contact the WYAAS with the relevant information to enable them to resolve the matter with the developer.

7.10 Access/Monitoring Arrangements

7.10.1 The representative of the WYAAS will be afforded access to the site at any reasonable time. It is usual practice that the visit is arranged in advance, but this is not always feasible. The WYAAS' representative will be provided with a site tour and an overview of the site by the senior archaeologist present and should be afforded the opportunity to view all trenches, any finds made that are still on site, and any records not in immediate use. It is anticipated that the records of an exemplar context that has previously been fully recorded will be examined. Any observed deficiencies during the

site visit are to be made good to the satisfaction of the WYAAS' representative, by the next agreed site meeting. Access is also to be afforded at any reasonable time to the Historic England Regional Archaeological Science Advisor.

7.10.2 Please note that WYAAS now make a charge for site monitoring visits. An invoice will be raised on the archaeological contractor. One monitoring visit will be charged for this project. Please contact us for the current charge.

8. Excavation Archives Deposition

8.1 Before commencing any fieldwork, the archaeological contractor must contact the relevant District museum archaeological curator in writing (copied to WYAAS) to determine the museum's requirements for the deposition of an excavation archive. In this case the contact is: Mr David Evans Wakefield M.D.C. Museum and Arts, Pontefract Museum, 5 Salter Row, Pontefract, WF8 1BA telephone 01924 305352 (davidevans@wakefield.gov.uk).

8.2 It is the policy of the Wakefield M.D.C. Museum and Arts to accept complete excavation archives, including primary site records and research archives and finds, from all excavations carried out in the District, which it serves.

8.3 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with the Wakefield M.D.C. Museum and Arts.

8.4 It is the responsibility of the archaeological contractor to meet the Wakefield M.D.C. Museum and Arts requirements with regard to the preparation of fieldwork archives for deposition.

9. Post-Excavation Analysis and Reporting

9.1 Requirement for Further Fieldwork

9.1.1 It is anticipated that upon (or approaching) completion of fieldwork a meeting with WYAAS will be arranged by the archaeological contractor, either at the WYAAS offices or on site, to discuss the results and agree what, if any, additional work may be warranted. The developer should also be invited to attend this meeting. The meeting may take the form of a telephone discussion at WYAAS' discretion. Following the meeting the archaeological contractor will either produce a report (if no further archaeological work is warranted), or draft a specification (if further work is required) to be submitted to WYAAS for written approval prior to the commencement of any further work.

9.1.2 If further fieldwork is required, the results of the evaluation will be integrated into an overall report encompassing all stages of work. However, if a different contractor is employed by the developer to undertake subsequent works, then a full, formal evaluation report (see paragraph 9.3 below) should be prepared and accepted by WYAAS before further fieldwork commences.

9. Post-Excavation Analysis and Reporting

9.1 Finds and Samples

9.1.1 On completion of the fieldwork, any samples taken shall be processed and any finds shall be cleaned, identified, assessed/analysed, dated (if possible), marked (if appropriate) and properly packed and stored in accordance with the requirements of national guidelines.

9.1.2 Samples should be processed for the recovery of artefactual material, animal/fish/human bones, industrial residues (including hammerscale), shell, molluscs, charcoal and mineralised plant remains as a minimum. 'Specialist' samples (e.g. monoliths, cores, plant/invertebrate macrofossils) should be processed separately as appropriate.

9.1.3 Material suitable for scientific dating (e.g. charcoal) should be identified to species and assessed for suitability by an environmental specialist prior to submission to a dating laboratory. Any human remains submitted for C14 dating should also have carbon (delta 13C) and nitrogen isotope analysis carried out by the radiocarbon laboratory.

9.1.4 All finds and biological material must be analysed by a qualified and experienced specialist.

9.1.5 Following identification, finds of 20th-century date should be noted, quantified and summarily described, but can then be discarded if appropriate. All finds which are of 19th century or earlier date should be retained and archived.

9.2 Field Archive

9.2.1 A fully indexed field archive shall be compiled consisting of all primary written documents, plans, sections, photographic negatives and a complete set of labelled photographic prints/slides. Standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007). The contractor should also take account of any additional requirements imposed by the recipient museum (see section 9.1 above). An index to the field archive is to be deposited with the West Yorkshire Archaeology Advisory Service (preferably as an appendix in the report).

9.2.2 Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but **not** in a manner which alters detail or perspective). **All digital prints, including those presented in the report, must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the WY Archaeology Advisory Service, with supporting documentation indicating their archival stability/durability.** Written confirmation that the materials are acceptable must have been received from the WYAAS prior to the commencement of work on site.

9.2.3 The original archive is to accompany the deposition of any finds, providing the landowner agrees to the deposition of finds in a publicly accessible archive (see para. 8.4 above). In the absence of this agreement the field archive (less finds) is to be deposited with the West Yorkshire Archaeology Advisory Service.

9.3 Report Format and Content

9.3.1 A report should be produced, which should include background information on the need for the project, a description of the methodology employed, and a full description and interpretation of results produced. It is not envisaged that the report is likely to be published, but it should be produced with sufficient care and attention to detail to be of academic use to future researchers.

9.3.2 Location plans should be produced at a scale which enables easy site identification and which depicts the full extent of the site investigated (a scale of 1:50,000 is not regarded as appropriate unless accompanied by a more detailed plan or plans). Site plans should be at an appropriate scale showing trench layout (as dug), features located and, where possible, predicted archaeological deposits. Upon completion of each evaluation trench all sections containing archaeological features will be drawn. Section drawings (at a minimum scale of 1:20) must include heights O.D. Plans (at a minimum scale of 1:50) must include O.D. spot heights for all principal strata and any features. Where no archaeological deposits are encountered at least one long section of each trench will be drawn.

9.3.3 Artefact analysis is to include the production of a descriptive catalogue, quantification by context and discussion/interpretation if warranted, with finds critical for dating and interpretation illustrated.

9.3.4 Environmental analysis is to include identification of the remains, quantification by context, discussion/interpretation if warranted, and a description of the processing methodology. Radiocarbon results must be presented in full (laboratory sample number, conventional radiocarbon age, delta C13 value, calibration programme). Copies of the laboratory-issued dating certificates must be included as an appendix to the report.

9.3.5 Details of the style and format of the report are to be determined by the archaeological contractor, but should include a full bibliography, a quantified index to the site archive, and as an appendix, a copy of this specification.

9.4 Summary for Publication

9.4.1 The attached summary sheet should be completed and submitted to the WYAAS for inclusion in the summary of archaeological work in West Yorkshire to be published on WYAAS' website.

9.5 Publicity

If the project is to be publicised in any way (including media releases, publications etc.), then it is expected that the WYAAS will be given the opportunity to consider whether it wishes its collaborative role to be acknowledged, and if so, the form of words used will be at the WYAAS' discretion.

9.5.1 During fieldwork monitoring visits WYAAS officers will take digital photographs which may be published on the Advisory Service's social media feeds as part of an ongoing strategy to enable public access to information about current fieldwork in the county.

10. Report Submission and Deposition with the HER

10.1 **A hard copy of the report (plus a digital copy on gold disk) is to be supplied directly to the WYAAS within a period of two months following completion of fieldwork**, unless specialist reports are awaited. In the latter case a revised date should be agreed with the WYAAS. Completion of this project and advice from WYAAS on an appropriate mitigation strategy are dependant upon receipt by WYAAS of a satisfactory report which has been prepared in accordance with this specification. Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS.

10.2 The report will be supplied on the understanding that it will be added to the West Yorkshire Historic Environment Record where it will be publicly accessible once deposited unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposition.

10.3 Copyright - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act* 1988 (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for non-commercial use by third parties, with the copyright owner suitably acknowledged.

10.4 A copy of the final report (in .pdf format) shall also be supplied to Historic England's Science Advisor (Andy Hammon, Historic England, 37 Tanner Row, York Y01 6WP).

10.5 The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at **http://ads.ahds.ac.uk/project/oasis/**. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

11. General Considerations

11.1 Authorised Alterations to Specification by Contractor

11.1.1 It should be noted that this specification is based upon records available in the West Yorkshire Historic Environment Record and on a brief examination of the site by the WYAAS. Archaeological contractors submitting tenders should carry out an inspection of the site prior to submission. If, on first visiting the site or at any time during the course of the recording exercise, it appears in the archaeologist's professional judgement that

i) a part or the whole of the site is not amenable to recording as detailed above, and/or
ii) an alternative approach may be more appropriate or likely to produce more informative results, and/or

then it is expected that the archaeologist will contact WYAAS as a matter of urgency. If contractors have not yet been appointed, any variations which the WYAAS considers to be justifiable on archaeological grounds will be incorporated into a revised specification, which will then be re-issued to the developer for redistribution to the tendering contractors. If an appointment has already been made and site work is ongoing, WYAAS will resolve the matter in liaison with the developer and the Local Planning Authority.

11. 2 Unauthorised Alterations to Specification by Contractor

11.2.1 It is the archaeological contractor's responsibility to ensure that they have obtained WYAAS' consent in writing to any variation of the specification prior to the commencement of on-site work or (where applicable) prior to the finalisation of the tender. Unauthorised variations may result in WYAAS being unable to recommend determination of the planning application to the Local Planning Officer based on the archaeological information available and are therefore made solely at the risk of the contractor.

11.3 Technical Queries

Similarly, any technical queries arising from the specification detailed above, should be addressed to WYAAS without delay.

11.4 Valid Period of Specification

This specification is valid for a period of one year from date of issue. After that time it may need to be revised to take into account new discoveries, changes in policy or the introduction of new working practices or techniques.

West Yorkshire Archaeology Advisory Service
David Hunter **June 2015**

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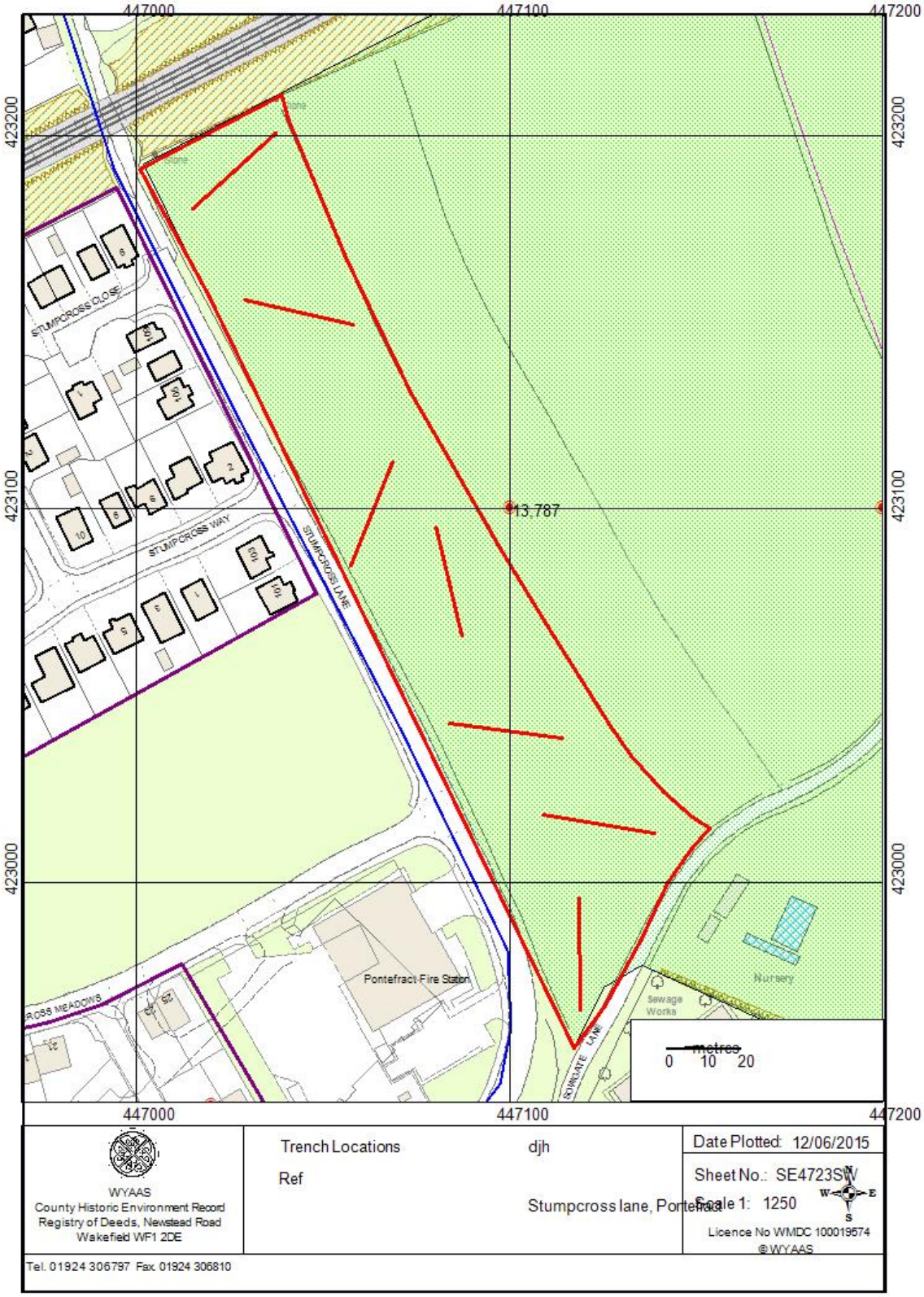

Figure 1, Site Location and Trench Plan

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