

**GERMANY BECK
FULFORD
YORK
SE 5540 4900**

Outline Planning 01/0315/OUT

**WRITTEN SCHEME OF INVESTIGATION
REVISION H**

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1. INTRODUCTION

1.1 This document presents a Written Scheme of Investigation (WSI) for undertaking a programme of archaeological fieldwork in mitigation of the development at land adjacent to Germany Beck, Fulford, (centred at SE 5540 4900). Condition 12 states that no development shall commence on site until a scheme of archaeological work has been submitted to and approved in writing by the Local Planning Authority. Condition 12 contains 7 sub-sections (12a to 12g). This WSI has been developed to form the archaeological strategy for the site, establishing the principles for the archaeological work. However, it is acknowledged that the site will be developed in phases and that the details of this WSI relate to the initial archaeological work required prior to the creation of the junction and access road, haul road and compensatory flood storage ponds along with community access to these works.. Further archaeological work is required as the development progresses, to include:

a) pre-development metal detecting survey of the remainder of the site, prior to each phase of development (Fig. 1).

d) archaeological supervision of all soil removal for structures and internal roads, other than the access road, A19 junction, and haul road; (Figs. 2-8).

f) details of a programme of access for the community involvement to the archaeological excavations for the remainder of the site excluding A19 junction and access Road;

g) confirmation of phasing of deposition of archive relating to the works.

The further investigative works set out above will take into account the findings and analysis of the initial archaeological work as well as that of the previous phase of development. This will require the submission and approval by Local Planning Authority of addenda to this WSI to cover this further archaeological work. The phasing of the development work on site and associated sequence of archaeological investigation is outlined on the attached plan.

1.2 The Written Scheme of Investigation has been prepared by MAP Archaeological Practice Ltd at the request of Persimmon Homes Yorkshire Ltd and in consultation with the City of York's archaeologist John Oxley. The WSI is to be submitted to The City of York Council, (The Planning Authority) in order that the document constitutes an agreed scheme of works.

2. LOCATION, TOPOGRAPHY AND GEOLOGY

2.1 The Germany Beck site is situated in the parish of Fulford, North Yorkshire, to the east of the A19 Selby to York road and is c.36 hectares in size (SE 5540 4900).

2.2 The site is a mixture of scrub land adjacent to the A19, allotments to the east of Fordlands Road, rough pasture in the areas between Germany Lane and Germany Beck and arable land to the north of Germany Lane.

- 2.3 The site is bounded in the south by Germany Beck, a watercourse which has seen a fair degree of rationalisation in the modern period, School Lane borders the site in the west, a farm track and dyke in the east and the modern fence line between Fulford schools and residential housing and the arable land in the north (Figs. 1-8).
- 2.4 The proposed development area lies on soils of the Bishampton 1 Soil Association. This association comprises of deep fine loamy brown earths (572s), with slowly permeable subsoils susceptible to seasonal waterlogging (Mackney et al 1984). In the area to the east of the site there is a band of soils of the Wisbech Association (821b) which consists of deep stoneless calcareous coarse silty soils. Groundwater where these soils occur is normally controlled by ditches or pumps. Wind erosion is a factor in cultivating such land types.

3. PLANNING BACKGROUND

- 3.1 The site has a long and complex planning history but following the successful outcome of a Public Inquiry under the terms of the Town and Country Planning Act (1990), the site has received outline planning for the development. Condition 12 of the Outline Planning Permission 01/01315/OUT of the consent relates to archaeology

“No development shall commence on the site until a scheme of archaeological work has been submitted to and approved in writing by the local planning authority. This scheme shall include provision for:

- a) *A pre-development metal detecting survey of the site.*
- b) *The archaeological excavation of a sample of the peat deposits adjacent to Germany Beck, to include a paleo-environmental investigation.*
- c) *Archaeological supervision of the construction of the access road and A 19 junction combined with the archaeological excavation of revealed archaeological features and deposits.*
- d) *Archaeological supervision of all soil removal for structures and internal roads combined with the archaeological excavation.*
- e) *Archaeological supervision of all soil removal for the creation of the on-line ponds combined with the archaeological excavation of revealed archaeological features and deposits.*
- f) *A programme of access for the community to the archaeological excavations.*
- g) *A programme of archaeological analysis, publication and subsequent*

- h) *Deposition of the archive with a registered museum of the material from the evaluations, excavations and watching briefs.*
- i) *The scheme shall be carried out as approved."*

3.2 Archaeological planning advice has been provided by the City of York's Archaeologist John Oxley. In accordance with successive national policy documents and City of York policies detailed archaeological evaluation of the site has been undertaken prior to determination including EIA, deskbased assessment, field walking metal detecting survey, geophysical survey and trial trenching (the results are briefly described below).

3.3 This WSI sets out in detail the archaeological work that is required by Condition 12 sub-sections 12(a), 12(b), 12(c) note that this relates only to works between A19 and Fordlands Road in advance of construction of A19 junction and Access road corridor works required for temporary haul road only, 12(e) and 12(f). It sets out the overall archaeological strategy for the site and, as described in para 1.1, proposes that the WSI will be reviewed and amended as development of the site progresses.

4. ARCHAEOLOGICAL WORK UNDERTAKEN ON THE SITE IN CONNECTION TO THE PLANNING APPLICATION AND RECENT ARCHAEOLOGICAL EVIDENCE FROM NEARBY SITES

4.1 A comprehensive staged programme of pre-determination evaluation, in compliance with national and local policy was commissioned by Persimmon Homes between 1995 and 2012.

4.2 During the protracted planning process other sites in the vicinity have been developed that provide important archaeological evidence which requires inclusion for the archaeological landscape and as such are described in this section.

4.3 Geomorphology of early landforms

4.3.1 The results of ground modelling of the site at the present time are not available however the recent work at Heslington East provides a good indicator for the potential of the site.

4.3.2 The archaeological work at Heslington on the York University Campus by Carey Consulting has produced the deposit model of a very complex Holocene landscape sequence at Heslington East, much of which predates the conventional archaeological landscapes. In order to understand the sequence three areas were studied and identified three geomorphic zones

4.3.3 Zone 1: In Area B1 the transects revealed a sequence of thick peat, silt and other deposits to a depth of c.2.5m below modern level.

4.3.4 Zone 2: Area A1 (north) In the early Holocene a wide channel (or channels), at least 3-4m deep, was incised into the underlying Pleistocene deposits creating a

localised flood plain. This was subject to a fluctuating depositional and hydrological regime resulting from the high and low flow of water from north – south. About 1.5m - 2m below the surface stripped of overburden there was a layer composed largely of well-preserved tree roots and branches. This layer has been C14 dated to c.1500 – 1000 BC, i.e. the Mid - Later Bronze Age. By the Late Iron Age the flow level had clearly been much reduced and the channel was largely infilled. Lidar data suggest that a source of water, which formed the palaeochannel lay in the Badger Hill Estate on top of the moraine.

- 4.3.5 Zone 3: Area A1 (south) and Area A2: The drainage of water in the early Holocene extended south into Area A2, although at the bottom of the slope of the moraine it ran into shallow braided channels which were probably infilled by the end of the Bronze Age

4.4 Prehistoric - Neolithic/Bronze Age

- 4.4.1 From the vicinity of Fulford, "*a fine collection of worked flints*" were deposited with the Yorkshire Museum (YPSAR 1910). "A small collection of flint implements found at Fulford in 1906" was also noted (YPSAR 1931). In 1933, G. A. Auden deposited nineteen flint flakes from Fulford (YPSAR 1933). Two non-designated finds are noted on the HER: a Neolithic flint scraper was found in 1952 and a late Neolithic/Early Bronze Age palstave from Fulford/Heslington (Radley 1974, 19).
- 4.4.2 Three aerial photographic cropmarks are noted on the National Monument Record and the HER (MYO93, MYO94/NMR 1431301 and NMR 1075599). A single cropmark runs into the site on a north-west-south-east alignment (MYO93) with a group of crop marks immediately to the south of Germany Beck (MYO94/NMR 1431301). These cropmarks have been interpreted as enclosures or part of a field system. An aerial photographic cropmark (NMR 1075599) relates to the excavated features in evaluation trench 5 described as a circular feature with an internal diameter of c. 17m. and cut into the natural clay. There was no evidence for any internal features. Dating and function of the feature was difficult to ascertain. Whilst it had obviously been truncated by the later Romano/British field system, no artefact evidence was obtained to be able to date it, other than to the prehistoric period. Initially it was thought that it may represent a round barrow. The dimensions of the feature were consistent with this interpretation but the lack of evidence of any grave cut was problematic.
- 4.4.3 Within the development area, the programme of intensive fieldwalking undertaken in February/March 1996 found Prehistoric material randomly distributed across the site, with no apparent clustering. The finds consisted of flint tools, flint waste and two sherds of late Neolithic pottery. The flint tools consisted of a variety of implements which included blades, disc and thumb nail scrapers. The flints were sourced to produce these items from the poor quality white flint associated with glacial drift, grey flint from the Yorkshire Wolds and the high quality translucent flint of the Flamborough area.

- 4.4.4 The series of trenches excavated immediately to the north of Germany Beck (Trenches 30-36) located peat deposits and evidence for the former courses of Germany Beck and recovered a piece of flint of Mesolithic date. The evaluations recovered a flint assemblage of Neolithic/Bronze Age date and sherds of Neolithic (Trench 11) and a number of the ditches dating to earlier periods of activity on the site in Trenches 11 and Trench 41.

Recent Significant Work in Heslington

- 4.4.5 From the York University Campus Excavations, much of the evidence for this period comes from the lithics found on the site and largely found in pits and ditches in the north-western part of Area A1. The majority were not abraded which suggested discard in the immediate area and included some Mesolithic material, the majority belong to the Neolithic – Early Bronze Age. An important artefact from a small pit in Area 2 was an incomplete ground stone Late Neolithic axe in a non-local limestone. During the Bronze Age drainage was probably fed into a number of channels and spring points. One spring point, or ‘water hole’, probably active throughout the Bronze Age – Iron Age was located in the north-west corner of Area A1. Adjacent to the water hole were a number of cut features on a north-north-west / south-southeast alignment, some of which may have been dug to encourage drainage, others perhaps for cult purposes. Cult-related features may include a pit containing pieces of a hollowed-out wooden cylinder, C14 dated to 930-780 BC (the Late Bronze Age). In Area 2 two substantial elongated curvilinear features were found on a more or less north – south axis along with a number of other smaller features. An isolated Early Bronze Age cremation urn was found during construction work. Two timbers were found in probable palaeochannel deposits. They are thought originally to have been posts, although nothing of their context could be determined. One was dated by C14 to c.2800 BC (Neolithic) and the other to 400-200 BC (Iron Age). Excavation by On Site Archaeology in 2011 has now fully defined the waterlogged and organic deposits, and identified a number of features which are thought to be Bronze Age on the basis of the tooling on a cylindrical object of alder wood, probably a well lining.
- 4.4.6 In 2004, Iron Age and Roman Features were uncovered during trial trenching at Connaught Court by On-Site Archaeology in Fulford.
- 4.4.7 The Geophysical Survey was undertaken at the Germany Beck site by GSB indicated a series of north-south linear ditches and possible enclosures dating to the later prehistoric period similar in pattern of cropmarks located approximately 200m to the south–east of the development site. Excavation in 1996 recovered an Iron Age pottery from Trench 56.
- 4.4.8 A further trench was opened in 2003 on the site of the proposed access road in order to examine and date the peat deposits. This work was undertaken in conjunction with Dr Allan Hall from the Department of Archaeology, University of York. Two samples were sent for radio-carbon dating and the results revealed that the peat deposits were formed in the late Iron Age through early to mid Saxon (Hall and Kenward, 2003).

Recent Significant Work in Heslington – Iron Age

4.4.9 The excavations in Heslington at the University Campus By York Archaeological Trust uncovered a palaeochannel had silted up by the Late Iron Age and may have been caused by an increased release of silts arising from woodland clearance and arable agriculture. In Area A1 features including ditches on a north-north-east / south-south-west alignment similar to earlier features were dug adjacent to the water hole, either in the Late Bronze Age or Early Iron Age. In the Mid-Late Iron Age the prevailing north-north-east / south-south-west alignment defined by earlier features was re-stated by new ditches and others ran east-north-east / west-southwest across the site. These ditches defined the enclosures of a field system which also extended south into Area A2. In Area A1 the remains of at least seven roundhouses, represented by shallow circular gullies, were found. Two were located in a small ditched enclosure and three others were sited at the western end of one of the larger enclosures. Few internal features were recorded and they are interpreted as dwellings. A distinct rectangular enclosure on the north side of Area A2 contained the remains of a large roundhouse. The backfills of the ditches and roundhouse gullies produced a large assemblage of pottery which suggests a Mid-Late Iron Age date perhaps of the third century BC and later. Three fragments of ceramic crucible, probably derived from metalworking were also located. The most important single find of Iron Age date was a human skull dated to the mid-first century BC by C14, in a shallow feature near the water hole. Within the skull were the mineralised well-preserved remains of the brain. In a localised area on the western edge of Area A1 a number of deposits with large quantities of ferrous slag were found.

4.5 Roman

4.5.1 Several finds of Roman artefacts were found in Fulford in the late eighteenth century and nineteenth century. In 1770, fragments of Roman pottery and complete vessels were found as well as a glass vessel and metal work in a gravel pit on the banks of the River Ouse, near Fulford. In the same year Gough reported on the discovery of a deposit of oyster shells, burnt material and cattle skulls and rib bones. In 1771, a similar find was made in another gravel pit. Gough described this find thus 'Within this pit, between layers of earth and gravel was another of black earth mixed with burnt wood and under it a layer of oyster shells' (Sheaham & Whellan 1855, 300). Roman sepulchred remains at Gate Fulford, found in 1813. Decorated pottery was also found along with a flesh fork, brass needle, an iron bolt, broken and complete pottery. During excavation of gravel pits in an area of land known as the "Nunneries" or "Nunners' fields" two stone coffins, Roman burials and pottery were found on Nun Ings on the western side of the River Ouse (SE 6005 4963) in 1835 and 1836.

4.5.2 To the east of the site is a section of Roman road recorded as running from the south-east gate of the Fort in Eboracum (York) through Germany Beck (NMR 58090; SE 6220 4940) in the general direction of Pool Bridge (SE 6420 4620 : RCHME 1960). This line also represents for some of its alignment the parish boundary between Fulford and Heslington. The Ordnance Survey (OS record card 4) recorded that in 1962, between Germany Beck and Heslington Lane, the

fields were pasture and that no surface indications of the road alignment were visible.

- 4.5.3 During February/March 1996 a programme of Intensive Fieldwalking was undertaken over all areas of the proposed development site which were conducive to such a technique. Roman Finds were limited to thirteen sherds of pottery and distributed sparsely across the site.
- 4.5.4 The excavation results from the Archaeological Evaluation by Trial Trenching in 1996 showed the Western Block the main point of excavation concentrated on Trenches 5, 6 and 43). The excavation of Trenches 1-15, 17, 18 and 39 - 47 showed that the ditches, which made up the field system were in use from the First through to the Fourth century AD.
- 4.5.5 The occurrence of Amphorae and Samian in quantities which are too high for a rural site, the large deposit of pottery from Trench 41 and building materials suggested a high status building in the region of the site. The building itself was not forthcoming in the archaeological record and therefore one can only assume that if it exists, it is not on the site, but either lay to the south of Germany Beck, on the higher land or under the modern housing development to the west of the site.
- 4.5.6 The most significant area of archaeological deposits centred around Trench 44 where large quantities of Roman material was located. Although there were no structures present, the material was found in ditch fills bordering Germany Beck. The Roman material indicated a Roman building in the area. However, not enough material was excavated to suggest that a building was located in the immediate vicinity. Some of the material was very abraded, which probably indicates plough movement dragging the material a distance away from the site of a building.
- 4.5.7 The Roman pottery collection had a number of features, which distinguished it from a typical low-level rural site. The most obvious is the widespread appearance of Dressel 20 amphora sherds, of which on a typical rural site a single sherd might be remarked upon. The assemblage contained Grey wares, some probably of local manufacture, Samian, Amphorae, Black Burnish ware and Calcite gritted wares which suggested a date of 125 to 200AD.
- 4.5.8 The relatively large number of Roman hobnails located in Trench 41 was interesting, as casual loses of hobnails can take place at any time, but concentrations such as this tend to occur either when shoes were deliberately being placed in inhumations or when the waste from cobbling is being discarded. The latter seems to be the most likely explanation, especially as one of the iron objects might be an awl. Such deposits are more often identified on urban or military sites rather than on rural ones. This area will not be affected by the development but protected as an archaeological zone.
- 4.5.9 Four evaluation trenches were excavated at Fulford School in January 1999 in advance of construction of a new sports hall (MAP 1999 : Site code YORYM

1999.31). Three residual worked flints, a gully and a ditch were found, possibly relating to the field system found at the Germany Beck site in 1996.

4.5.10 Further evidence of Romano-British activity was uncovered during the 1997 upgrade of the A19-A64 interchange. A Third century gritstone sarcophagus was found at SE 6135 4790 (YAT 1997).

4.5.11 An Archaeological Excavation was undertaken by MAP Archaeological Consultancy Ltd at St. Oswald's School, York, from January to March 2005 and uncovered activity took the form of a series of field boundaries, ditches associated features and finds. Excavation showed that the ditch evolved in complexity over time, and the pottery assemblage suggested that the system was in use from the mid 2nd century onwards. A large number of Romano-British coins, coin fragments and coin-moulds were recovered from one of the field ditches. These finds are thought to relate to coin-forging and are of national significance (these are with John Casey and the analysis is being undertaken by UCL July 2011). Several undated hearth bottoms were located within fills of Phase 2 ditches and hint at the potential for metal-working in the vicinity.

Recent Significant Work in Heslington

4.5.12 From the Campus 3 excavations at Heslington, relatively little of Roman date was found in Areas A1 or A2 compared to the quantity of remains of earlier periods, although the upper fills of a number of ditches have produced Roman pottery, suggesting that the field system may have survived until the late 1st or early 2nd centuries. In a deposit above the filled-in water hole, a small hoard of five mid-fourth century coins was found which, like the Iron Age skull, hint at the feature being a focus for cult activity. Of Roman date in the southern part of Area A2 there was a large pit, apparently served by channels on the north and south sides, all on the same alignment as the field system. The pit base sloped down from south to north and was covered with five successive layers of cobbles, presumably to assist access to what was probably a water hole for beasts. Excavations in Field 8: Remains of a Roman farmstead have been revealed in the Department's excavation including the remains of a timber building containing a small tile-built hypocaust. Also partially excavated are the remains of another building with an area of collapsed roofing made up of stone slabs and a number of other possible structural features. Three human inhumation burials, late Roman in date, have also been located.

4.5.13 During the Campus 3 Excavations at Heslington in Field 8 Anglian pottery was found, although not in a recognisably Anglian context. An Anglian brooch was found in Field 9.

4.5.14 The settlement at Fulford predates the Norman Conquest and the place-name derives from the Old English for 'a ford over a stream', most probably the crossing over Germany Beck. The 'fule' translating as dirty or foul may be taken as meaning 'muddy' due to its low lying position (Pickering 1975).

- 4.5.15 The Battle of Fulford took place on the 20th September 1066. The historical background to the battle was the various disputes over the throne of England arose after the death of Edward the Confessor. Harold Godwinsson, Earl of Wessex was crowned King in January 1066, with rival claims from King Harald Hardrada of Norway and Duke William of Normandy. In September of 1066, Harald Hardrada sailed down the east coast then up the Humber to Riccall on the River Ouse. The northern earls, Morcar of Northumberland and Edwin of Mercia lay in wait at Fulford, between the Vikings and York. On 20th September they deployed with the river on their right and their left protected by a ditch and marshy ground. The battle is recorded as long and bloody, concluding when the English were pressed into the marshes and cut to pieces (Smurthwaite 1984). The location for the battle is open to conjecture. The geographical details that the River was to the right (west) and the Ditch was on the left (east) suggests that the Ditch mentioned may refer to Germany Beck. Broadhead in his article gives the location of the battle on Fulford Ings (SE 609 488 : Broadhead 1989). Other more detailed work on the battle includes the Norwegian Invasion of England in 1066 by Kelly DeVries.
- 4.5.16 No finds or features dating to the Anglo-Saxon or Anglo-Scandinavian Periods were found during the Fieldwalking undertaken in 1996. The Archaeological Excavations during 1996 immediately to the east of the A19 (Trenches 21-25) were devoid of archaeological features and showed natural accumulation deposits which had only been disturbed in relatively recent times by the insertion of land drains. The trenches excavated in the allotments (Trenches 26-29) showed a similar picture, the earliest feature encountered was a medieval field boundary and the latest were animal burials, post holes and fence lines associated with allotment activity.
- 4.5.17 In 2002, the Battle of Fulford Society was formed by Charles Jones to establish the location of the Battle. As a result of his work further archaeological evaluation was requested by the City of York, in order to establish whether there was any archaeological evidence relating to the battle on the proposed Development Area.
- 4.5.18 In 2002, an additional phase of evaluation was requested by the City of York's archaeologist to evaluate the area of the proposed access road. A detailed specification was agreed for four trenches in this area. One of the aims of the further evaluation was to see if any archaeological evidence could be located for the Battle of Fulford. The trenches revealed no archaeological deposits or artefacts relating to the Battle of Fulford. **(MAP 2002).**
- 4.5.19 In March 2003, a Magnetometer Survey of the Proposed On Line Ponds was undertaken by ASWYAS. The Geophysical Survey covered an area of 3Ha. Several weak discontinuous anomalies and four areas of magnetic enhancement were identified **(ASWYAS. Report No 1090 2003).**
- 4.5.20 In October 2003, a further seven evaluation trenches were excavated in the area of the on line ponds/flood channel. Linear features relating to the aerial photographic data were found in Trenches 4 and 5. A linear feature in Trench 6 proved to be very ephemeral on excavation **(MAP 2003).** The build up of silt

deposits below the 9m contour in Trenches 2 and 3 could either be evidence of material from the scouring of the dykes, or flood material built up over time. The results of the environmental samples taken from the build-up deposits in Trenches 2 and 3 revealed from the species contained within them, with one exception an entirely natural flora forming in the absence of human interference. **(MAP 2003).**

4.5.21 In 2003, a Historic Landscape Appraisal of Fulford was requested by The City of York's archaeologist. This was to address concerns raised by English Heritage, The Battlefields Trust and The Battle of Fulford Society. The landscape Appraisal was to address the following points:-

- (a) Locate and describe the landscape within which the battle took place
- (b) Assess the extent to which development down to the present day has impinged on and prejudiced a visual and conceptual understanding of that landscape and
- (c) assess the extent to which proposed developments may further prejudice the visual and conceptual understanding of the landscape.

4.5.22 The report concluded that there was no evidence to locate the battle on the proposed development site. **(MAP 2003).** A revised version of the report was submitted in February 2005 after consultation with English Heritage on how to substantiate conclusions by the inclusion of the radio-carbon dates and more rigorous referencing of the original document. **(MAP 2005).**

4.5.23 In March 2006 a Metal Detecting Survey by members of the York Metal Detecting Club and members of staff from MAP was undertaken in accordance with Guidelines set down by the Battlefields Trust. A total of 405 objects were recovered providing a comprehensive collection of eighteenth to twentieth century metal artefacts. They included agricultural objects, machinery parts; household and equestrian items, coinage and dress attire as well as pieces of slag, modern consumer rubbish, pottery and glass **(MAP 2006).**

4.5.24 Metal Detecting Surveys and boreholes have been undertaken by the Battle of Fulford Society in the Parish of Fulford. Whilst the work has been ongoing for many years and in great detail including the publication of the results (Jones 2006 and 2011) there is no information that firmly locates the battle site within the proposed development area.

4.6 Medieval

4.6.1 In the 1086 Domesday Survey (Faull and Stinson eds. 1986), Gate Fulford consisted of a single estate of 10 carucates, held by Count Alan of Brittany; although in fact the Count held 2 ploughs in desmesne, with another 2 ploughs being held between six villagers. There were also 20 acres of meadow. The whole estate was 1 league long and ½ a league wide (approximately 1½ x ¾ mile in size – about the size of the land block of Gate Fulford township that is situated to the north of Germany Beck). The value of the estate in 1086 was 16/- a 20%

reduction from the 20/- that it was worth under Morcar's ownership before the Conquest.

- 4.6.2 Although the Domesday Survey shows that Gate and Water Fulford (*Fuletorp/Foleforde*- foul, dirty ford) were separate estates, the prefixes 'Gate' or 'Water' are not actually recorded in the original Domesday document, but are instead interpolations made by the translator. The prefix '*Water*' is first recorded in the twelfth century, referring to its location on the banks of the Ouse. The prefix '*Gate*' first appears in the sixteenth century referring to the high road between York and Selby. Prior to this date, the village was known as Over Fulford (*Ulteriori* Fulford in the 12th century, and *Overfolforth* in the 1366 Patent Rolls). The neighbouring village of Naburn (*Narburna* at Domesday) has a suggested meaning of 'stream where a corpse was found' (Smith ed.1937). To the south-east Wheldrake, another Domesday village, has a derivation meaning 'strip of land where a death had taken place' (*ibid.*).
- 4.6.3 In 1086, St. Mary's abbey (through the King) held 1 carucate and 2 bovates, Erneis de Burun held 1 carucate and 3 bovates, and Count Alan a similar amount, in Water Fulford.
- 4.6.4 About 1100 Gate Fulford was given by Count Stephen of Brittany to St Mary's Abbey, York, along with a carucate and three bovates in Water Fulford. The Abbey retained the manor of Gate Fulford until the Dissolution of the Monasteries in circa 1540). The *Valor Ecclesiasticus* listed a total value of 80/- per annum for the temporalities held by St. Mary's in *Fulfurth* (both Gate and Water Fulford) at the time of the dissolution. In addition, the chapel at *Fulfurth* along with churches at Askam Brian and Knapton, was worth £60- 2/- 3d.
- 4.6.5 St. Mary's holding was assigned to Ampleforth prebend, apparently at the time of its foundation around 1219-34; in c.1295 the prebend had 12 bovates of land, 6 acres of meadow, and a toft at Water Fulford. The prebend still had 5 acres of land in Fulford in 1844.
- 4.6.6 Several other religious houses in York held estates in Fulford parish. Thomas Thurkill granted 2 houses and 12 ½ acres to St. Andrew's priory in 1395. St. Leonard's Hospital had property in Naburn and Fulford worth 40/- at the time of the dissolution. In the 12th century St. Mary's abbey granted common rights in Fulford to St. Nicholas' hospital. Warter Priory was granted a bovat, a toft and croft, and meadow by Hilary de Builers between 1203 and 1241.
- 4.6.7 Burun's holding passed eventually to William de Ros, and in 1285 Robert de Ros held 8 bovates at Fulford. The manor was held by the Ros family until 1461, when it was attainted to the king. It returned to the Ros family under Henry VII.
- 4.6.8 Count Alan's holding was a soke of Clifton, and around 1100 it was given to St. Mary's Abbey, thereafter descending with Gate Fulford manor.
- 4.6.9 The southern portion of the parish appears to have been waste or moor as indicated by the area known as Tillmire. A calendar of the deeds of St. Mary's

Abbey (YAS/DD8/1) records 7.5 acres of assarting, which was called the new riding. Citizens of York were entitled to common pasture in the Tillmire and turbary rights existed from 1375.

- 4.6.10 In 1377, there were one hundred and twelve poll-tax payers in Fulford.
- 4.6.11 In 1447, records of the Abbey's manorial court show that fishing and fowling also took place on the Tillmire. An agreement between York and St Mary's in 1484 confirmed the right of pasturage in part of the open fields and meadows of Gate Fulford.
- 4.6.12 The area in which Fulford lies has been described as "a distinctive agricultural landscape. The small Open Fields, large commons and extensive early inclosure contrasts strongly with the Open Field economy of the Wolds" (Allison 1976).
- 4.6.13 One area of Open Field lay at the north end of the township on either side of the York road, which apparently divided the cultivated land into two units. The field on the west side of the road was bordered on its western side by meadowland along the Ouse. The boundaries of the eastern field were formed by the Fulford to Heslington road to the south, Low Moor to the east, and the York to Heslington road to the north.
- 4.6.14 Another possible Open Field lay immediately on the east side of the village, suggested by the parallel, curving form of its northern and southern boundaries. The western boundary of this area was formed by the back lane of the village, the southern boundary bordered the low land at the north side of Germany Beck, the eastern boundary was formed by a lane dividing the field from East Moor, and the road between Fulford and Heslington formed the northern boundary.
- 4.6.15 The township's valuable meadowland or Ings lay to the west of Gate Fulford village, extending alongside the Ouse to the west of the Open Field. Rough common grazing on East Moor fringed the eastern boundary of the township. East Moor was enclosed by the time of the 1745 Estate Map, but the exact date of enclosure is uncertain.
- 4.6.16 Damlands Field was mentioned in a deed of 1332 as *les Damlandes* (St Mary's Chartulary, DD88/9). The name means "water confined by an embankment" as in the sense of an artificial canal or drain (Smith ed. 1937, 110). The presence of enclosures and artificial drainage indicates a regime of agricultural improvement, whilst the name 'Abbey Crofts' is a strong indication that the Abbey was at least partly responsible for the reclamation of land in this area. A thin scatter of medieval sherds recovered during the fieldwalking of Abbey Crofts (Area I) suggests that this area was being cultivated and improved through the spreading of night-soil.
- 4.6.17 The Estate Map of 1745 shows a lane separating Damlands Field and Abbey Crofts from a large enclosed area labeled 'Old Inclosure'. This area is shown as 'New Field' on the Enclosure Map. *Newfield* is mentioned in 1330 (DD88/9) and is probably the "New Ridding which abuts upon Tylmire" mentioned in 1258

(DD88/9). Further indications of land improvement during this period come from the grant of six acres of land in *Nether Intake* by John Warthill to Henry de Kepax in 1331 and a 1335 reference to *le Brekes* (DD88/9).

4.6.18 The Estate Map labels the lane between Damlands Field and Abbey crofts as “*lane from west to east moor*”, indicating that New Field was fringed by rough common pasture on both sides. The southern end of the township remained a boggy area during the medieval period and was described as the desmesne fishery of St. Mary’s Abbey in the 1447 Manorial Court Roll (YAD DD 88/1). The citizens of York were entitled to common pasture in Tilmire, which also included a turbarry for the cutting of peat for use as fuel.

4.6.19 Germany Beck runs in a relatively straight east-west course between Fulford East Moor and the river Ouse. At its eastern end the beck takes a right-angled turn to run along the boundary separating Fulford East Moor from Heslington West Moor. The regularity of its course strongly suggests a man-made feature, and the documentary sources contain evidence of its likely origin. An indenture dated 6th August 1484 between the Lord Mayor and Commonaltie of York and the Abbot and Convent of St. Mary’s Abbey concerning grazing rights in Fulford states that the citizens of York should only have rights of pasturage in those fields: “*lying and being on the north side of the New Dyke... of the which Dike one end butts of the Water of the Ouse and the other end of the same Dike eastwards butts upon Fulforde Moore*” The phrase “*New Dyke*” in this context appears to be completely unambiguous; it clearly relates to a newly-created landscape feature. With reference to medieval drainage in the Vale of York in general, Sheppard states:

“Although there are few records that describe the existence of such drains in medieval times, those that do exist suggest that the drains recorded in the inquisitions of the Court of Sewers in 1664 were, for the most part, first cut in the twelfth and thirteenth centuries” (Sheppard 1966 p. 15)

4.6.20 As the only traceable watercourse that runs between Fulford Moor and the Ouse, Germany Beck would appear to be the “*New Dike*” that the document refers to, and is therefore likely to have been created or an altered and recut earlier watercourse as part of a drainage scheme instigated by the Abbey of St. Mary’s during the 15th century in order to improve agriculture in the township.

4.6.21 The derivation of the name ‘Germany Beck’ is not clear, but it is possible that it comes from a personal name. A *German de Bretgate* was mentioned 1258-70 (DD88/9 - 4019), and *Robert, nephew of German de Bretegate* in 1276 (*ibid.*). Nicholas de Brettgate is described in the Court Rolls for 1483 as “*holding a toft and croft in Fuleford near the bridge, with a garden, meadow and arable land*”. This establishes the Brettgate family holding as being at the southern end of the village during the fifteenth century when the beck was altered or created, and suggests how the watercourse eventually came to be known by its present name.

4.6.22 Germany Beck maybe a man-made feature of medieval date or the recut and realignment of an early watercourse, highlighted by the extension of the cultivated lands of Gate Fulford into the former waste to the south of the beck. This extension

was noted in the sixteenth century. The manorial court roll of 1509, for example, recorded that the Fulford lands extended as far as Poole Bridge, the meeting point of Fulford, Heslington, Deighton and Wheldrake townships (YAS DD 88/1).

- 4.6.23 The route of the Roman road from York that formed the eastern boundary of Fulford township was also in use in the medieval period, as it was referred to as a “former droveway” in a document in the Yarburgh MSS archives (BIHR).
- 4.6.24 A programme of evaluation was undertaken by York Excavation Group (YEG) and York Archaeological Trust (YAT) in 1973 in advance of the construction of the A64 Outer Ring Road. This programme included aerial reconnaissance, fieldwalking and sample excavation of selected areas. Five sites to the south and south-east of the development area were evaluated, sites 73/19, 73/26, 73/27, 73/29 and 73/30. The excavations recorded finds of medieval to modern date with an occasional sherd of Roman pottery and worked flint. Apart from flood levels and ridge and furrow the only other feature noted was a pit of medieval date (site 73/30 : Penn 1973).
- 4.6.25 Non-designated sites in Fulford included two finds (a Medieval spoon – MYO 225 and a Medieval leadweight – MYO226) and twenty-four areas of broad ridge and furrow, possible remnants of Medieval ploughing/open fields (MYO 2110-2103, MYO 2127, MYO 2338, MYO 2343, MYO 2556-2559, MYO2562-2568, MYO2576-2580, MYO3420 and MYO3424).
- 4.6.26 Within the Proposed Development Area, the Fieldwalking in 1996 produced a concentration of medieval pottery was in an area which had originally formed one of the open fields for the village of Fulford in the medieval period.

4.7 Post-medieval

- 4.7.1 St. Mary’s Abbey, York retained the land in Fulford until its dissolution. After this date although leased by the crown, the Manor in 1600 was granted to Richard Burrell and John Ryder. In 1615 the manor was conveyed to Thomas Marshall and James Godson and by 1654 Samuel and Arthur Marshall sold it to William Taylor. The land thereafter passed to various private ownerships. In the sixteenth century Water Fulford belonged to the Earl of Rutland who sold it to John Redmayne. Mills were essential elements of medieval villages. Fulford’s mill was a windmill at Lamel Hill, in the northern end of the township, and was known as Siward How mill in the sixteenth century. William Strickland was listed as a corn miller in Fulford in 1823 (Baines, 1823).
- 4.7.2 During the English Civil War, the Siege of York in 1644 saw the Scottish Army recorded as holding Poppleton to the river near Fulford. Fairfax took the land from Fulford to the Red Tower. By June 1st, 1644 the boat bridge at Cawood had been dismantled and probably reassembled nearer the City in the Fulford/Middlethorpe area. This bridge was used by the Earl of Manchester's advance guard and later the whole army when it advanced and laid siege to York. In July 1644, a skirmish was recorded on the York-Selby road near to Fulford (Wenham 1994).

- 4.7.3 In 1672, the Hearth Tax Returns showed there were sixty-seven households, thirteen were exempt from hearth tax, twenty-eight chargeable for one hearth each, thirteen for two hearths, six for three, five households for four and two households had nine hearths.
- 4.7.4 In 1702, Water Fulford merged with Gate Fulford
- 4.7.5 By 1729 there were "eighteen houses and forty two cottages in Gate Fulford" (VCH 1976, 30).
- 4.7.6 During the Seventeenth century, more of the wasteland had been reclaimed. Closes called new field were mentioned in 1642 and there was a reference to open-field land called Breck butts in 1684 (ERO DDFA/14/277). In the mid Eighteenth century the old enclosures of Gate Fulford included a large block of land to the south of the township surrounded by the moors comprising nearly thirty closes called New fields and about twenty called Intakes. More old enclosures, including the brecks, lay between the village and the moor, and other closes lay between the open field and the moor (YAS DD88/8).
- 4.7.7 A survey of Fulford dated 1745 shows an arrangement of field boundaries on a similar pattern to those on the First Edition Ordnance Survey Map. This map predominantly records the land owner but a small number of fields are named, such as Garth End Closes, Great Garth End Close, Little and Great Haver Crofts, Kent Crofts, Spiker Closes and Little Brecks and Brecks. Breck is a word usually associated with cultivated land in the sense of 'land broken up for cultivation' (Cameron 1961). There is an earlier sense from the Scandinavian word 'brekka' meaning slope or hill.
- 4.7.8 The remaining open fields and common were enclosed in 1759 under the act of 1756. Allotments totaling nine hundred and seven acres were allocated comprising of about three hundred and seven acres in Fulford field, lying between the village and York, fifty four acres in the riverside ings and five hundred and eight acres in the commons. The commons included one hundred and twenty five acres in East Moor (VCH 1976). The 1759 Enclosure Map for Gate Fulford shows two rows of at least 15 regular crofts aligned along the village street, which also formed part of the road between York and Selby. A back lane is shown which runs along the rear of the majority of the village properties. The termination of the back lane on the east side of the village coincides with the northern end of a regular block of at least 6 rectangular properties that appear to represent a later extension of the village onto the village green, which lay immediately south of the village. In 1861, Major R A Sandy inherited the estate from his great uncle, Colonel W Richardson. A William Richardson held land in Fulford at the time of the Enclosure (1759). The Enclosure Award refers to "German Crofts" which suggests that this allotment of land stood adjacent to the beck and that it was known as German if not Germany Beck in the mid Eighteenth century.
- 4.7.9 The Enclosure Award for Fulford emphasizes frequently that holders of specified allotments should "make and forever maintain a Sufficient Ditch and Fence". The

maintenance of ditches between the East and West Moors were also regarded as important.

- 4.7.10 A post-medieval cross base is recorded to the north-west of the site (MYO69). In 1972 the stone cross still stood beside the A19 and apparently marked the boundary of York's rights of commonage in the parish (VCH 1976, 29). These rights of Common were laid down in the Enclosure Act of 1757 and permitted commoners to graze one goat, one mare and foal, or two goats, one calf or one cow under two years of age.
- 4.7.11 The First Edition Ordnance Survey map 1853 showed a series of rectangular fields delineated by tree planting, further evidence of Parliamentary Enclosure. The small building shown adjacent to Back Lane is the former Methodist Chapel erected in 1820. In the east of the site a small rectangular building on the line of the east west footpath from Back Lane to Mitchel's Lane probably represented a field barn similar to those found throughout the north of England, being a common feature in Eighteenth century agricultural landscapes.
- 4.7.12 The 1892 Ordnance Survey map showed that the building on Back Lane had doubled in size. Footpaths were recorded running immediately south of this building in a southerly direction. A pump and stone are shown to the east of one of these paths. A further footpath is shown crossing the site on an east-west alignment extending all the way to Mitchel's Lane. A small oval feature depicted in the south-east may represent a pond.
- 4.7.13 By 1909 the Ordnance Survey map illustrated that the southern part of the farm buildings on Back Lane had been remodeled, reduced in size and an additional building added to the north. Bleak House on Mitchel's Lane had also been erected by 1909. The footpaths are still depicted as is the ?pond, the stone and pump were omitted.
- 4.7.14 The 1931 Ordnance Survey map showed the extension of the enclosure to the east around the farm buildings and further remodeling of the main building. Also the construction of a rectangular building in the south-eastern corner of the enclosure. A further house and outbuildings had been constructed to the south of the farm buildings. A further new build was located to the west and south of the pump. A parcel of land adjacent to the A19 had become 'Allotment Gardens'. Although shown on the 1931 map the Smallholdings and Allotments Association was formed in 1917 (Pickering 1995).
- 4.7.15 By 1937 Ordnance Survey map, revealed further remodeling of the farm buildings on Back Lane. In addition the building to the south of the pump had been removed and replaced by a smaller unit. The north-south field boundaries to the west of Mitchel's Lane had been removed. The field to the south of Springfield House was noted as the 'Football Ground'.
- 4.7.16 The 1956 Ordnance Survey map showed little change in the land divisions but does record the reinstatement of a north south boundary in the east of the site which is not shown on the 1938 map. Footpaths remain static but one of the farm buildings adjacent to Back Lane had been removed.

4.7.17 The 1988 Ordnance Survey map recorded the removal of all internal east west boundaries in the east of the site leaving a large field. A number of boundaries present in 1956 in the west have been removed along with the buildings to the south of the pump.

4.7.18 There as a number of unprovenanced finds from Fulford were recorded in the Yorkshire Philosophical Society Annual reports, including a James II sixpence found in 1919 (MYO221), a post-medieval pottery jug (MYO223) and fragments of Clay Tobacco Pipe (MYO222). Earthworks dating to the Napoleonic Wars have been noted on Walmgate Stray (MYO2205 & NMR 1403470).

4.7.19 Post-Medieval activity within the Proposed Development Area was from the Fieldwalking in 1995 was represented by pottery, clay pipe and glass fragments distributed across the site. The pottery consisted of stone wares; Cistercian and Staffordshire slip wares and dated from the late sixteenth century through to the mid eighteenth century. Clay tobacco pipe assemblage consisted of stem fragments and the occasional bowl fragments dating from the seventeenth century through to the late nineteenth century. The glass assemblage was mainly represented by jars and bottles and had probably been spread across the site by the process of night-soil being used for manure.

4.8 Modern

4.8.1 Within the Proposed Development Area, the 1996 evaluation trenches excavated to the south of Germany Lane and on the higher land to the north of Germany Beck (Area G: Trenches 19, 37, 38, 48 & 49) provided evidence of a substantial modern rubbish tip and an area of intense burning. These deposits were also uncovered during engineering test pits in 2011.

4.8.2 World War I Practice Trenches were found on Walmgate Stray (MYO2219 and 2220) and at Fulford Golf Course (NMR 1403822).

4.8.3 Archaeological work undertaken in Fulford with negative results includes work on Fulford Ings by MAP in 2009 and Northern Archaeological Associates in 2011-2012 and various Archaeological Watching Briefs undertaken on School Lane, Main Street and York Road in Fulford (Table 14.10).

5. OVERALL KEY RESEARCH AIMS AND OBJECTIVES

- to establish the presence, nature and sequence of any areas of occupation and, where present, to investigate such areas to determine their form, and record any evidence for domestic, agricultural or industrial structures and any associated activities
- to establish where possible absolute and relative chronologies for the various activities and features recorded
- to investigate the nature and pattern of land use and environment within the wider landscape through an appropriate sampling strategy

- to establish the nature and extent of any other archaeological remains identified, and carry out appropriate investigation and recording
- to deposit a report on the results of the work for within both the City of York Historic Environment Record and the National Monuments Record
- Publish the Results and Deposit the Archaeological Archive with the Yorkshire Museum
- to undertake a scheme of works that meets with the professional standards for archaeological work both nationally and within the City of York area.

5.1 Prehistoric

- Is there any evidence for unenclosed early Prehistoric activity on the site?
- Is there any evidence for enclosed early Prehistoric activity on the site?
- Pollen Analyses and radiocarbon dates would allow detailed reconstruction of the local and regional palaeo-environment of the site and allow for landscape modelling for the south-eastern area of York round to the Heslington east campus. This would enable the individual settlements to be placed in a wider landscape setting and to more closely correlate the archaeological evidence with palaeo-environmental data on past climatic and vegetational conditions.
- Is there any evidence to suggest early Prehistoric human activity on the site such as episodes of woodland clearance?
- Is there any evidence to suggest that the geology of the site hinders the interpretation of magnetic anomalies?

5.2 Iron Age/ Romano-British

- 5.2.1 It appears that the rural settlements excavated to date were little affected by the Roman conquest and appeared to adapt to change by adopting methods and material cultural aspects that suited them – can the same be said for Germany Beck or does the sites close proximity to the Legionary fortress affect and distinguish the development.
- 5.2.2 The site offers the opportunity to examine a large area of potential Iron Age/Romano British landscape situated in a key position between the fort and its hinterland. Is there any evidence for a military exploitation of the enclosures as hinted at St Oswald's school, Fulford?

Key Issues

- 5.2.3 To distinguish the individual enclosures and the possible functions of the enclosures relating to four themes:

- Settlement
- Corralling animals
- Arable production
- Industrial processes
- What evidence is there for placed deposits of artefacts, animal and or human remains within ditched enclosures with particular detail given to ditch terminals
- What material evidence is there for Romanisation of the native populations there evidence to support the influence of the site being situated in the hinterland of the fort at York setting it apart from more native settlements?
- What evidence exists on the site for the longevity of the roundhouse and can other functions other than domestic occupation be discerned? Can spatial zoning be identified within Roundhouses?
- Is there any evidence on the site to suggest a change in architectural styles from Roundhouse to the rectangular building tradition? Can spatial zoning be identified within these buildings?
- Is there any evidence for association of funerary activity with domestic occupation
- Industrial activity normally occurs in peripheral areas therefore excavation must cover a larger area outside the enclosures.

Early Medieval and Medieval

- 5.2.4 Is there any evidence to support the widely held belief that the Battle of Fulford was fought within the development area?
- 5.2.5 Is there any evidence that will provide a date and context for the establishment of ridge and furrow cultivation across the site?

6. METHODOLOGY

6.1 The following elements of work are programmed to be undertaken prior to commencement of main construction, these archaeological works are to be undertaken to facilitate the insertion of the Access Road, Haul Road and creation of the On-line ponds.

6.2 *Ground Modelling - Geophysical transects in advance of excavation of peat deposits and on-line ponds.*

Introduction

6.2.1 The development area is located on the Sand of the 25ft Drift, with an area of alluvium on the southern edge of the site following the course of Germany Beck. The

drift geology of the development area at Germany Beck is the same as that recorded off the York Moraine in the Heslington East development area, which recorded significant archaeology within the sand deposits of the Sand of The 25ft Drift, as well as interface with an area of Holocene wetland deposits providing a site of high archaeological and palaeoenvironmental potential.

- 6.2.2 The site at Germany Beck has parallels with Heslington East area, with an interface onto a recorded spread of Holocene alluvium from Sands of the 25ft Drift. At the current level of understanding the development area at Germany Beck has an undefined archaeological and palaeoenvironmental potential. Both drifts geologies within the development area display a capacity for vertical accretion within the Holocene, providing a mechanism for burial and preservation of archaeological remains, often rendering such remains undetectable to conventional methods of site prospection such as aerial photography and shallow geophysics. In such situations development of integrated deposit models allows palaeo land-surfaces and evolution of Holocene sediment stacks to be constructed, providing a predictive model of archaeological and palaeoenvironmental potential.

Project Phasing and Project aims

The aim of the project can be summarised as:

- 6.2.3 Development of an integrated deposit model to model palaeo land-surfaces and evolution of the Holocene sediment stack, in order to provide a framework of archaeological and palaeoenvironmental potential across the study area.

The deposit model will archive the following objectives:

- a) Definition of the Pleistocene and Holocene interface
- b) Definition of the depth of the Holocene sediment sequence across the development area
- c) Definition of the different depositional environments across the development area split into geomorphic zones
- d) Definition of the interface of between 'wetland' and 'dryland' areas
- e) Identification of key sediment strata within the different geomorphic zones
- f) Identification of the archaeological and palaeoenvironmental potential for each geomorphic zone within the development area.

Methodological Specification

- 6.2.4 The project will model the sediment sequence of the development area primarily, but not exclusively, through the application of 5 electrical resistivity transects. The transects will vary between c.250m and c.500m long and in the first instance, will use an electrode spacing of 1m, giving a depth of penetration of c.5m. The system employed will be a Syscal Pro 72 electrode array, programmed through the Electre II software, with data modelling in Res2DINV.
- 6.2.5 Along each transect boreholes will be drilled to log the sediment stratigraphy at c. 100m intervals but additional boreholes will be added to each transect if significant

variation in sediment architecture is recorded or further resolution is required. The boreholes will be undertaken using a Track-mounted Dynamic Sampling Rig, to provide 4 inch diameter, windowless U4 tubed samples.

- 6.2.6 After boreholes have occurred along the lines of the electrical resistivity transects further gouge coring will take place across the site if sediment sequences are shown to be suitable and further data is required for formation of the deposits model. Gouge coring will only take place after the powered boreholes have been undertaken and after consultation with John Oxley, The City of York Archaeologist.
- 6.2.7 Overall, an integrated deposit model will be produced, surfacing the key topographic templates such as the Pleistocene topography and early Holocene land surfaces, within a suitable GIS software. In addition, if key palaeo land-surfaces or key macro-stratigraphic units are identified provision should be made for absolute dates to be obtained prior to targeted evaluation, using either OSL or Radiocarbon dating to provide chronological markers to the predictive model.

Project Reporting

- 6.2.8 A two stage project reporting process is envisioned. Primarily, the integrated deposits model will be produced within two weeks of the survey finishing and will be submitted to John Oxley, The City of York Archaeologist.

6.3 Metal Detecting Survey

- 6.3.1 A pre-development metal detecting survey of the Development Area will comprise various techniques, methods and detail. This work is to be undertaken by experienced metal detectorists and to the methodology recommended by Foard and Morris 2012 26-30. The soil chemistry will be established for the topsoil and the subsoil in several locations in order that the potential for survival of metal artefacts, especially ferrous artefacts, can be assessed and compared to other medieval battle related metal artefacts. The Area of the pre-development survey shows the areas for Intensive survey for the haul road (Areas C & F), part of the on-line pond (Area A) and part of Area B (Fig. 1: illustrated in Green). All other areas of the Development Area will be subject to a 10m transect/line metal detector survey (Fig. 1: Areas illustrated in Pink), the exception being areas not to be disturbed by the Development; due its ecologically sensitive nature, Germany Meadows shall not be subject to a Metal Detector Survey.

AREAS OF INTENSIVE SURVEY

- 6.3.2 The area from the A19 to Fordlands Road, then to Germany Lane (Areas C & F) and the entire length of the corridor required for the temporary haul road (Area B), part of the on-line pond (Area A) and part of Area B (Fig. 1: illustrated in Green) will be intensively metal detected. For an area of land forming the access road from the A19 across Fordlands Road to Germany Lane and for the part of the area of the on-line ponds as outlined in Fig 1, each collected find will be individual bagged and its location accurately recorded three dimensionally.

6.3.3 The following methodology will apply and be supervised by Tim Sutherland, Battlefield Specialist, and the metal detecting will be undertaken by Simon Robertson and or Pete Smith. It is intended to use the latest available equipment including a minilab CTX 303 metal detector. Members of staff from MAP will assist with surveying of any finds but will not be operating the metal detector. Archaeological detecting will be undertaken in spits. The proposed methodology is that the topsoil will be detected and then removed in 10cm spits with re-detecting of each phase, until the required depth of 0.4m. Archaeological detecting will be at least 2m spacing of transects and then re-detected at 90 degrees in order that the survey identifies possible artefacts lying at different angles according to the orientation of the transects. The survey will be undertaken in all metal mode, with both pulse induction and VLF detectors. Each artefact will be three dimensionally recorded and individually bagged. Provision has been made that any Metal objects can be x-rayed and provisionally identified within twenty-four hours; this work will be undertaken by Ian Panter at York Archaeological Trust's Conservation Department.

AREAS OF NON-INTENSIVE SURVEY

- 6.3.4 Metal Detecting on the Remainder of the site as shown on Plan (Fig. 0) will be undertaken to the following methodology.
- 6.3.5 These areas (Fig. 1; areas illustrated in Pink) will be scanned at a Non-intensive level using 10m line transects across the entire length of the site.
- 6.3.6 Each artefact will be three dimensionally recorded and individually bagged. All finds will be flagged, labelled and surveyed in using a EDM/Total Station. All obviously modern items such as modern food and drink waste, foil, aluminium items, modern screws and bolts, wire nails, barbed wire, cast iron, titanium or nickel items, modern fencing pickets, modern buttons will be discarded. Provision has been made that Metal objects can be x-rayed and provisionally identified within twenty-four hours; this work will be undertaken by Ian Panter at York Archaeological Trust's Conservation Department.
- 6.3.7 The Non-intensive Metal Detector Survey will have a nominated Project Coordinator, who will have the necessary archaeological experience and expertise to achieve the best results from metal detector operators in the field.
- 6.3.8 The Project Coordinator will be responsible for maintaining a register of nominated detector users involved in the survey; arrange site access; ensure best practice in survey and recording methodology is applied throughout the survey; seek to ensure appropriate arrangements are made for essential conservation of and deposition of finds in a museum archive; brief the nominated detector users and ensure that they adhere to the principles set out in the written agreement.
- 6.3.9 The Project Coordinator will liaise with the City of York Archaeologist and the Finds Liaison Officer regarding all relevant aspects of the survey. Where the survey is on a Registered Battlefield the Project Coordinator will advise the Battlefields Inspector of English Heritage.

6.3.10 Nominated metal detector users on battlefield surveys must agree to abide by the Policies, Guidelines and Agreements of MAP Archaeological Consultancy, and to follow the specific survey and recording methods defined for the survey.

6.3.11 All such work will be regulated by formal written agreements, signed by the Project Coordinator and the nominated detector users. This is to ensure that all work is carried out in accordance with a set of principles agreed at the outset of the project (APPENDIX 1).

6.4 Archaeological Interventions (Figs. 2-8)

- a) *The archaeological excavation of a sample of the peat deposits adjacent to Germany Beck, to include a paleo-environmental investigation. Two 10m by 5m trenches to be excavated across the line of the haul road, a 2m-wide section of each to be excavated by hand.. The sections to be recorded before column samples and bulk samples are taken from the peat profiles for environmental assessment and radiocarbon dating. The trenches are to be 5m wide at their bases which, given that they will be deeper than 1.2m will mean stepping the sides, such that they will need to be 7m wide at the top.*
- b) *Archaeological supervision of the construction of the access road and A 19 junction combined with the archaeological excavation of revealed archaeological features and deposits. All work to be undertaken to the detailed outlined in Section 7 and 8 below. This element of work will also include for the archaeological recording of the stone bridge located on the present A19, a non-designated Heritage Asset. The engineering methodology at the present time allows for the preservation in Situ of this structure. However, it is likely that the structure will be preserved within the modern construction and therefore requires recording. It is proposed that a Level II Building Survey as described by English Heritage 2006 be undertaken. A Watching Brief will be maintained throughout the construction on the A19 in this area.*
- c) *Archaeological supervision of all soil removal for the creation of the on-line ponds combined with the archaeological excavation of revealed archaeological features and deposits. All work to be undertaken to the detailed outlined in Section 7 and 8 below. Once this work is completed a further transect will be metal detected as detailed in section a) above and machine excavated to reveal the sequence of deposits that will be disturbed by the insertion of the online ponds. This transect will be recorded in section and by both digital and monochrome photograph.*

6.4.1 General guidance relating to excavation, recording, report preparation and archiving include that prepared by English Heritage (1991; 2006) and the Institute for Archaeologists (2008). More specific guidance is referenced in the relevant sections below.

6.4.2 The location of all Strip and Record Areas would be surveyed in order that they could be located in relation to existing features and located within the Ordnance Survey

National Grid. Archaeological deposits will need to be explicitly related to depths below existing surface levels and actual heights in relation to Ordnance Datum.

- 6.4.3 The areas will be stripped of topsoil using a mechanical excavator with a wide, toothless bucket, which will operate under archaeological supervision at all times. Topsoil will be removed to the edge of each area and kept separate from subsoil should this need to be removed. The interface between topsoil and subsoil will be metal detected to give the greater chance of recovering any battle related finds. Upon the completion of each Phase of archaeological work agreement with the City of York's Archaeologist John Oxley is required to ensure compliance with the WSI.
- 6.4.4 The machine will remove topsoil down to a level at which any significant archaeological deposits are first identified or down to natural subsoil, whichever is first. All subsequent excavation will be carried out by hand unless agreed otherwise.
- 6.4.5 Archaeological investigation will be carried out over the full area of the site and all areas will be cleaned sufficiently by hand to establish the presence or absence of archaeological deposits. Features shall then be planned and photographed. All features exposed will be sample excavated, unless deemed in consultation with John Oxley of sufficient importance to require total excavation. Hand excavation will be undertaken to evaluate depth, dimension and preservation of archaeology, and to ensure recovery of sufficient artefactual and environmental evidence to enable dating and assessment of the archaeology to be achieved. It would be anticipated that excavated sample sections would constitute 50% of discrete features and 20% of linear or curvilinear features (to a minimum of 1m in length) and a sufficient sample sectioned to establish whether they had been recut. If discrete features or deposits greater than 1.5m in diameter are encountered then a minimum of 25% will be excavated. Sample sections will ideally be located at the junction of features where these are encountered in order that their stratigraphic relationships are established, or where evidence of localised refuse dumping or industrial residues are present.

Variations to methodology

- 6.4.6 A period of time or contingency will be allowed within each area to cover both the extension of any specific areas in order to establish the nature and extent of any significant archaeological features, or for time lost to bad weather. Any such variations to the excavation methodology arising from the presence of structures or archaeological remains not anticipated by the Written Scheme of Investigation would be subject to consultation with John Oxley and Persimmon Homes, and put into effect as soon as possible with the written agreement of the parties involved.

7. ARCHAEOLOGICAL RECORDING

- 7.1 The location of all areas investigated will be surveyed in order that these (and all archaeological features and deposits within them) can both be relocated in relation to existing landscape features and located within the Ordnance Survey National Grid. Archaeological deposits will need to be explicitly related both to depths below existing surface levels and actual heights in relation to Ordnance Datum.
- 7.2 All archaeological features will be photographed and recorded at an appropriate scale. Sections will normally be drawn at a scale of 1:10, identifying individual

contexts and the underlying natural subsoil. Archaeological plans will normally be drawn at a scale of 1:20 although areas largely devoid of archaeological features would be recorded at a scale of 1:50.

- 7.3 A written description of features will be recorded on pro-forma sheets using an appropriate context recording system.
- 7.4 Digital photography may be used for general photographic purposes. For archive purposes at least a selection of the photographic record of the site will be taken using monochrome prints and colour slide at a minimum format of 35mm.
- 7.5 All scientific investigations both on site and as part of the subsequent report preparation should be undertaken in a manner consistent with the English Heritage (2003) best-practice guidelines.
- 7.6 Any human remains (inhumations) encountered during the Strip and Record will be exposed, recorded and lifted. Human Remains will be recorded, recovered and processed in accordance with English Heritage (2002a) and IFA (Brickley and McKinley 2004) guidelines. A *Licence for the Removal of Human Remains* will be obtained from the Ministry of Justice.
- 7.7 Forty- to sixty-litre bulk palaeoenvironmental samples will be taken from appropriate representative deposits (such as occupation and midden deposits or ditch and pit fills) and submitted for assessment. If particularly rich deposits of bone are encountered then a minimum of 100 litre coarse-sieved samples would be taken. Particular attention will be paid to the recovery of samples from any waterlogged deposits present. Recovery and sampling of environmental remains would be in accordance with guidelines prepared by English Heritage (2011) and the sampling strategy provided by the specialist and agreed with English Heritage. Samples will also be taken for pollen analysis from appropriate deposits in order to establish preservation and identify the past use of the area. All bulk/floatation samples should be processed in their entirety prior to assessment and unprocessed sample volumes and flot and residue mesh size information should be provided to the specialist along with the material.
- 7.8 Secure contexts will be sampled for dating purposes as appropriate (whether on site or as sub-samples of processed bulk samples). This will include C-14 dating, archaeomagnetic dating and dendrochronological dating. Any concentrations of charcoal or other carbonised material recovered on site will usually be retained. Samples for archaeomagnetic dates will be taken on site by the relevant specialist. Samples for dendrochronological dates would be taken either on site or from recovered timbers by the relevant specialist in accordance with published guidelines (English Heritage 1998). Samples would be processed subsequent to initial post-excavation assessment.
- 7.9 Buried soils or sediment sequences will be inspected and recorded on site, and samples for laboratory assessment collected where appropriate in collaboration with a geoarchaeologist. The guidance of English Heritage (2007) will be followed.
- 7.10 In the areas discussed in the Methodology (Section 6), prior to Top Soil Stripping a metal detecting survey will be undertaken. Each collected find will be individually bagged and its location accurately recorded.

- 7.11 Pottery and animal bone will be collected as bulk samples whilst significant artefacts will be three-dimensionally recorded prior to processing. Finds will be recorded, processed and submitted to specialists for post-excavation assessment in a manner consistent with best professional practice (Watkinson and Neal 1998).
- 7.12 All finds recovered will be washed, marked, appropriately packaged and stored under optimum conditions. Finds recovery and storage strategies will be in accordance with published guidelines (English Heritage 1995; Watkinson and Neal 1998; IFA 2006). Provision will be made for site visits from both specialists and a conservator as necessary.
- 7.13 In accordance with English Heritage guidance (1991), all iron objects, a selection of non-ferrous artefacts (including all coins) and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment in accordance with the guidance provided by Jones (2006). Where there is evidence for industrial activity, large technological residues would be collected by hand, with separate samples collected for micro-slugs. In these instances, the guidance of Bayley *et al* (2001) would be followed.
- 7.14 Any artefacts of gold or silver recovered during the trial trenching which are considered to be treasure will be dealt with in accordance with the Treasure Act 1996 Code of Practice (Revised) 2002 (DCMS 2002).

8. MONITORING

- 8.1 Monitoring of the archaeological works will be made available at all reasonable times to the representatives of the City of York Council for the purposes of monitoring the archaeological works and a site meeting(s) held to review the results of each phase. Should any significant or unexpected results be identified during the course of the works then the above organisations will be notified.
- 8.2 Access to the site will be arranged through the archaeological consultant to Persimmon Homes on the basis of prior notification and subject to any necessary health and safety requirements.

9. POST-EXCAVATION ASSESSMENT

- 9.1 On completion of each Phase an assessment of the site records and finds will be undertaken in accordance with both national and local guidance (English Heritage 1991; 2006). Upon the completion of each archaeological Phase the Assessment report will be submitted to the City of York's archaeologist John Oxley in order to ensure compliance with the WSI.
- 9.2 A post-excavation assessment report on the results of each and every subsequent Phase will be prepared and submitted to the City of York's Principal archaeologist (and the English Heritage Science Advisor) within six months of the completion of the fieldwork. The report will be used to identify the need for any further works, including further analysis and report preparation, the requirements of which would be detailed in an updated Written Scheme of Investigation.
- 9.3 The post-excavation assessment report will include:

- a cover page, title page, or introduction containing the site name, the site code, the planning application number, the dates that fieldwork was undertaken, museum accession number, an Ordnance Survey grid reference and the name of the originating body
- a list of contents, figures and tables;
- a non-technical summary;
- an introduction;
- the planning background;
- the archaeological and historical background;
- a methodology;
- a summary of the project's results;
- an interpretation of the results in appropriate context;
- a post-excavation assessment of the stratigraphic and other written, drawn or photographic records;
- a catalogue and post-excavation assessment of each category of artefact recovered during the evaluation (including a conservation assessment);
- a catalogue and post-excavation assessment of any faunal remains recovered during the evaluation;
- a catalogue of soil or other samples collected and post-excavation assessment of the results of the soil-sampling programme;
- catalogues and post-excavation assessments and summary reports of all scientific dating procedures or other analyses carried out;
- a discussion of the significance of the results of the post-excavation assessment;
- a discussion of the potential for further analysis of the site archive;
- a conclusion;
- an appendix containing a list and summary description of all contexts recorded;
- a summary of the contents of the project archive and its location;
- a location plan of the site at an appropriate scale of at least 1:5,000;

- a site plan showing archaeological excavations located within the site at a recognised planning scale (and not less than 1:500), and located with reference to the Ordnance Survey National Grid;
- plans and sections of archaeological features at a recognised scale; and
- general photographs of the archaeological work in progress and selected photographs of archaeological features investigated. The evaluation and assessment of the site records and finds will be undertaken in accordance with national guidance (English Heritage 1991; 2006).

10. SITE ARCHIVE

- 10.1 The site archive shall contain all the data collected during the archaeological work (as well as previous desk-based studies and surveys undertaken in relation to the site). The archive would include all records, finds and environmental samples that merit retention. It will be quantified, ordered, indexed and internally consistent.
- 10.2 Adequate resources shall be provided during fieldwork to ensure that records are checked and internally consistent.
- 10.3 Archive consolidation will be undertaken immediately following the conclusion of fieldwork:
- the site record will be checked, cross-referenced and indexed as necessary
 - all retained finds will be cleaned, conserved, marked and packaged in accordance with the requirements of the recipient museum
 - all retained finds will be assessed and recorded using pro-forma recording sheets, by suitably qualified and experienced staff and initial artefact dating will be integrated with the site matrix
 - all retained environmental samples will be processed by suitably experienced and qualified staff and recorded using pro-forma recording sheets
- 10.4 The archive will be assembled in accordance with the specification set out by English Heritage (1991). In addition to the site records, artefacts, environmental remains and other sample residues, the archive shall contain:
- site matrices where appropriate
 - a summary report synthesising the context record
 - a summary of the artefact record
 - a summary of the environmental record
- 10.5 The integrity of the primary field record will be preserved. Security copies in digital or fiche format will be maintained where appropriate.

- 10.6 An online OASIS form (<http://ads.adhs.ac.uk/project/oasis/>) will be completed on the results of each Phase within three months of the completion of the work. This will be validated once the report has become a public document by submission or incorporation into the Historic Environment Record.
- 10.7 A copy of the site report and the full site archive will be deposited at The Yorkshire Museum. The site code YORM 1996. 352 has been assigned for this site. Deposition shall be in accordance with written guidelines on archive standards and procedures (Walker 1990; Society of Museum Archaeologists 1995; Brown 2007). The archaeological contractor will liaise with the museum curator regarding their requirements in ordering, boxing and labelling the site archive. All Phases of work will form the overall site archive including all previous evaluations on the site. However, allowance should be made for deposition after each phase if several contractors are to undertake the archaeological work.
- 10.8 Archiving of digital data from the project should be undertaken in a manner consistent with professional standards and guidance (Richards and Robinson 2000).
- 10.9 In addition to the deposition of the archive copies of all relevant reports would also be deposited with the City of York's Historic Environment Record, including in PDF or other format, as well as the English Heritage Science Advisor, the National Monuments Record (NMR) and OASIS.
- 10.10 The results of the archaeological work are considered to merit publication and dependant on the results of the future work the appropriate method of publication whether in a monograph or journal will need to be agreed with the City of York's Principal Archaeologist.

11. CONFIDENTIALITY, COPYRIGHT AND PUBLICITY

- 11.1 All reports will initially be distributed in confidence only to Persimmon, their agents, City of York Council and its archaeological advisors. All reports arising from the implementation of this WSI will remain confidential until such time as the contents are agreed in writing by City of York Council. Reports will be released into the public domain only with prior written agreement of Persimmon and City of York Council. Should either Persimmon or City of York Council withhold agreement either to the content of the reports or to release reports into the public domain, the issue will be referred to Arbitration. The Arbitration process will be set out in a separate appendix to this WSI.
- 11.2 The copyright of any written, graphic or photographic records and reports will rest with the archaeological organisation undertaking the fieldwork and analysis. Aspects of copyright may however transfer to the relevant journal or museum upon publication and deposition respectively, as required.
- 11.3 No publicity will be entered into with respect to the archaeological works without the prior consent of the Persimmon Homes or their agents. Any such publicity will acknowledge the co-operation of the City of York Council. It is proposed that each phase of archaeological work, will have a community programme of archaeological events including the opportunity to take part in excavations and Public Open days.

12. HEALTH AND SAFETY

- 12.1 It is the responsibility of the archaeological contractor to ensure that health and safety requirements are fulfilled, and the organisation should therefore comply with the 1974 Health and Safety Act and its subsequent amendments in all its operations. In this respect the SCAUM manual on archaeological health and safety would be followed for site works, and as normal practice, first aid boxes, an accident book and a telephone would be provided on site. Where required, safety helmets and reflective jackets would be worn and site staff would be appropriately equipped in terms of bad weather clothing. Information on service locations is to be obtained prior to the commencement of any excavation works and a Risk Assessment to HSE requirements should be prepared in advance of undertaking the site works.

13. COMMUNITY PARTICIPATION

- 13.1 It is proposed that for each Phase of archaeological work, (except the insertion of the roundabout, access road and excavation of the peat deposits), there will be a Community Programme of Archaeological Events. This will include an opportunity to take part in excavations and Public Open days and at least One Open day for people to visit the transect excavations in the area of the compensatory flood storage areas.
- Regular updates to the Parish Council
 - Invitation to local schools to participate
 - Opportunity for York Metal Detecting Club to participate in surveys

14. REFERENCES

- Allison, K. (ed.) 1976., Victoria County History East Riding Volume 3.
- Antoni, B, Johnson, M and McComish 2009 The University of York. Heslington East, York. Assessment Report. York Archaeological Trust Report 2009/48.
- Antoni, B. 2010., Area B6 off Cow Lane, Heslington East, York. Archaeological Evaluation. York Archaeological Trust Report 2010/27.
- Antoni, B. 2010., Heslington East, York. Cable Trench Watching Brief. York Archaeological Trust Report 2010/29.
- Bayley, J., Dungworth, D. and Paynter, S. (2001) *Centre for Archaeology Guidelines: Archaeometallurgy*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/archaeometallurgy/cfaarchaeometallurgy2.pdf>
- Brickley, M. and McKinley, J.I. (2004) *Guidelines to the Standards for Recording Human Remains*. Reading: Institute for Archaeologists, Technical Paper 7
- Broadhead, I.E. 1989 Yorkshire Battlefields - A detailed guide to twenty historic sites. London.
- Brunning, R. and Watson, J. (2010) *Waterlogged Wood: Guidelines on the Recording, Sampling, Conservation and Curation of Waterlogged Wood*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/waterlogged-wood/waterlogged-wood.pdf>
- Campbell, G., Moffett, L. and Straker, V. (2011) *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (Second Edition)*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/environmental-archaeology-2nd/environmental-archaeology-2nd.pdf>
- Canti, M. (2007) *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/geoarchaeology-2007.pdf>
- Carey, C. 2012 Heslington East Deposit Model: Integrated deposit model and comparison of methods of data capture. Carey Consulting.
- David, A., Linford, N. and Linford, P. (2008) *Geophysical Survey in Archaeological Field Evaluation*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/geophysical-survey-in-archaeological-field-evaluation/geophysics-guidelines.pdf>

DeVries, K. 1999 The Norwegian Invasion of England in 1066. The Boydell Press.

Dungworth, D. and Paynter, S. (2006) *Science for Historic Industries: Guidelines for the Investigation of 17th- to 19th-century Industries*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/science-for-historic-industries/science-historic-industries.pdf>

English Heritage 2006 Understanding Historic Buildings. A Guide to Good Recording Practice. English Heritage Publishing.

Fell, V., Mould, Q. and White, R. (2006) *Guidelines on the X-radiography of Archaeological Metalwork*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/x-radiography-of-archaeological-metalwork/xradiography.pdf>

[Foard and Morris \(2012\) The Archaeology of English Battlefields Council for British Archaeology Research \(Report 168\).](#)

Gaffney, C., Gater, J. and Ovenden, S. (2002) *The Use of Geophysical Techniques in Archaeological Evaluations*. Reading: Institute for Archaeologists, Technical Paper 6

GSB 1996 Fulford III. Survey No. 96/51. Geophysical Surveys of Bradford

Hall, A. & Kenward, H., 2003 Assessment of the plants and invertebrate macrofossils from a sequence of Peat Deposits at Germany Beck Fulford, York. Department of Archaeology, University of York.

Institute for Archaeologists. (2008) *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*. Reading: Institute for Archaeologists. http://www.archaeologists.net/sites/default/files/node-files/ifa_standards_materials.pdf

Institute for Archaeologists. (2009) *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading: Institute for Archaeologists. <http://www.archaeologists.net/sites/default/files/node-files/Archives2009.pdf>

Institute for Archaeologists. (2010) *Draft Standard and Guidance for Archaeological Geophysical Survey*. Reading: Institute for Archaeologists. <http://www.archaeologists.net/sites/default/files/node-files/geophysicsSG.pdf>

Jones, C. 2006., The Forgotten Battle of 1066. History Press.

Jones. C. 2011., Finding Fulford – the Search for the Battle of Fulford of 1066. www.writersprintshop.com

- Karsten, A., Graham, K., Jones, J., Mould, Q. and Walton Rogers, P. (2012) *Waterlogged Organic Artefacts: Guidelines on Their Recovery, Analysis and Conservation*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/waterlogged-organic-artefacts/woa-guidelines.pdf>
- Lee, E. (2006) *Management of Research Project in the Historic Environment: The MoRPHE Project Managers' Guide*. Swindon: English Heritage. <http://www.english-heritage.org.uk/content/publications/docs/morphe-project-managers-guide-1.1-2009.pdf>
- Macnab, N. 2004 Heslington East, York. Archaeological Evaluation. York Archaeological Trust Report 2004/23.
- MAP 1995., Land to the North of Germany Beck, Fulford, North Yorkshire. Proposed Development. Desktop Evaluation. MAP Archaeological Consultancy Ltd.
- MAP 1996., Germany Beck - Fulford. Area A. Intensive Fieldwalking.
- MAP 1996., Germany Beck - Fulford. Area B. Intensive Fieldwalking.
- MAP 1996., Germany Beck - Fulford. Area C. Intensive Fieldwalking.
- MAP 1996., Germany Beck - Fulford. Area D/E. Intensive Fieldwalking.
- MAP 1996., Germany Beck - Fulford. Area F. Intensive Fieldwalking.
- MAP 1996., Germany Beck - Fulford. Archaeological Sample Evaluations.
- MAP 1999., Fulford School, Fulford, York - Archaeological Evaluation. MAP Archaeological Consultancy Ltd.
- MAP 2000., Germany Beck, Fulford, North Yorkshire. Proposed Development. Desk Based Assessment.
- MAP 2001., Germany Beck Fulford Environmental Assessment Chapter 14- Cultural Heritage.
- MAP 2001., Fulford School, Fulford, York – Archaeological Watching Brief. MAP Archaeological Consultancy Ltd.

- MAP., 2002., Germany Beck Fulford - Additional Archaeological Trial Trenching in Road Corridor. MAP Archaeological Consultancy Ltd.
- MAP 2003., Germany Beck Fulford Environmental Assessment Chapter 14- Cultural Heritage – Additional Areas I and J.
- MAP 2003., Germany Beck Fulford. Area I Trial Trenching. MAP Archaeological Consultancy Ltd.
- MAP 2005., St. Oswald's Primary School, Fulford, York - Archaeological Excavations. MAP Archaeological Consultancy Ltd.
- MAP 2006., Germany Beck Fulford – Landscape Appraisal. MAP Archaeological Consultancy Ltd.
- MAP 2006., Germany Beck Fulford. Updated Environmental Assessment Chapter 14 – Cultural Heritage.
- Mays, S. (2005) *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England*. Swindon: English Heritage.
<http://www.english-heritage.org.uk/publications/human-remains-excavated-from-christian-burial-grounds-in-england/16602humanremains1.pdf>
- Mays, S., Brickley, M. and Dodwell, N. (2004) *Human Bones from Archaeological Sites: Guidelines for Producing Assessment Documents and Analytical Reports*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/human-bones-from-archaeological-sites/humanbones2004.pdf>
- McKinley, J.I. and Roberts, C. (1993) *Excavation and Post-excavation Treatment of Cremated and Inhumed Human Remains*. Reading: Institute for Archaeologists, Technical Paper 13
- McComish, J. 2010., Area B5 Heslington East, York Evaluation Report. York Archaeological Trust Report 2010/28.
- National Planning Policy Framework (March 2012)
- Penn (1974) The Outer Ring Road - Hand written Report on York Excavation Group Evaluation Trenches (unpublished)
- Pickering, I. & Briddon, J. (1985). A History of Fulford.
- PPS 5 2010: *Planning Policy Guidance No. 5 – Planning and the Historic Environment*.

Radley, J. (1974)., 'The Prehistory of the Vale of York', YAJ Vol. 46, 10-22.

Richards, J. (2001)., The Blood of the Vikings. Hodder and Stoughton.

Robinson, D.E. (2008) *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/curation-of-waterlogged-macroscopic-plant-and-invertebrate-remains/waterloggedremains.pdf>

Smith, A.H. (1937)., The Place-names of the East Riding of Yorkshire and York, Cambridge.

Smurthwaite, D. 1985., Ordnance Survey's Guide to Battlefields of Britain.

Watkinson, D. and Neal, V. (2001) *First Aid for Finds: A Practical Guide for Archaeologists* [Third Edition]. Hertford: RESCUE – The British Archaeological Trust

Watson, J., Fell, V. and Jones, J. (2008) *Investigative Conservation: Guidelines on How the Detailed Examination of Artefacts from Archaeological Sites can Shed Light on their Manufacture and Use*. Swindon: English Heritage. <http://www.english-heritage.org.uk/publications/investigative-conservation/investigative-conservation.pdf>

WYAS., (2003)., Magnetometer Survey Area I Germany Beck Fulford, West Yorkshire Archaeology Service.

APPENDIX 1

FORMAL AGREEMENT FOR METAL DETECTORISTS WORKING OF THE SITE OF THE PROPOSED GERMANY BECK DEVELOPMENT WITH MAP ARCHAEOLOGICAL PRACTICE LTD, ADHERING TO THE POLICY OF THE BATTLEFIELDS TRUST

SITE NAME: Germany Beck, Fulford

I agree, when working on the above survey, to abide by the principles and conditions set out in the Trust's POLICY FOR METAL DETECTING ON BATTLEFIELD SITES.

I agree to waive all rights of ownership to all finds so that these may be incorporated into the site archive.

I also agree to abide by section 81 of the Treasure Act (1996) Code of Practice and, as such, I hereby waive all rights to rewards for objects discovered that could otherwise be payable under the Treasure Act 1996 (Revised) 2002 (DCMS 2002).

I, (Name in block capitals)

Have read and understood the above agreement and will abide by its conditions.

Signed:

Detectorist:..... Date:/..../....

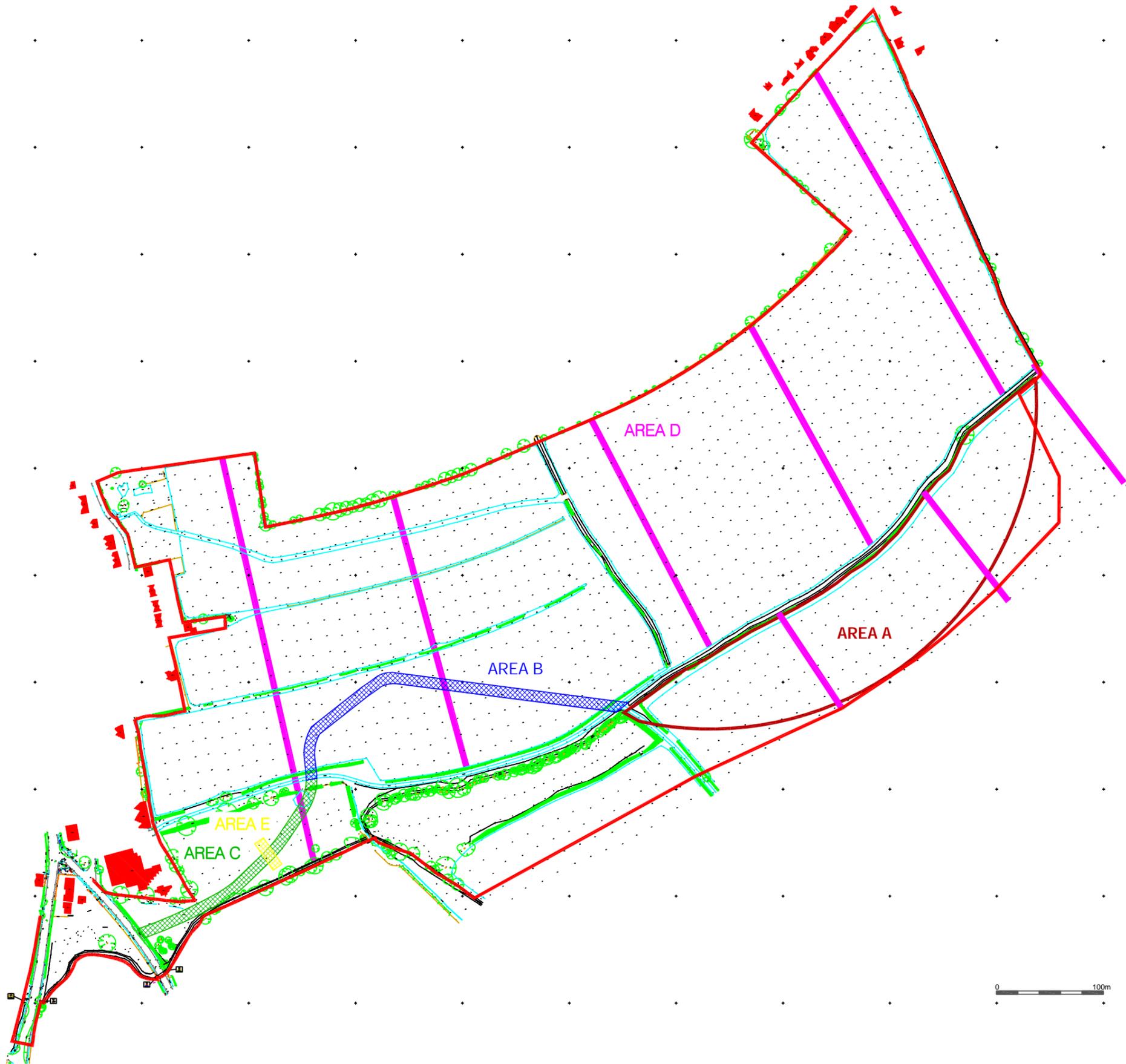
Signed:

On behalf of MAP Date:/..../....

Section 81 of the Treasure Act Code of practice:

“Rewards will not be payable when the find is made by an archaeologist or anyone engaged on an archaeological excavation. In cases of uncertainty archaeologists are recommended to require individuals for whom they are responsible, or whom that have given, or for whom they have sought, permission to search, to sign a statement waiving their right to a reward. If there is doubt as to whether the finder was an archaeologist (or a person engaged on an archaeological excavation or investigation), the Treasure Valuation Committee shall decide.”

Treasure Act 1996. Code of practice (Revised) (England and Wales, DCMS, London 2002).



AREA - A - COMPENSATORY FLOOD STORAGE AREA

1. Metal detection
2. Remove topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Excavate transects
5. Earth moving excavation by others. Approx 18000-19000m3

AREA - B - TEMPORARY HAUL ROAD ACCESS

1. Metal detection
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Installation of sacrificial 6f2 capping by others

AREA - C - TEMPORARY HAUL ROAD ACCESS

1. Metal Detection - WORK COMPLETE
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground (WE UNDERSTAND THIS AREA TO BE CLEAR OF ARCHAEOLOGICAL FEATURES HOWEVER A WATCHING BRIEF IS REQUIRED)
4. Installation of sacrificial 6f2 capping by others

AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS

1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

Revisions

Development
Germany Beck
 York

Drawing Title
**FIGURE 2:
 ARCHAEOLOGICAL
 INVESTIGATION WORKS**



Persimmon Homes Yorkshire
 Persimmon House
 Fulford
 York
 YO19 4FE
 Tel : 01904 642199
 Fax : 01904 656142
 www.persimmonhomes.com

Scale: 2000 @ A1 | Drawn: RH | Date: Sept 2013
 File: S:\Surveyors\York, Germany Beck\A24 Archaeological Works

Germany Beck, Fulford, York WSI
 600 / Arch Plan 1 | Rev -

AREA - A - COMPENSATORY FLOOD STORAGE AREA
1. Metal detection
2. Remove topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Excavate transects
5. Earth moving excavation by others. Approx 18000-19000m3

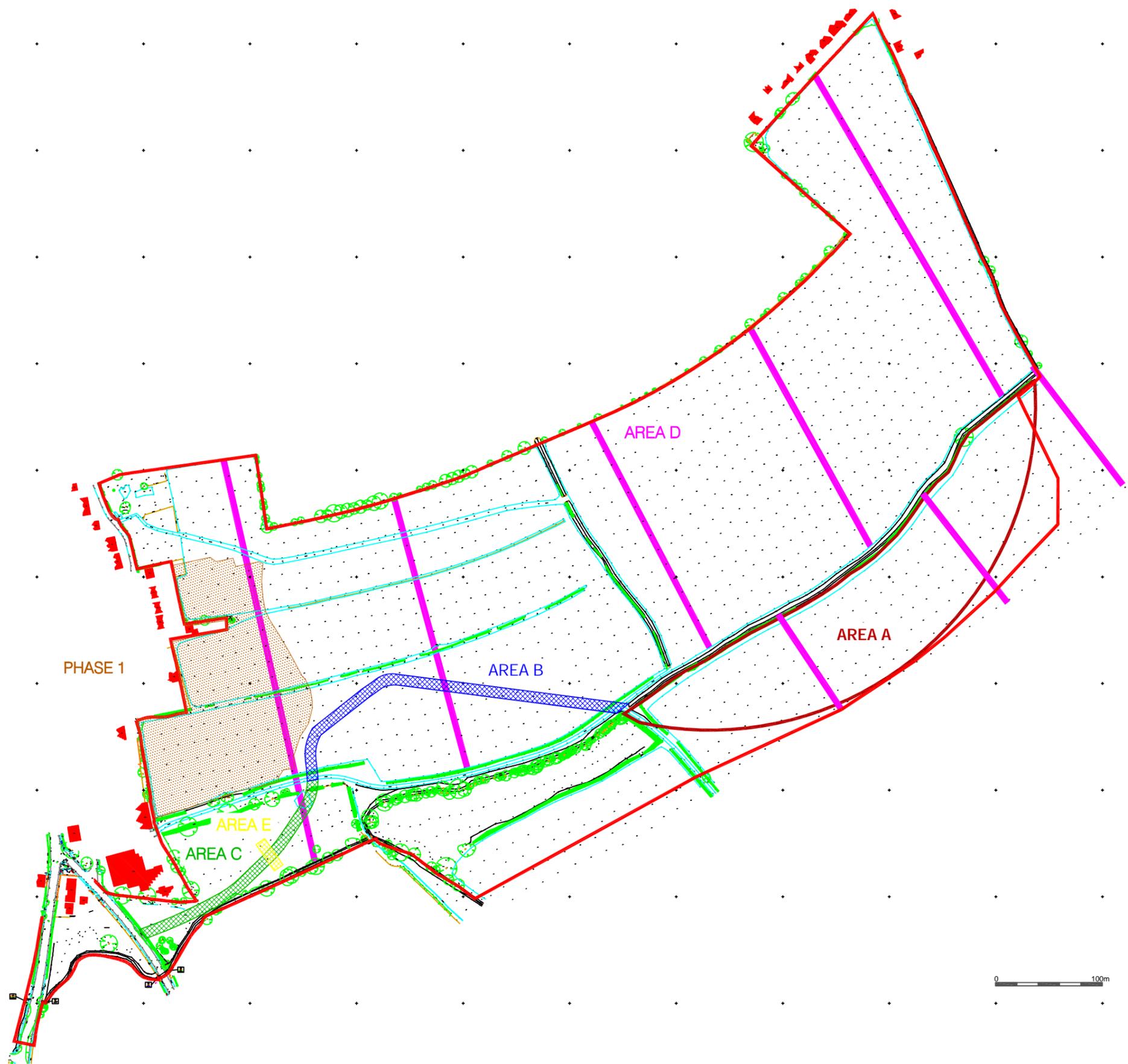
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1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS



Revisions

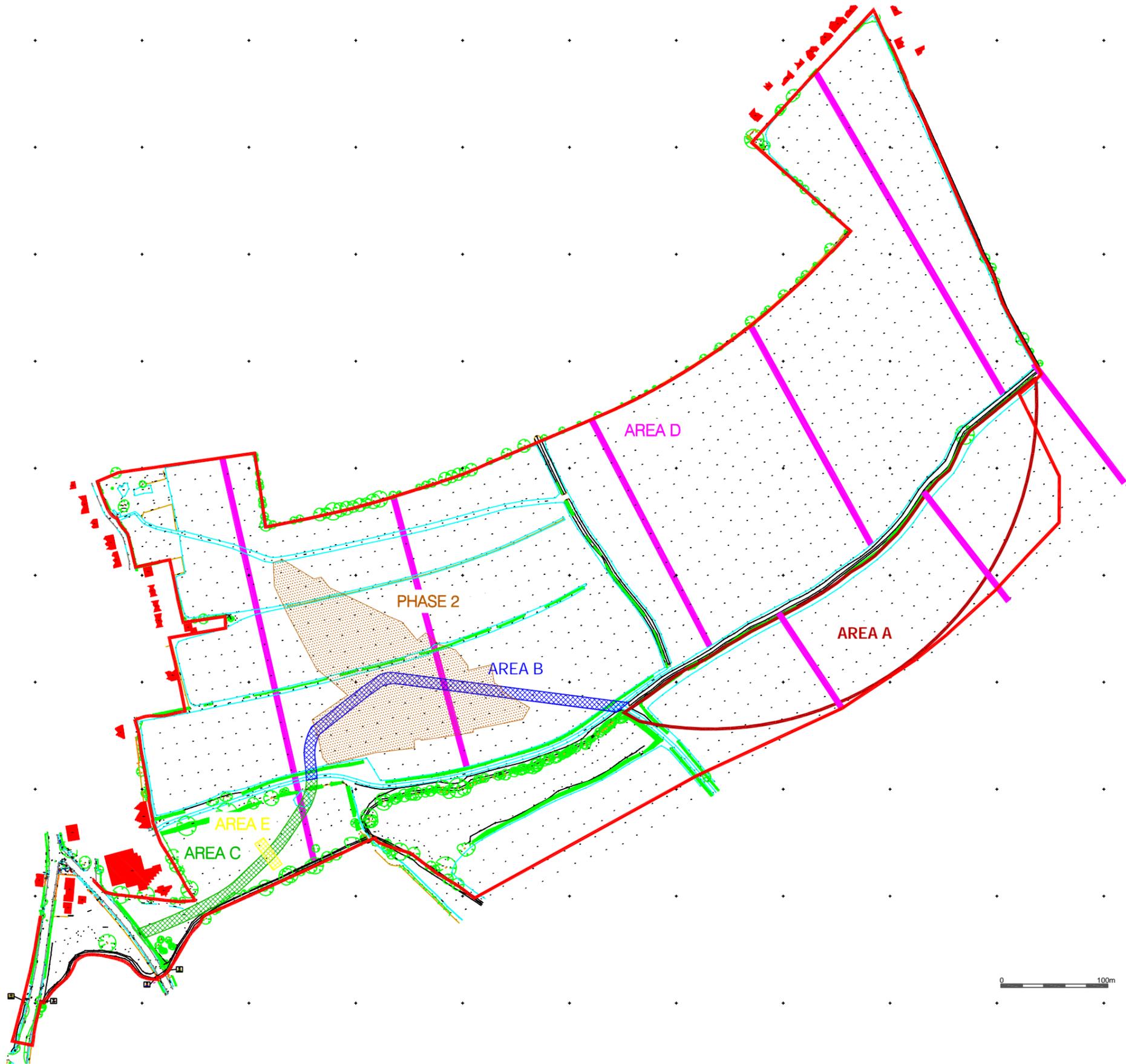
Development
Germany Beck York

Drawing Title
FIGURE 3 PHASE 1 ARCHAEOLOGICAL INVESTIGATION WORKS

	Persimmon Homes Yorkshire Persimmon House Fulford York
	YO19 4FE
	Tel : 01904 642199 Fax : 01904 656142
	www.persimmonhomes.com

Scale: 2000 @ A1	Drawn: RH	Date: Sept 2013
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Germany Beck, Fulford, York WSI 600 / Arch Plan 1	Rev -
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AREA - A - COMPENSATORY FLOOD STORAGE AREA
1. Metal detection
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AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS
1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

Revisions

Development
Germany Beck
York

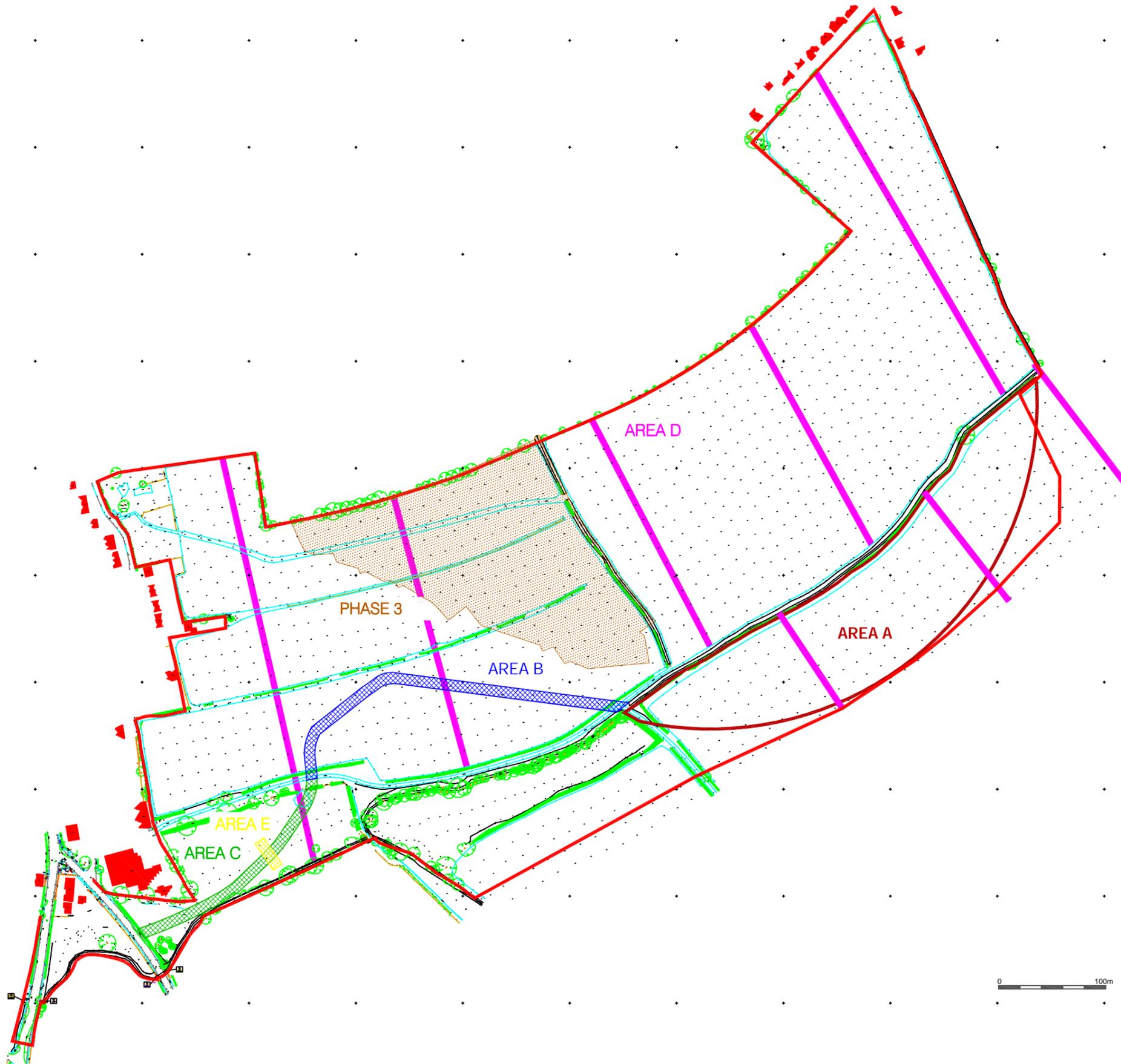
Drawing Title
FIGURE 4. PHASE 2
ARCHAEOLOGICAL
INVESTIGATION WORKS



Persimmon Homes Yorkshire
 Persimmon House
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 Fax : 01904 656142
 www.persimmonhomes.com

Scale: 2000 @ A1	Drawn: RH	Date: Sept 2013
File: S:\Surveyors\York, Germany Beck\A24 Archaeological Works		

Germany Beck, Fulford, York WSI	Rev
600 / Arch Plan 1	-



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2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Installation of sacrificial 6f2 capping by others

AREA - C - TEMPORARY HAUL ROAD ACCESS
1. Metal Detection - WORK COMPLETE
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground (WE UNDERSTAND THIS AREA TO BE CLEAR OF ARCHAEOLOGICAL FEATURES HOWEVER A WATCHING BRIEF IS REQUIRED)
4. Installation of sacrificial 6f2 capping by others

AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS
1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

Revisions

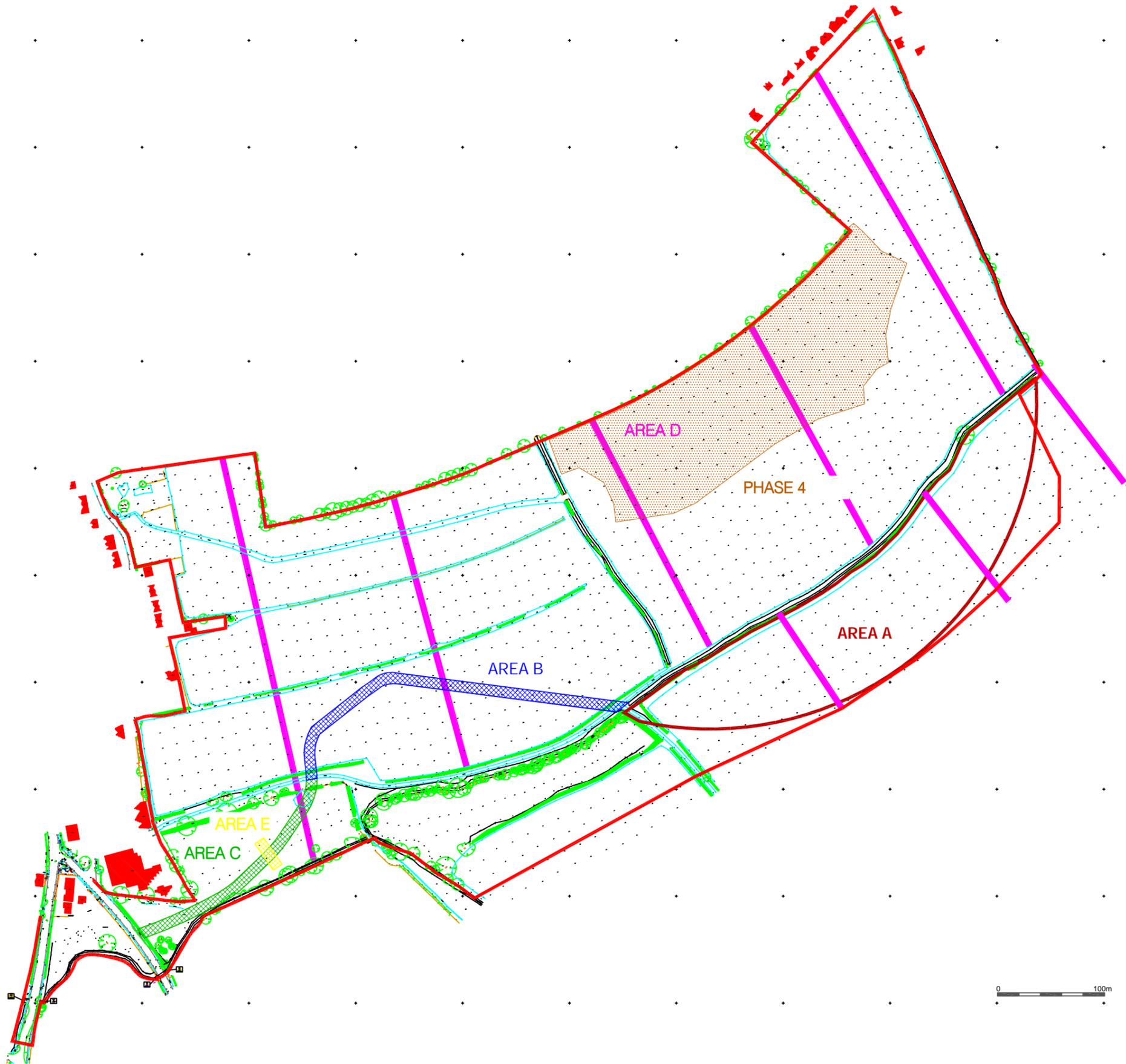
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Drawing Title
FIGURE 5. PHASE 3
ARCHAEOLOGICAL
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AREA - A - COMPENSATORY FLOOD STORAGE AREA
1. Metal detection
2. Remove topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Excavate transects
5. Earth moving excavation by others. Approx 18000-19000m3

AREA - B - TEMPORARY HAUL ROAD ACCESS
1. Metal detection
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Installation of sacrificial 6f2 capping by others

AREA - C - TEMPORARY HAUL ROAD ACCESS
1. Metal Detection - WORK COMPLETE
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground (WE UNDERSTAND THIS AREA TO BE CLEAR OF ARCHAEOLOGICAL FEATURES HOWEVER A WATCHING BRIEF IS REQUIRED)
4. Installation of sacrificial 6f2 capping by others

AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS
1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

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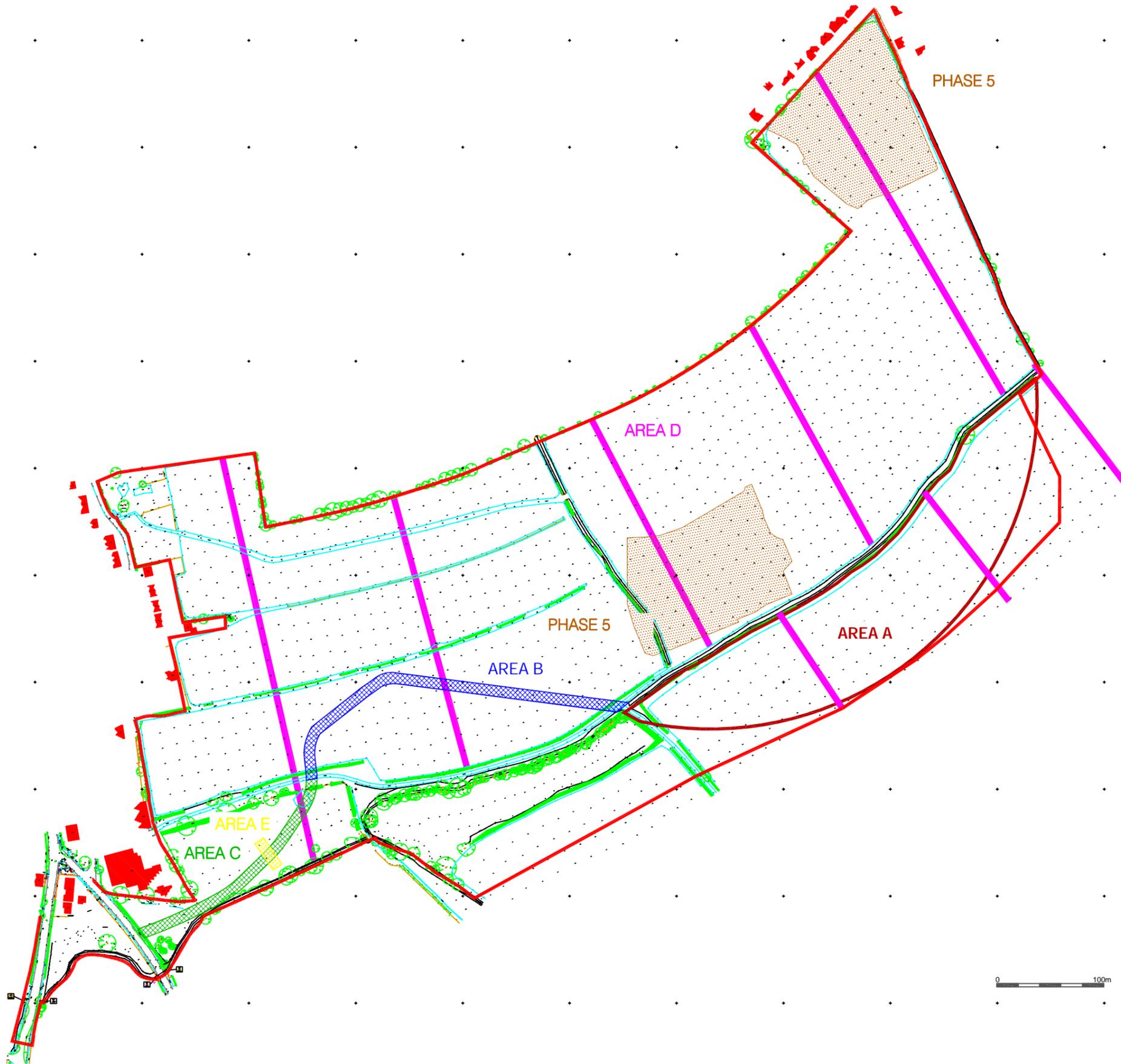
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FIGURE 6. PHASE 4
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AREA - A - COMPENSATORY FLOOD STORAGE AREA
1. Metal detection
2. Remove topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Excavate transects
5. Earth moving excavation by others. Approx 18000-19000m3

AREA - B - TEMPORARY HAUL ROAD ACCESS
1. Metal detection
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Installation of sacrificial 6f2 capping by others

AREA - C - TEMPORARY HAUL ROAD ACCESS
1. Metal Detection - WORK COMPLETE
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground (WE UNDERSTAND THIS AREA TO BE CLEAR OF ARCHAEOLOGICAL FEATURES HOWEVER A WATCHING BRIEF IS REQUIRED)
4. Installation of sacrificial 6f2 capping by others

AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS
1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

Revisions

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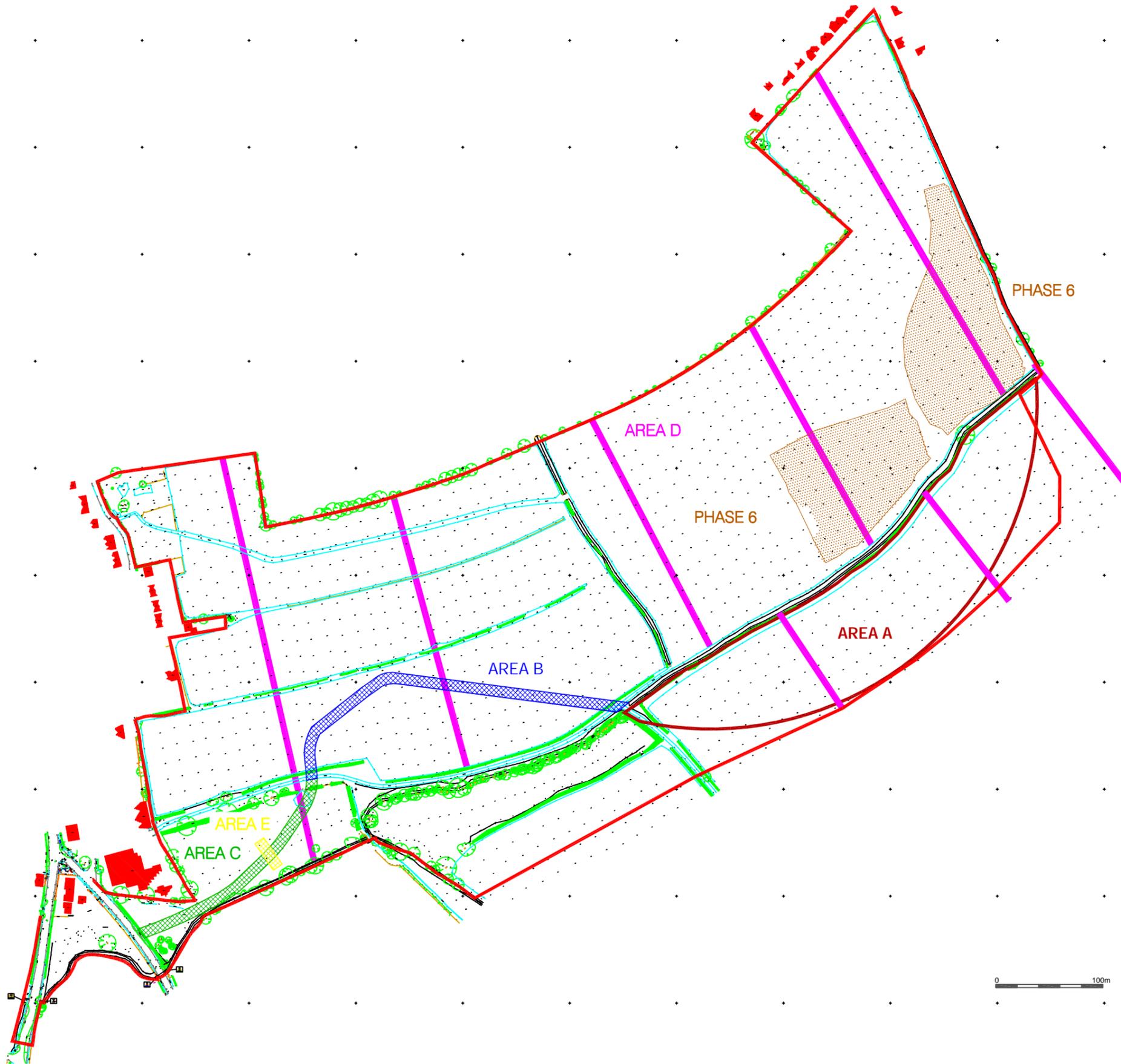
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FIGURE 7. PHASE 5
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AREA - A - COMPENSATORY FLOOD STORAGE AREA

1. Metal detection
2. Remove topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Excavate transects
5. Earth moving excavation by others. Approx 18000-19000m3

AREA - B - TEMPORARY HAUL ROAD ACCESS

1. Metal detection
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground
4. Installation of sacrificial 6f2 capping by others

AREA - C - TEMPORARY HAUL ROAD ACCESS

1. Metal Detection - WORK COMPLETE
2. Removal / Sidecasting of topsoil with toothless bucket
3. Record any archaeological features in natural ground (WE UNDERSTAND THIS AREA TO BE CLEAR OF ARCHAEOLOGICAL FEATURES HOWEVER A WATCHING BRIEF IS REQUIRED)
4. Installation of sacrificial 6f2 capping by others

AREA - D - ELECTRICAL RESISTIVITY SURVEY AND BOREHOLES (BY OTHERS)

AREA - E - FULL PROFILE OF PEAT DEPOSITS

1. Peat likely to be 600mm below EGL & thought to be 2500mm thick

AREA - F - ARCHAEOLOGICAL WSI TO BE UNDERTAKEN FOR THE ABOVE ITEMS

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FIGURE 8. PHASE 6
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