ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

on behalf of
The Arcot Consortium

Arcot Phase 1
Cramlington
Northumberland

archaeological post-excavation assessment

report 4529r
October 2017

Durham University

Contents

Figures

Photographs

Green Lane · Durham · DH1 3LA · tel 0191 334 1121 · fax 0191 334 1126
archaeological.services@durham.ac.uk · www.dur.ac.uk/archaeological.services

1. Summary

The project

1.1 This report presents the results of archaeological mitigation works conducted in advance of a development at land off Fisher Lane (A1068), Cramlington, Northumberland. The excavation works comprised the strip, map and record of two areas.

1.2 The works were commissioned by The Arcot Consortium and conducted by Archaeological Services Durham University.

Results

Prehistoric settlement

1.3 In Area 1 in the northern part of the site three roundhouse plots synonymous with the later prehistoric or Romano-British periods were excavated. The plots comprised the surviving elements of drainage ring-gullies, with part of an internal concentric wall-slot surviving within the largest plot, and entrances (where identified) to the south-west. A flint flake of possible Mesolithic or Neolithic origin was also found in the gully, suggesting earlier activity on the site.

1.4 The roundhouses were enclosed by a narrow gully indicative of a wooden fence or palisade around the settlement. The west side of the fence line was within the excavated area, but it extended beyond its northern and eastern limits. An entrance was defined on its south-west side.

1.5 Two pits external and close to the entrance contained charcoal and abundant charred hazel nutshell; the assemblage is typically of Neolithic and earlier Bronze Age date, suggesting the settlement may have early origins.

Later features

1.6 Two parallel ditches were probably associated with the Stonewall Plantation which appears on the 1850s Ordnance Survey map. A ditch aligned roughly north-east/south-west through Area 2 remains of uncertain date. A shale-filled mine shaft or pit was identified in Area 2. The pit does not appear on any Ordnance Survey map, suggesting it pre-dates the 1850s, or was short-lived and quickly in-filled.

2. Project background

Location (Figure 1)

2.1 The site is located at White Hall Farm, Beaconhill, Cramlington, Northumberland (NGR centre: NZ 24207 76793). It covers an area of approximately 22.6ha. The site is bounded to the west by Fisher Lane (A1068), with farmland beyond. A tree plantation demarcates the northern boundary while more farmland continues to the east and south.

Development

2.2 The development is residential.

Objective

2.3 The objective of the scheme of works was to identify, excavate and record significant archaeological features within the area in advance of development.

2.4 The regional research framework (Petts & Gerrard 2006) contains an agenda for archaeological research in the region, which is incorporated into regional planning policy implementation with respect to archaeology. In this instance, the scheme of works was designed to address agenda items:

Late Bronze Age and Iron Age
lii Settlement
liii Landscapes

Roman
Riv Native and civilian life

Written Scheme of Investigation

2.5 The works have been undertaken in accordance with a Written Scheme of Investigation provided by Archaeological Services Durham University (reference DS17.255) and approved by the planning authority.

Dates

2.6 Fieldwork was undertaken between 3rd and 20th July 2017. This report was prepared for October 2017.

Personnel

2.7 Fieldwork was conducted by Jeffery Lowrey and Matthew Claydon (supervisor). This report was prepared by Matthew Claydon, with illustrations by David Graham. Specialist reporting was conducted by Dr Helen Drinkall (Lithics), Jenny Jones (other artefacts) and Dr Stephanie Piper (palaeoenvironmental). Sample processing was undertaken by Stuart Johnston, Adam Mead, Jenny Richards and Dr Stephanie Piper. The Project Manager was Daniel Still.

Archive/OASIS

2.8 The site code is **ACN17**, for **A**rcot, **C**ramlington, **N**orthumberland 20**17**. The archive is currently held by Archaeological Services Durham University and will be transferred to the Great North Museum in due course. Archaeological Services Durham University is registered with the **O**nline **A**cces**S** to the **I**ndex of archaeological investigation**S** project (**OASIS**). The OASIS ID number for this project is **archaeol3-297909**.

3. Landuse, topography and geology

3.1 At the time of excavation the wider site comprised five fields, three of arable and two of scrub/set-aside. The excavated areas were located in the north of the site, in arable fields.

3.2 The evaluation area sloped down to the south, declining from 85m OD to 72m OD.

3.3 The underlying solid geology of the area comprises Carboniferous mudstone, siltstone and sandstone strata of the Pennine Middle Coal Measures Formation, which are overlain by Devensian diamicton till.

4. Historical and archaeological background

Previous archaeological works

4.1 Previous archaeological interventions have been conducted in connection with the development; some of these have been summarised in an updated archaeological desk-based assessment and an accompanying addendum (Richardson & Pugh 2011; McKelvey 2014). In summary, an earlier programme of fieldwalking had failed to identify any significant archaeological resource in or near the present evaluation area. Geophysical survey, partially coincident with this area, identified evidence for agricultural activity, including ridge and furrow, alongside linear features lacking a cohesive pattern or morphology (Robinson & Biggins 2000).

4.2 Subsequent to the 2011 assessment, a programme of geophysical survey and trial trenching was conducted immediately to the south of the evaluation area on the footprint of a new access road (Scott 2011). This identified widespread evidence for ridge and furrow alongside a small number of other linear features. Follow-up trial trenching identified ridge and furrow, with no other evidence of archaeological activity (Frain 2011). A later geomagnetic survey was conducted by Archaeological Services (2014), covering the site. It identified ridge and furrow, alongside a small number of linear and curvilinear geomagnetic anomalies. Also in 2014, topographic survey was undertaken on extant earthwork features immediately south of the present evaluation area, identified as late post-medieval water tanks (AD Archaeology 2014). This was followed up by an archaeological strip and record for a new access route associated with the housing development, directly north of the earthwork complex (McKelvey 2015). This identified extensive ridge and furrow, alongside trackways, defined by gullies, that may relate to the earthwork complex.

4.3 Evaluation trenches were excavated across the site subsequent to the 2014 geomagnetic survey (Archaeological Services 2016). The trenches identified a ring-gully and a curvilinear gully, from which two small fragments of probable pottery of possible Iron Age date were recovered. A small ditch of unknown date was also identified. Throughout the evaluation area extensive evidence for medieval or post-medieval ridge and furrow cultivation was recorded.

The prehistoric period (up to AD 70)

4.4 Proximate prehistoric activity has been identified at Shotton Surface Mine, consisting of a pit alignment and a roundhouse (Muncaster *et al.* 2014). Prehistoric ring-gullies have been reported recently in an evaluation by AD Archaeology to the north-east of the evaluation area. A rectilinear enclosure identified to the east of the development area was thought to be of possible Iron Age date, yet the identifiably

ceramic material was in fact early medieval in date (Brogan 2001). There are also cropmark sites nearby, including a possible double-ditched enclosure by North Plessey Farm (HER 11432) and features near South Plessey Farm (HER 19486, 19489, 22986). However, none of these features can be confidently assigned a prehistoric date.

The Roman period (AD 70 to 5th century)

4.5 No Romano-British sites have been conclusively identified in or in close proximity to the development area. The cropmark of a double ditched rectangular enclosure (HER 11476), identified over 1.5km south-east of the development area, may be Romano-British in date, but this has not been confirmed; later prehistoric sites may have continued in use into this period.

The medieval period (5th century to 1540)

4.6 A sherd of early medieval pottery was recovered from a rectilinear enclosure to the east of the development area. Evidence for Anglo-Saxon settlement has been identified 2km north-west at Shotton Surface Mine (Muncaster *et al.* 2014). This consisted of an unenclosed cluster of three hall structures, of mid to late 6th-century date. This was succeeded by an enclosed settlement of halls and sunken-featured buildings, constructed in the 7th century and out of use by the 9th and 10th centuries. The evaluation area is part of Whitehall Farm, probably synonymous with the deserted hamlet of *Whitelawe*, recorded in the 13th century (Richardson & Pugh 2011). This name comprises the Old English elements *hwit-hlaw* or 'white hillock/mound' (Mawer 1920). The nearby settlement of Cramlington, first mentioned in *c.*1135, also bears an Old English toponym, solved as 'farm of the sons of Cramel' (*ibid*.; Richardson & Pugh 2011).

The post-medieval period (1541 to 1899)

4.7 The settlement of Cramlington garners frequent mention in both medieval and post-medieval documentary sources. *Whitelawe* first reappears as White Hall in maps of 1820 and 1828 (Richardson & Pugh 2011). The earliest Ordnance Survey maps depict the area as a post-enclosure agricultural landscape

The modern period (1900 to present)

4.8 Agricultural concerns predominated until the late 1940s when opencast mining commenced in the immediate area, one of which was located in the centre of the evaluation area. This has subsequently been backfilled and landscaped. Land use at present is agricultural in character.

5. The excavation

Introduction (Figure 2)

5.1 Two areas were opened for excavation. Area 1 (70m by 50m) was in the north of the site, located around Trench 2 from the evaluation, in which a curvilinear gully, indicative of a late prehistoric/Romano-British roundhouse, was recorded. Area 2 (50m by 50m) was in the west of the site, located around Trench 18, in which a gully of unknown date was recorded.

Area 1 (Figure 3)

Enclosure

5.2 Natural subsoil, an orange clay [2], was identified at a depth of 0.3-0.4m. This was cut by two gullies, interpreted as fence lines enclosing the east part of Area 1. The northern gully [F10: 0.2m wide, up to 0.2m deep] was filled with mottled light orange-grey sandy clay [9]. It extended south-west into the excavation area from the northern edge, before turning south. The southern gully [F8: 0.2m wide, up to 0.2m deep; Photo 1], filled with similar material [7], extended west from the south-eastern edge of Area 1, before turning north-west. It terminated 3m from [F10], where it turned sharply to the north-east. This formed an entrance into the enclosure from the south-west. This entrance was accentuated internally by two steep-sided elongated pits (or construction cuts) running parallel to the fence line, and corresponding with the entrance. The northern feature [F18: 3m by 0.5m, 0.3m deep] was filled with brown clay loam [17]. The southern pit [F16: 2.6m by 0.5m, 0.35m deep; Photo 3] was filled with grey mottled sandy silty clay [16]. Beyond the northern pit, and aligned with the entrance, was a posthole [F24: 0.25m diameter, 0.12m deep] filled with grey mottled clay [23].

5.3 Outside the entrance to the enclosure there was a probable hearth pit [F12: 0.8m by 0.5m, 0.1m deep; Photo 2] filled with burnt orange-red and brown clay [11]. Palaeoenvironmental analysis of the clay identified charcoal and charred hazel nutshell fragments, traces of charred heather twigs and tuber/rhizomes, unidentified charred cereal grain, *Persicaria maculosa* (Redshank) nutlets and Chenopodiaceae (Goosefoot family) seeds. Fired clay and calcined bone were also noted, as were heat affected stones. A small piece of glass recovered from this context is likely to be intrusive. Next to the hearth was a steep-sided pit [F14: 0.45m diameter, 0.25m deep] filled with black sandy silty clay [13]. Palaeoenvironmental analysis showed a very similar composition of burnt organic material to the hearth (albeit it greater concentrations), suggesting they may be directly related. The abundant charred hazel nutshell remains and concentrations of charcoal found in these features are typical of Neolithic and earlier Bronze Age date (Hall & Huntley 2007; Greig 1991). Pits of this nature have been identified as earth ovens or hearths associated with domestic activity (Archaeological Services 2015; 2013).

Roundhouses

5.4 Towards the north-east corner of the area were two surviving parts of a penannular ring-gully, characteristically a drainage feature of late prehistoric roundhouses. The north part of the gully [F20: 14m by 0.5m, 0.1m deep] was filled with mottled orange-grey sandy clay [19]. The south part [F22: 20m by 0.5m, 0.1m deep; Photo 4] was filled with similar material [21]. At the west side both gullies had corresponding rounded terminals indicating the entrance into the roundhouse; at the north-east side both gullies petered out, indicating probable removal by plough truncation.

5.5 Internal to the ring-gully were two parts of a concentric narrow, shallow gully, interpreted as the eastern part of a roundhouse wall slot. The northern element [F28: 0.2m wide, up to 0.2m deep] extended for 2.5m, the southern element [F34: 0.2m wide, 0.1m deep] extended for 8m before both petered out to the east, again probably from plough truncation. The slots were filled with mottled yellow-grey sandy clay [27, 33]. The south slot [F34] terminated at the west end in a posthole [F50: 0.5m diameter, 0.35m deep] filled with grey-brown clay [49], indicating the doorway.

5.6 Internal to the roundhouse was a single posthole [F44: 0.45m diameter, 0.15m deep], filled with brown clay loam [43].

5.7 To the north-west was part of a second roundhouse. The northern parts of two concentric ring-gullies survived (Photo 5). The outer gully [F32: 0.5m wide, 0.2m deep] was 5m long and filled with mottled yellow-grey clay [31]. The inner gully [F30: 0.5m wide, 0.1m deep] was filled with similar material [29]. There were no further features associated with this house.

5.8 To the south-west, most of a penannular ring-gully survived in two parts: the north part [F46: 0.4m wide, 0.1m deep] filled with mottled yellow-grey sandy clay [45], the south part [F26: 0.4m wide, 0.2m deep; Photo 6] filled with similar material [25] from which a small sherd of pottery and a flint flake were recovered. Clear terminals defined a 3.3m-wide entrance at the south-west; the south terminal [F26] may have incorporated a posthole. A corresponding break in the gully to the north-east was probably the consequence of plough truncation. There were no further features associated with this house.

5.9 Along the northern edge of Area 1, roughly parallel to the adjacent field boundary, were two ditches [F36 and F38: each 0.6m wide, 0.2m deep; Photo 7] filled with orange-brown clay loam [35 and 37]. The ditches were similar in form and ran 2m apart, suggesting they were associated. They are probably related to the tree plantation immediately to the north.

5.10 Traces of two plough furrows cut the natural subsoil. They were aligned roughly north/south, spaced 10m apart and were each approximately 1m wide. They were filled by a brown clayey silt.

Area 2 (Figure 4)

5.11 Natural subsoil, an orange clay [2], was identified at a depth of 0.3-0.4m. A linear ditch [F3: 0.5m wide, 0.25m deep; Photo 8] cut the clay on a roughly north-east/south-west alignment. It was filled with grey-brown sandy silty clay [4=6], overlain at the north end by brown loam [5]. A small fragment of glass was recovered from this context, but this could be intrusive. The ditch extended across the entire length of the trench, continuing beyond the limit of the excavation to both the north and south. There was a pronounced kink in the course of the ditch towards the centre of the trench, and a gradual curve towards the east at the south end.

5.12 Traces of five probable plough furrows cut the natural subsoil. They were aligned roughly north/south, but their width and spacing were irregular. They were filled by a brown clayey silt.

5.13 Cutting the furrows in the north-east part of the area was a sub-circular feature [F48; Photo 9] approximately 8m in diameter, filled with grey shale fragments [47]. This was an in-filled mine shaft or pit.

6. The artefacts

Pottery

Results

6.1 Two pieces of pot (5g wt) were found. A single small sherd (<2g wt) came from ring-gully context [25]. It has no original edges and does not survive to full thickness. The fabric is reduced, with crushed ?rock and rounded quartz inclusions.

6.2 A body sherd of 19th century transfer-printed earthenware was found in the sample from post hole context [43].

Discussion

6.3 The sherd from [25] is too small for secure identification or dating. From its general appearance, it is likely to be either prehistoric or early medieval.

Calcined bone

Results

6.4 Small quantities (c58g wt total) of calcined bone were recovered from the samples from 6 pit, post hole and ring-gully contexts [7, 11, 13, 19, 25 & 49]. Specialist opinion suggests that there is animal bone (though not identifiable to species) amongst the *c.*28g wt of material from post hole context [13], but none of the remaining material can be identified as being either animal or human.

Lithics

Results

6.5 Two tiny chips were recovered from the samples from context [7] and [49]. Both are on brown flint, one slightly more patinated than the other. Although they are very small in size they clearly show evidence of being derived from flint knapping.

6.6 Context [25] produced a flake on similar brown flint to the chips, with cream speckles. The distal and proximal ends are broken. The piece is in fresh condition and non-diagnostic. It is finely made and the form hints at a perhaps a Mesolithic or Neolithic origin, however the lack of defining features makes this difficult to assess (L = 21.72mm, W = 11.92mm, Th = 2.07mm).

Discussion

6.7 The assemblage is small, and the flake is the only piece which is large enough to offer any evidence as to age. Although this suggests affinity with a Mesolithic or Neolithic flint tradition, this cannot be said with certainty, so the age range is naturally broad, spanning the Mesolithic to Bronze Age.

Glass

Results

6.8 Chips of water white, unweathered glass were found in the samples from gully and pit/hearth contexts [5 and 11]. These are likely to be of post-medieval to modern date.

Fired clay

Results

6.9 A total of 265g wt of non-vitrified fired clay fragments came from the samples from pit and wall slot contexts [13 & 27]. Just one fragment came from [27], with the remainder from [13]. The material is oxidised and tempered with rounded grit and

has no original surfaces. It may be fired daub or possibly part of an oven or furnace, though there are no substrate impressions for confirmation of this. Undateable.

Industrial residues

Results

6.10 Around 240g wt of semi-vitrified oven, hearth or furnace lining fragments were recovered, most from ring-gully context [19], which produced the three largest hand-recovered pieces (160g wt), with a further 85g found in the sample. The largest of these is 64 x 44 x 42mm thick, made from a hard-fired fabric liberally tempered with minute pieces soft ironstone and rounded and angular grit. Some 20mm of the thickness of the fragment is dark, bubbly and completely vitrified. Samples from pit/hearth context [11] and ditch/pit context [15] also produced small quantities (<10g wt) of semi-vitrified clay.

6.11 There is no evidence of incorporated metal working residues in the semi-vitrified clay, but context [19] also produced 260g wt of fragments of indeterminate ironworking slag. The pieces are fairly small and have probably been broken up for disposal. Examination of a freshly exposed interior shows it to be dark and fairly dense, with some vesicularity. The sample from context [43] contained two pieces of spheroidal and flake hammerscale. The residues are undateable.

Discussion

6.12 There is a possibility that the semi-vitrified clay from [19] was associated with the ironworking activity. However, none of the residues were recovered from their working locations, and have an association only by disposal. However, the occurrence of both kinds of residues does indicate that industrial activity - though probably on a small scale - was taking place in the vicinity.

Burnt stones

Results

6.13 Five pieces of burnt or heat-affected sandstone were found – two from pit context [13] and three larger pieces from ring-gully context [19]. Heated stones were extensively used in the past to heat water, to cook food and also in aspects of industrial activity. They are undateable.

7. The palaeoenvironmental evidence

Methods

7.1 A palaeoenvironmental assessment was carried out on 20 bulk samples, taken from features in two areas of investigation. Within Area 1, samples were obtained from the fills of ditches, ring-gullies, pits, postholes, fence lines and wall slots. Within Area 2, the fill of a gully was sampled. Provisional dating suggests the features are of Iron Age or later origin. The samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification using a Leica MZ7.5 stereomicroscope for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (2010). Habitat classifications follow Preston *et al.* (2002).

7.2 Selected charcoal fragments were identified, in order to provide material suitable for radiocarbon dating. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.

7.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

Results

Area 1

7.4 The samples from this area comprise small quantities of coal, clinker/cinder and occasional heat affected stones along with traces of calcined bone, fired clay, and semi-vitrified fuel waste. Single flakes of flint debitage were noted in contexts [7], [25] and [49]. Pottery was also found in [25] and [43].

7.5 The charred botanical remains include traces of heather twigs, monocot stems and tuber/rhizomes. A small number of charred cereal grains were identified, in addition to charred weed seeds of heathland, ruderal and wide niche taxa such as *Danthonia decumbens* (Heath-grass), *Galium aparine* (Cleavers), *Plantago lanceolata* (Ribwort Plantain), Poaceae (Grass family), *Rumex* (Docks), Ranunculaceae (Buttercup family), and *Vicia* (Vetches). Small quantities of charred *Corylus avellana* (Hazel) nutshell fragments were recorded in addition to charcoal of the same species. Charcoal of *Quercus* (Oaks) is present in almost all samples with *Alnus glutinosa* (Alder) and *Betula* (Birches) also frequently occurring. *Fraxinus excelsior* (Ash) charcoal occurs rarely in some samples.

7.6 Pit fill/hearth deposit [F12] and posthole [F14] are located outside the main enclosure area. Posthole fill [13] produced a very large flot that contained a high concentration of charcoal and charred hazel nutshell fragments. Traces of charred heather twigs and tuber/rhizomes were recovered in addition to an unidentified charred cereal grain, *Persicaria maculosa* (Redshank) nutlets and Chenopodiaceae (Goosefoot family) seeds. Fired clay and calcined bone were noted in the residue, as were heat affected stones. Identified charcoal includes *Corylus avellana*, *Fraxinus excelsior*, *Ilex aquifolium* (Holly), Maloideae (cf. Rowan) and *Quercus*. Pit fill/hearth deposit [11] contains a very similar assemblage of plant macrofossils and residue contents, though in smaller quantities. *Alnus/Betula* and *Quercus* were the only charcoal taxa identified. A single shard of glass was also noted in this context.

7.7 The results are presented in Table 1.2. Material for radiocarbon dating is available for all of the samples, with the exception of context [19], although some of this material may be unsuitable due to long-lived species or insufficient weight of carbon and poor preservation.

Area 2

7.8 Two fills of a gully [F3] comprise quantities of coal and coal shale, charcoal and clinker/cinder in order of abundance. Traces of charred monocot stems and tuber/rhizomes are also present. A single fragment of glass was recovered from [5].

The charcoal is heavily mineralised and identified taxa include *Quercus* and *Alnus glutinosa*.

Discussion

7.9 The presence of calcined bone, clinker/cinder, heat affected stones, fired clay and charred plant macrofossils from both areas of investigation indicate the remains of domestic waste. The poor condition of the charred remains and absence of diagnostic chaff prevents definite species identification of the cereal crops, although a grain in posthole fill [43] had the characteristic straight sides and flat base of wheat (*Triticum* sp.) (Jacomet 2006).

7.10 Charred plant taxa indicative of grassy heathland environments is often recorded on sites of late prehistoric or Roman date in northern England. This charred material may reflect the remains of gathered hay for fodder or bedding, or the remnants of burnt turves (Hall 2003). Turves may have been used as fuel or for construction purposes such as roofing or earth ovens.

7.11 With the exception of context [13], the absence of diagnostic remains within the palaeoenvironmental assemblage overall provides little information about the age or nature of these features, as commented upon during the assessment from the earlier evaluation phase of this site (Archaeological Services 2016).

7.12 Context [13] is notably different in its composition. Pit fills containing abundant charred hazel nutshell remains and concentrations of charcoal are typical of Neolithic and earlier Bronze Age date (Hall & Huntley 2007; Greig 1991). Pits of this nature can occur in pairs or groups and have been identified as earth ovens or hearths associated with domestic activity (Archaeological Services 2015; 2013). The proximity of pit/hearth deposit [F12], coupled with similarities in its composition, may indicate an association of the two features.

8. The archaeological resource

Prehistoric settlement

8.1 In Area 1 in the northern part of the site three roundhouse plots synonymous with the later prehistoric or Romano-British periods were excavated. The plots comprised the surviving elements of drainage ring-gullies, with part of an internal concentric wall-slot surviving within the largest plot. A single posthole was identified inside the circumference of the wall slot, potentially for roof support. Terminals for the ring-gully, incorporating a posthole on the south side, indicated an entrance facing to the south-west for this plot. A south-west facing entrance was also apparent on the westernmost plot. The roundhouses were sufficiently spaced to suggest they could have been contemporary with each other. A sherd of pottery of prehistoric or early medieval appearance was found in a ring-gully; in this context a prehistoric date is likely. A flint flake of possible Mesolithic or Neolithic origin was also found in the gully, suggesting earlier activity on the site.

8.2 The roundhouses were enclosed by a narrow gully indicative of a wooden fence or palisade around the settlement. The west side of the fence line was within the excavated area, but it extended beyond its northern and eastern limits. A 3.3m-wide gap in the fence line provided a gateway into the enclosure on its south-west side. The roundhouse entrances (where established) faced the gateway, suggesting they

may be contemporary, particularly as an east or south-east facing entrance is more common. The entrance was accentuated internally by two steep-sided elongated pits (or construction cuts) running parallel to the fence line, and corresponding with the entrance. Slightly further in was a posthole which aligned with the north side of the gateway.

8.3 Two pits were identified externally and close to the gateway, both containing fragments of fired clay, abundant charred hazel nutshell remains and concentrations of charcoal; the assemblage is typically of Neolithic and earlier Bronze Age date, suggesting the settlement may have early origins. This possibility may be comparable with other ostensibly Iron Age settlements in the area, as late Bronze Age origins have been considered on sites at Blagdon Park (2), East Brunton, Shotton Village (Hodgson et al 2012, 184-5) and East Wideopen (Archaeological Services 2014).

Plantation

8.4 Two parallel ditches aligned with the northern field boundary in Area 1 are probably associated with the Stonewall Plantation (formally Alma Plantation) immediately to the north. This plantation appears on the 1850s Ordnance Survey map.

Ditch

8.5 A ditch aligned roughly north-east/south-west through Area 2 remains of uncertain date. Although a small fragment of glass was recovered from the ditch, this came from the upper fill and may well be intrusive material. The ditch may be a former field boundary; it is broadly parallel to the present field boundary to the east, which appears on the 1850s Ordnance Survey map.

Pit

8.6 A shale-filled mine shaft or pit was identified in the north-east corner of Area 2. The pit does not appear on any Ordnance Survey map, suggesting it pre-dates the 1850s, or was short-lived and quickly in-filled. Three 'old shafts' appear on the 19th-century Ordnance Survey maps in the fields to the west.

8.7 The regional research framework (Petts & Gerrard 2006) contains an agenda for archaeological research in the region, which is incorporated into regional planning policy implementation with respect to archaeology. In this instance, the archaeological resource addresses Agenda Items **lii**: Late Bronze Age and Iron Age Settlement and **liii**: Landscapes.

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Appendix 1: Data tables

Table 1.1: Context data

The • symbols in the columns at the right indicate the presence of artefacts of the following types: P pottery, B bone, S stone, F flint, I industrial residues, G glass, C fired clay.

No	Area	Description	P	B	S	F	I	G	C	O
1	All	Topsoil								
2	All	Natural								
F3	2	Gully cut								
4	2	Fill of F3								
5	2	Fill of F3						•		
6	2	Primary fill of F3								
7	1	Fill of F8		•		•				
F8	1	Cut for fence slot (south)								
9	1	Fill of F10								
F10	1	Cut for fence slot (north)								
11	1	Fill of F12		•				•		
F12	1	Pit cut								
13	1	Fill of F14		•	•				•	
F14	1	Pit/posthole cut								
15	1	Fill of F16								
F16	1	Cut for pit/ditch								
17	1	Fill of F18							•	
F18	1	Cut for pit/ditch								
19	1	Fill of F20		•	•		•			
F20	1	Cut for ring-gully (north)								
21	1	Fill of F22								
F22	1	Cut for ring-gully (south)								
23	1	Fill of F24								
F24	1	Posthole cut								
25	1	Fill of F26	•	•		•				
F26	1	Cut for ring-gully								
27	1	Fill of F28	•							
F28	1	Cut for wall slot								
29	1	Fill of F30								
F30	1	Cut for partial ring-gully								
31	1	Fill of F32								
F32	1	Cut for partial ring-gully								
33	1	Fill of F34								
F34	1	Cut for wall slot								
35	1	Fill of F36								
F36	1	Ditch cut								
37	1	Fill of F38								
F38	1	Ditch cut								
39		Void								
40		Void								
41		Void								
42		Void								
43		Fill of F44	•				•			
F44		Cut for posthole								
45	1	Fill of F46								
F46	1	Cut for ring-gully								
47	1	Fill of F48								
F48	1	Cut for pit/shaft								
49	1	Fill of F50		•		•				
F50	1	Cut for posthole								

Table 1.2: Data from palaeoenvironmental assessment

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Context	5	6	11	13	7	21	19	23	33	49	27	43	19	15	17	9	25	29	31	37
Feature number	3	3	12	14	8	22	20	24	34	50	28	44	20	16	18	10	26	30	32	38
Feature	G	G	P/H	Ph	Fl	D	D	Ph	Ws	Ph	Ws	Ph	D	D/P	D/P	Fl	D	D	D	D
Material available for radiocarbon dating	(✓)	(✓)	✓	✓	✓	(✓)	✓	(✓)	✓	✓	✓	✓	-	✓	✓	✓	✓	(✓)	✓	(✓)
Volume processed (l)	20	14	19	14	17	17	19	3	7	10	9	6	2	9	8	6	7	16	8	17
Volume of flot (ml)	280	60	150	1000	50	20	170	20	10	140	70	50	10	60	50	30	400	40	15	40
Residue contents																				
Bone (calcined) indet. frags	-	-	(+)	++	(+)	-	(+)	(+)	-	(+)	(+)	(+)	-	(+)	(+)	-	+	-	-	-
Coal / coal shale	+++	++	+	(+)	+	+	+	(+)	+	(+)	+	+	+	+	+	(+)	+	+	+	+
Cracked stones (burnt)	-	-	+	+	(+)	-	(+)	-	(+)	+	(+)	-	-	+	(+)	-	+	-	-	-
Fired clay	-	-	(+)	+++	-	-	+	-	-	-	(+)	-	-	(+)	-	-	-	-	-	-
Flint	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
Glass	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hammerscale (ball / flake)	-	-	-	-	-	-	-	-	-	-	-	(+)	-	-	-	-	-	-	-	-
Pot	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	1	-	-	-
Semi-vitrified fuel waste	-	-	-	-	-	-	++	-	(+)	+	-	+	(+)	-	-	-	-	-	-	-
Flot matrix																				
Bone (calcined) indet. frags	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Charcoal	++	+	++	++++	+	+	+++	+	+	+++	++	+	(+)	++	++	++	+++	++	+	+
Clinker / cinder vesicular	+	-	+	+	-	+	(+)	(+)	+	(+)	-	+	+	+	+	(+)	-	(+)	(+)	+
Heather twigs (charred)	(+)	(+)	-	(+)	-	-	(+)	-	-	-	-	-	-	-	-	-	-	+	(+)	+
Monocot stems (charred)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(+)	-	-	-	-	+
Roots / straw (modern)	-	-	++	-	+	+	+	+	+	+	+	++	+	+	+	+	+	+	+	++
Tuber / rhizome (charred)	(+)	(+)	-	(+)	(+)	-	(+)	(+)	-	(+)	(+)	-	-	(+)	(+)	-	-	-	-	+
Uncharred seeds	+	+	+	(+)	+	+	++	+	+	+	(+)	++	-	+	+	+	++	+	+	+
Charred remains (total count)																				
(c) Cerealia indeterminate grain	-	-	-	1	-	-	1	-	-	1	-	-	-	-	-	-	1	-	1	-
(c) *Triticum* sp (Wheat species) grain	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
(h) *Danthonia decumbens* (Heath-grass) caryopsis	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
(r) *Galium aparine* (Cleavers) seed	-	-	-	-	-	-	-	2	-	-	-	1	1	-	-	-	-	-	-	-
(r) *Persicaria maculosa* (Redshank) nutlet	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(r) *Plantago lancoelata* (Ribwort Plaintain) seed	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(t) *Corylus avellana* (Hazel) nutshell frag.	-	-	2	491	-	-	-	1	-	6	-	-	-	-	2	-	1	-	2	-
(x) Chenopodiaceae (Goosefoot family) seed	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) Poaceae undiff. (Grass family) <1mm caryopsis	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
(x) *Rumex* sp (Docks) nutlet	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) Ranunculaceae undiff. (Buttercup family) achene	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) *Ranunculus* subgenus *Ranunculus* (Buttercup) achene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
(x) *Vicia* sp (Vetches) seed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Identified charcoal (✓presence)																				
Alnus glutinosa (Alder)	-	✓	-	-	✓	-	✓	-	✓	-	✓	✓	-	✓	✓	✓	✓	-	-	-
Alnus / Betula (Alder / Birch)	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
Alnus / Corylus (Alder / Hazel)	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Betula sp (Birches)	-	-	-	-	-	-	-	-	-	-	✓	-	-	✓	-	✓	-	-	✓	-
Corylus avellana (Hazel)	-	-	-	✓	-	-	✓	✓	-	✓	-	-	-	-	-	-	-	-	-	-
Fraxinus excelsior (Ash)	-	-	-	✓	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	✓
Ilex aquifolium (Holly)	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maloideae (cf. Rowan)	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quercus sp (Oaks)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓

[c-cultivated; h-heathland; r-ruderal; t-tree/shrub; x-wide niche. (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant. (✓) may be unsuitable for dating due to size or species. D-ditch; Fl-fence line; G-gully; H-hearth; P-pit; Ph-posthole; Ws-wall slot]

Appendix 2: Stratigraphic matrix

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on behalf of
The Arcot Consortium

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Cramlington
Northumberland

archaeological post-excavation assessment
report 4529

Stratigraphic matrix

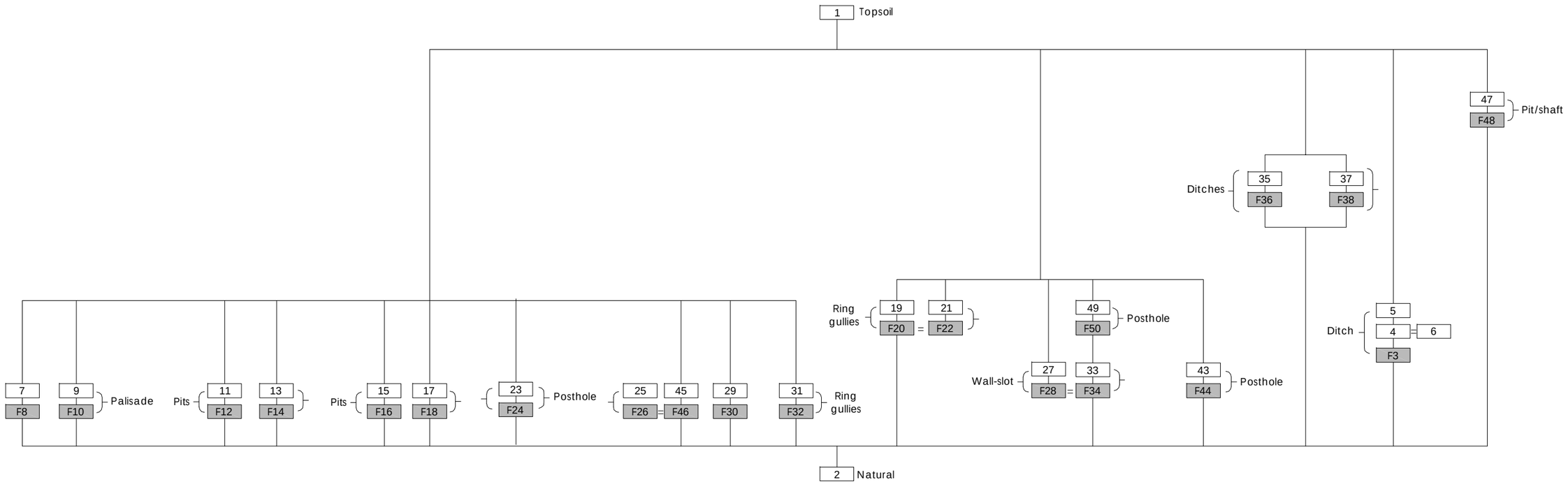

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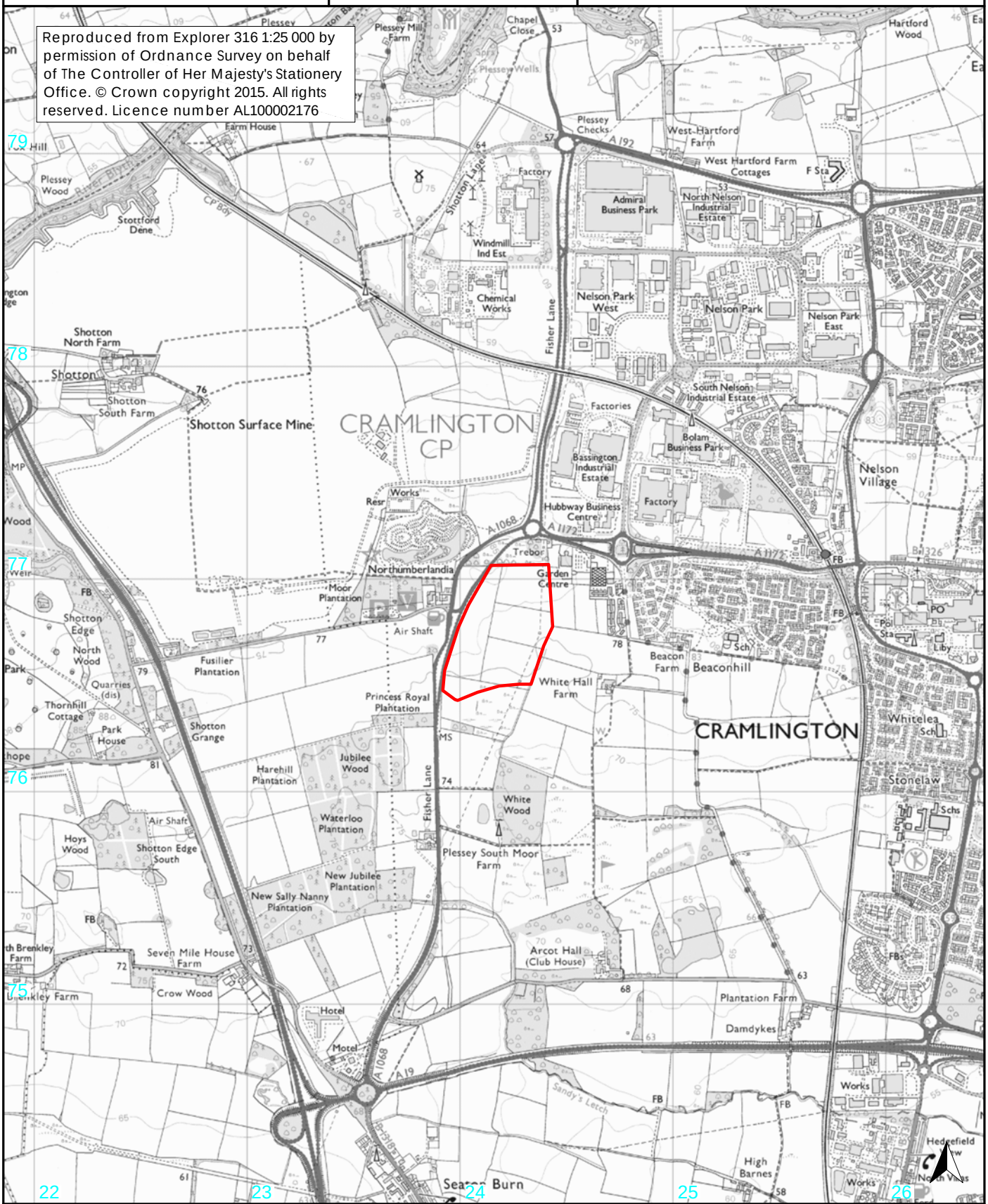
Figure 1: Site location



Phase 1

previous evaluation trench

feature

former field boundary

area of mitigation

ditch

furrow

ridge and furrow

771

770

769

768

767

240

241

242

243

FISHER LANE

A 1068

1

2

3

Area 1

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

Area 2

19

20

21

22

23

24

25

26

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0 75m
scale 1:1500 for A3 plot

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Figure 2: Location of mitigation works

Area 1

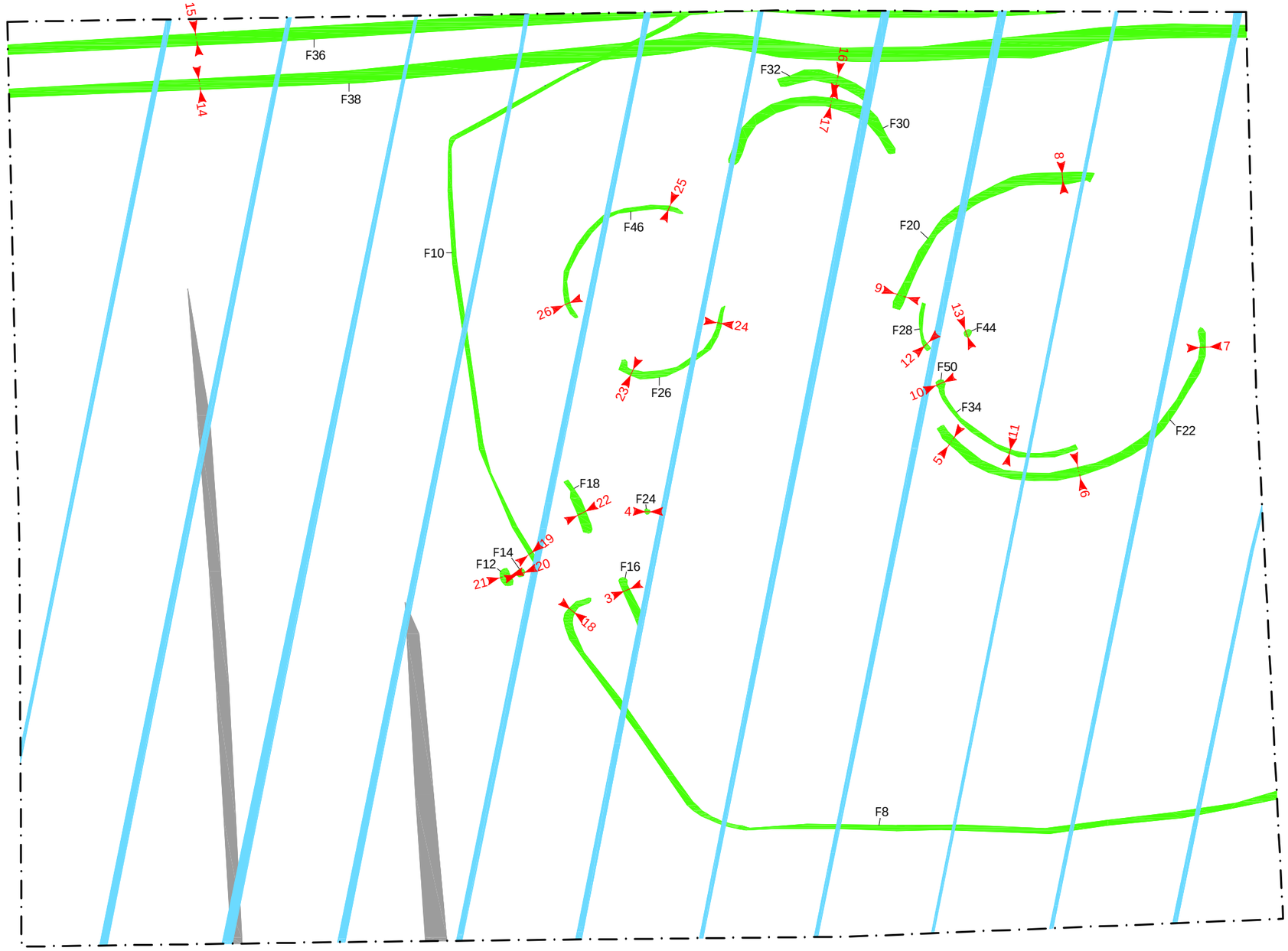

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Figure 3: Area 1, plan

0 10m
scale 1:250 for A3 plot

- extent of excavation
- section (2)
- furrow
- feature
- pipe/drain

Area 2

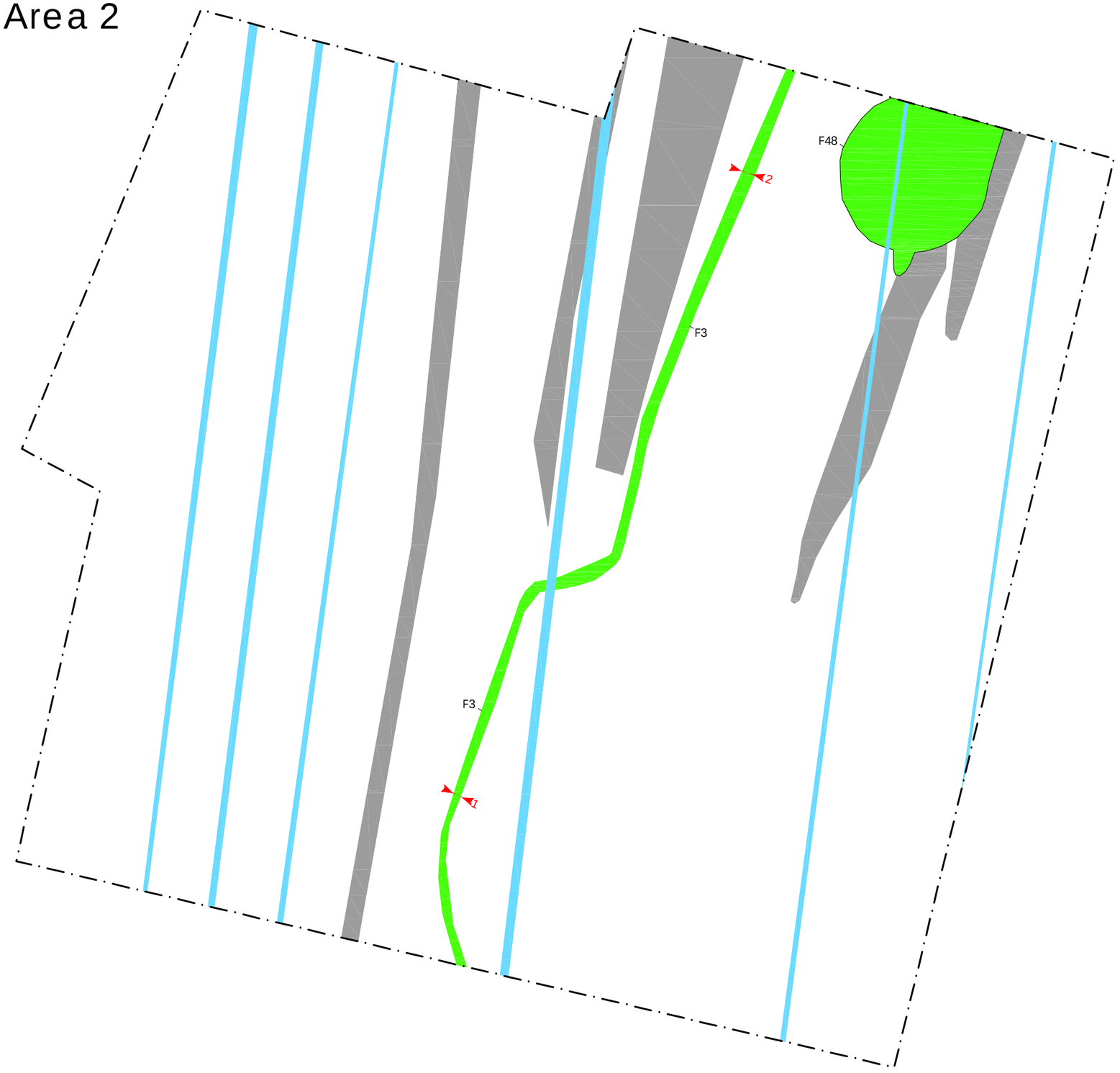

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Figure 4: Area 2, plan

0 10m
scale 1:250 for A3 plot

extent of excavation
2 section
furrow
feature
pipe/drain

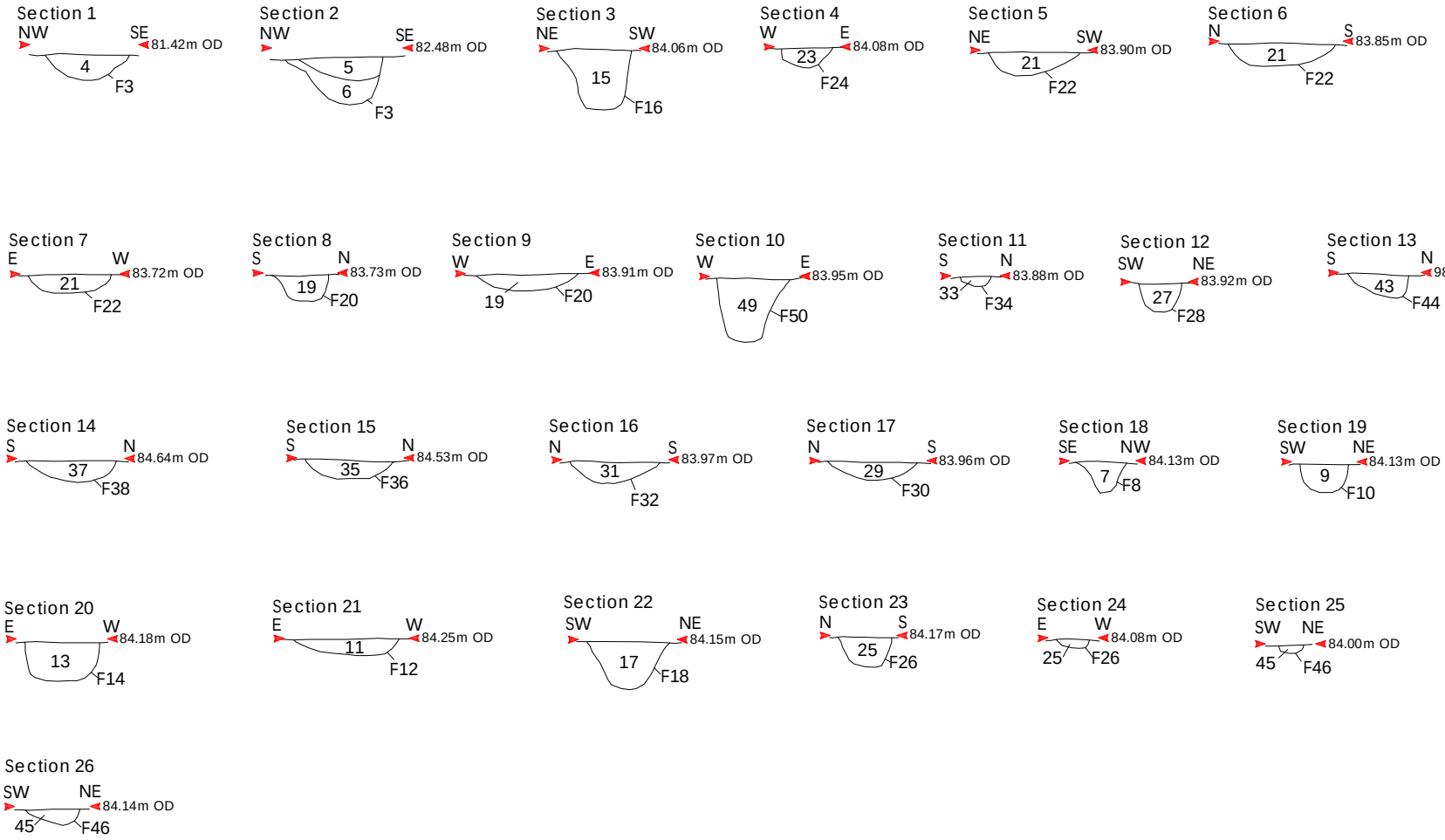

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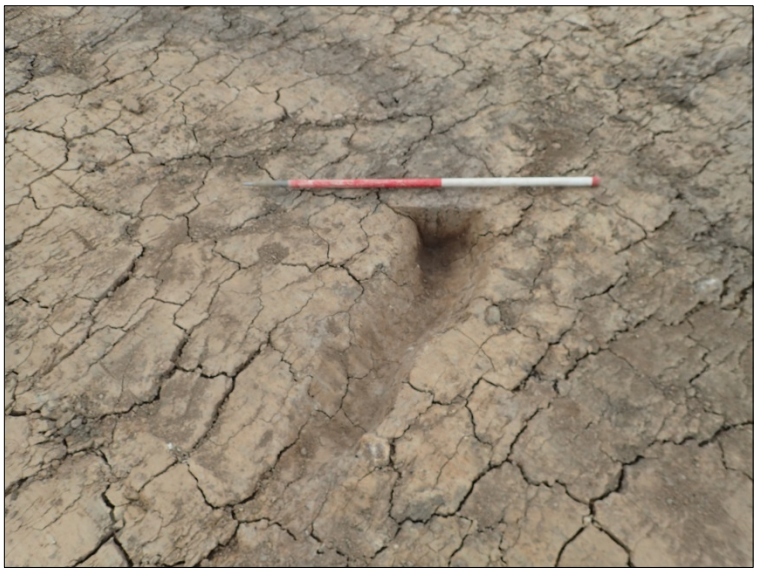
Figure 5: Sections

0 2m
scale 1:40 for A4 plot



Photograph 1: Area 1, gully F8, looking south-west

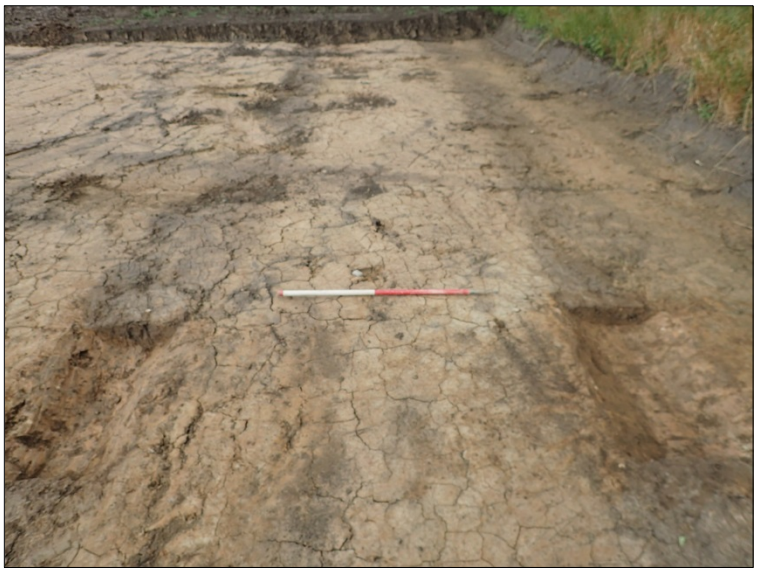
Photograph 2: Area 1, pit F14 & hearth F12, looking south

Photograph 3: Area 1, pit F16, looking south-east

Photograph 4: Area 1, ring-gully F22, looking south-east

Photograph 5: Area 1, ring-gullies F30 & F32, looking east

Photograph 6: Area 1, ring-gully F26, looking south-east



Photograph 7: Area 1, ditches F36 & F38, looking west

Photograph 8: Area 2, ditch F3, looking north-east

Photograph 9: Area 1, pit/shaft F48, looking north