NCP Car Park, Addenbrooke's Hospital, Cambridge:
Archaeological Investigations

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An archaeological evaluation was undertaken by a team from Cambridge Archaeological Unit on behalf of RG Carter Ltd, on land at Addenbrooke's Hospital, Cambridge. The archaeological investigation revealed remnants of an Iron Age enclosure ditch previously recorded by Mary Cra'ster in 1967. The results of the evaluation provide limited evidence of Iron Age activity with extensive disturbance from the Hospital's construction.

An archaeological evaluation was undertaken on the Proposed Development Area (PDA), an area of *c.* 0.8ha, centred on TL 465 551 within Addenbrooke's Hospital in Cambridge. Two 2.10m wide trenches were excavated to assess the nature and survival of archaeological deposits, providing a *c.* 5% sample of the total PDA. The area was under tarmac and surrounded by buildings relating to the hospital. The area to the south was at a much lower level; the ground previously quarried away during the 1960s Hospital development.

The PDA lies approximately 2km to the southeast of the centre of Cambridge on lower chalk that extends from Gog Magog downs south of Cambridge, (Figure 1; Evans 2002 fully summarises the area's archaeological background and topographic setting). Previous evidence of the local topography suggested the area centred on a raised 'crown' orientated east-west, at around 18.28+m OD. The present topography bears no relation with natural contours prior to construction phase. The character of the natural in this vicinity is changeable from marly grey clay beds with slight sandy matrix. Areas that had been truncated/disturbed during the original development were backfilled with white clay marl.

One of the main features recorded during Cra'ster investigation was a sub-rectangular ditched enclosure with rounded corners and approximately *c.* 35m across. Little information regarding the interior of the enclosure was forthcoming, although contemporary features were recorded outside the perimeter in the form of parallel, linear ditches and a pit with pottery dating to the Middle/Later Iron Age. Additionally, a sub-circular building was also excavated of a similar date. To the southwest, a large-scale archaeological investigation uncovered a complex palimpsest of activity ranging from the Bronze Age to Roman times, including extensive later Iron Age settlement (see Evans *et al.* 2004)

The Car Park evaluation trenches were located to ascertain the position of Cra'ster's Iron Age enclosure ditch in addition to any other archaeological activity, (Figure 2). The precise locations of the trenches were adjusted according to the position of the services and existing buildings. Two 2.20m wide trenches were excavated, Trench 1 was 21.10m in length and, Trench 2, 38.50m.

The trenches were excavated by a 360° tracked excavator with a toothless ditching bucket under the supervision of an experienced archaeologist. All features were planned at 1:50, with sections drawn at 1:10. Archaeological

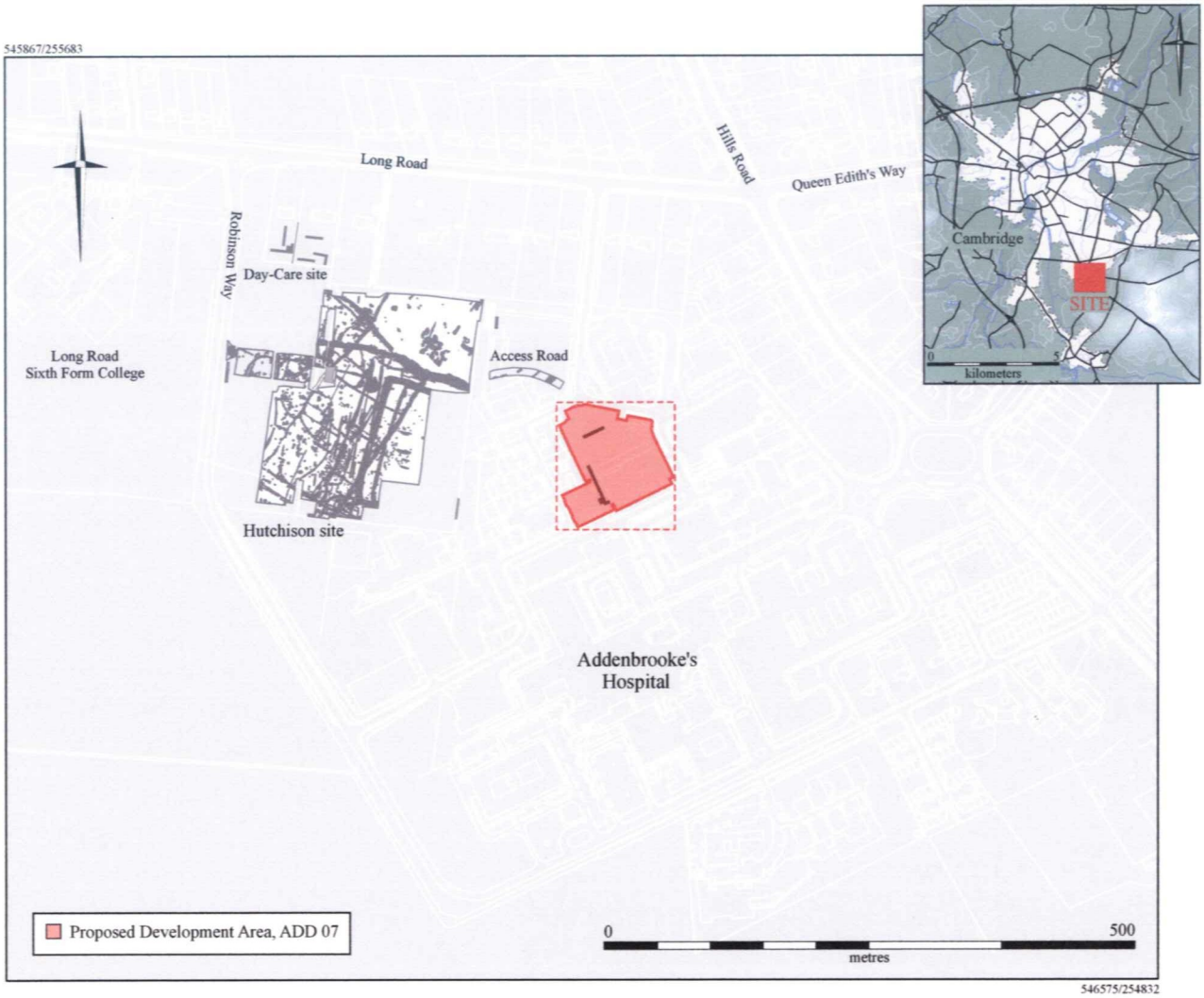

Figure 1. Site location

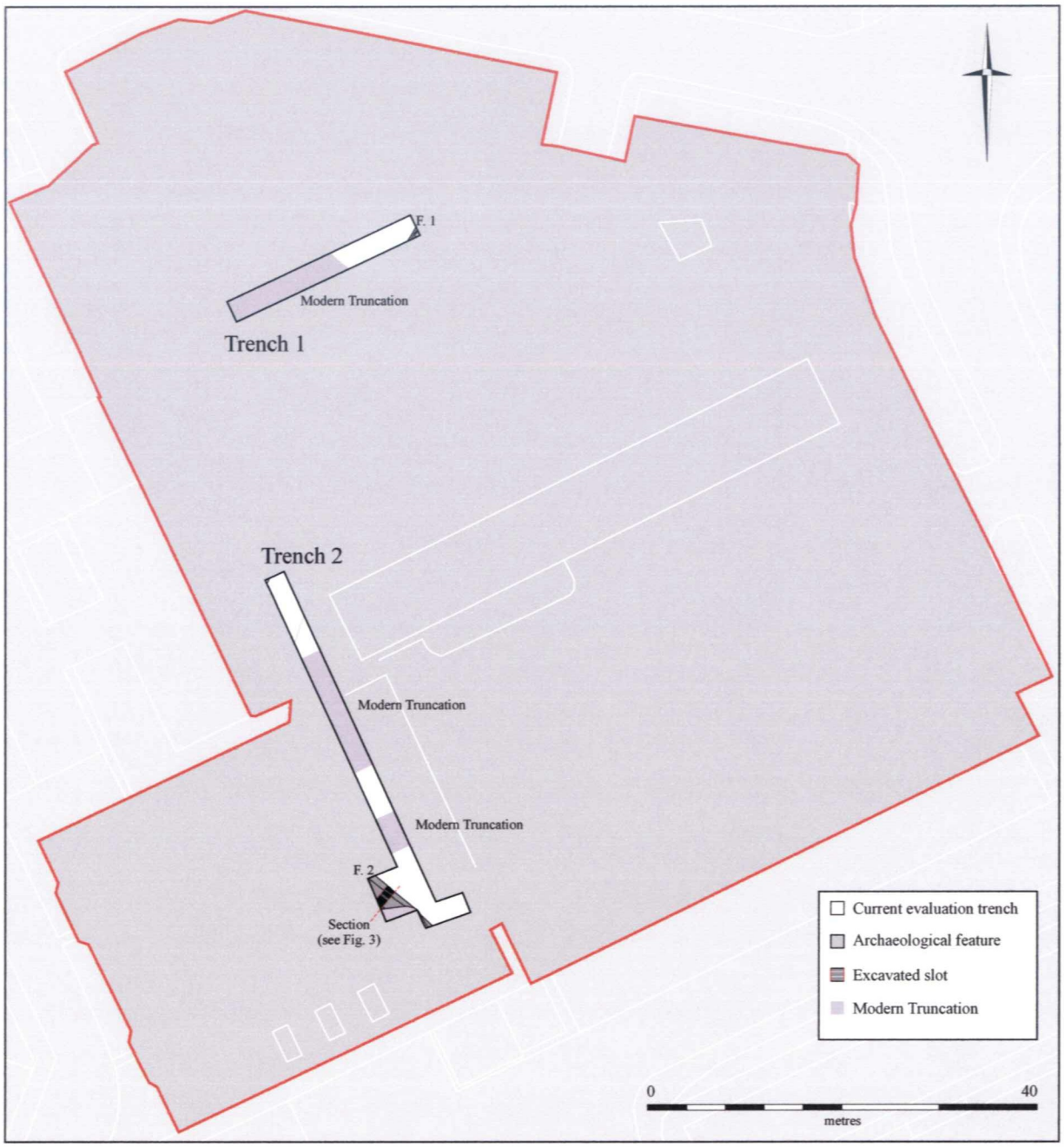

Figure 2. Trench Location Plan

features were assigned a unique number and each stratigraphically distinct episode was recorded with a unique context number. The site was surveyed into the Ordnance Survey Grid and Ordnance Datum by means of a RTK GPS unit.

Excavation Results

Trench 1

Due to the position of modern services, Trench 1 was shortened to a length of 21.10m and was oriented northeast-southwest. The southwest half of the trench had evidence of modern disturbance by the way of truncation and redeposited white marl. A single gully on a northeast-southwest alignment was uncovered at the northeast end of the trench. No dateable artefacts were recovered.

F. 01 – Gully (NE-SW). Fill [001], firm light grey/brown clayey silt with occasional gravel and charcoal inclusions. Cut [002], steep slightly convex sides with concave base; maximum width 0.22 and, depth 0.11m.

Trench 2

The orientation of Trench 2 was northwest-southeast, and it was 38.50m long. This trench was in two sections to allow access for the contractors and to avoid services associated with nearby buildings. The southwest end of the trench was extended slightly to the southwest to fully locate the enclosure ditch. This feature was on a west-northwest/east-southeast alignment; the southern part was truncated by modern activity in the form of backfilled white marl. Animal bone and pottery were recovered from the ditch fills, which is dated to the Middle Iron Age (300BC – 0), with no wheelmade pottery was forthcoming (see Brudenell below).

F. 02 – Ditch (NW-SE). Fill [003], firm slightly mottled dark grey/black/brown clayey silt with moderate charcoal, ash, stone and flint inclusions. Fill [004] firm light to mid grey/brown with slight orange/white mottling clayey silt with occasional charcoal, stone and flint inclusions. Fill [006], firm to compact light grey with slight orange/brown mottling silty clay with occasional charcoal and occasional to moderate stone and flint inclusions. Cut [005], moderately steep, straight sides with rounded 'V'-shaped base; *c.* 2.05m wide and 0.75m deep (Figures 3 & 4).

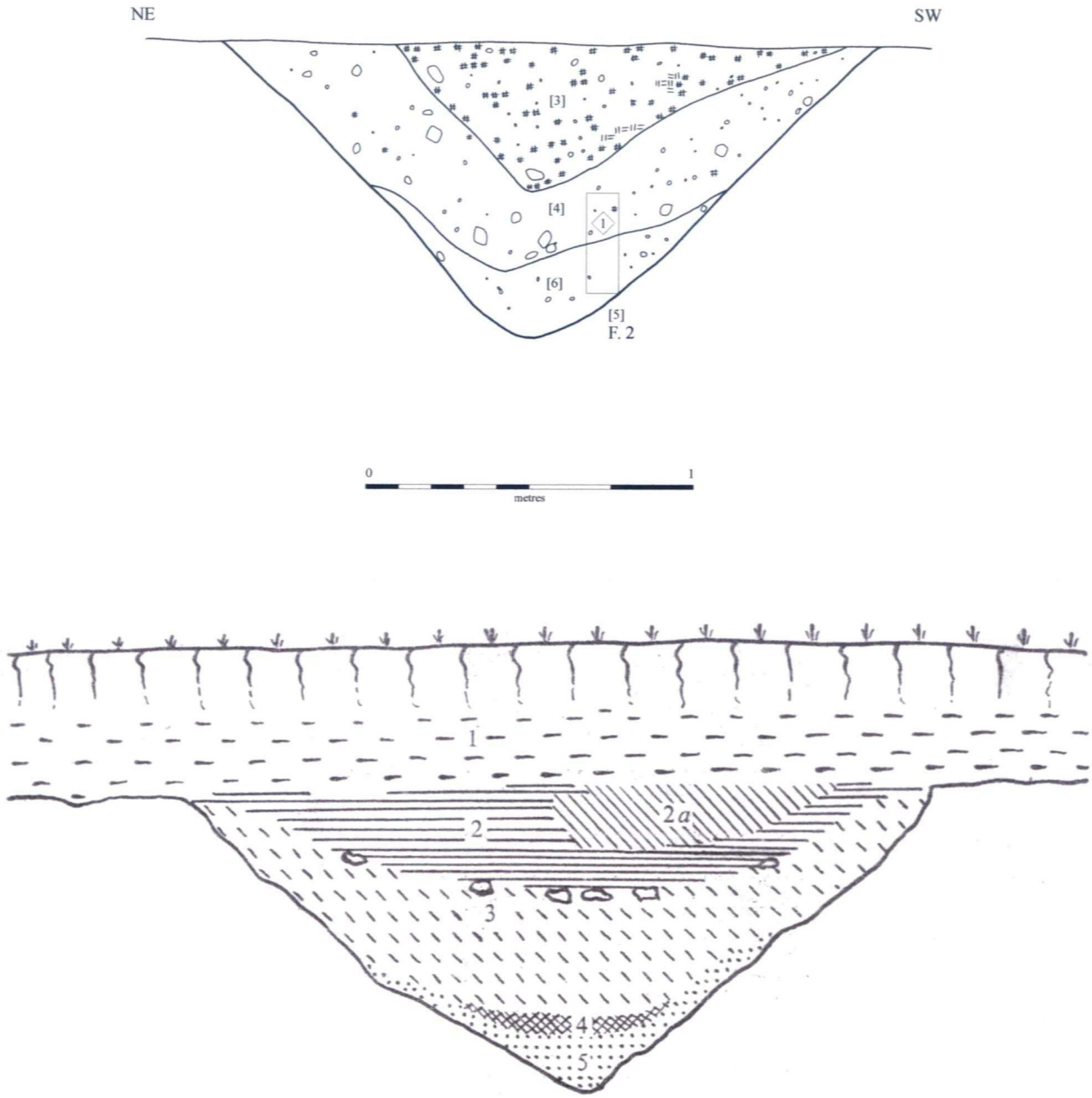

Figure 3. Section of F. 2 (above) and Craster's Section (1967) across main enclosure ditch on east side 1, Clayey below plough; 2, Brown earth; 2a, Darker patches with potsherds; 3, Sticky marl; 4, Dark silt; 5, Chalky clay/silt

Figure 4. Photograph of F. 02 (D. Webb)

Specialist Reports

Worked Flint Emma Beadsmoore

Four (12g) flints were recovered from ditch F. 1: two as surface finds and two from fill [004]. All are chronologically non-diagnostic secondary flakes. The material was expediently manufactured, and could potentially be the chronologically non-diagnostic by-products of generally systematic Neolithic flint working, or the result of expedient later prehistoric flake production/core reduction. Hence, the flints are either earlier, residual material that was inadvertently incorporated into the ditch, or broadly contemporary with the feature.

Iron Age Pottery Matt Brudenell

A small assemblage of handmade Iron Age pottery (353g) was recovered from the ditch silts of F.2, comprising nine sherds weighing 353g. The majority were of medium-size (<8cm), with moderately abraded edges (the mean sherd weight is high at 39.2g, though this figure is skewed by the presence of a large sherd from [03]). The assemblage was dominated by sherds with dense sandy fabrics, with a single fragment tempered with both sand and shell; both wares being typical of Iron Age assemblages in Southern Cambridgeshire. Seven of the sherds (333g) were recovered from [03], which included two refitting sherds, the shoulder of a slack-profiled vessel, and a large sherd weighing 172g. The remaining two sherds were recovered from [04].

The pottery belongs to the Middle/Later Iron Age, conventionally dated *c.* 300 BC - 50 AD. The absence of wheel-turned sherds, sherds with vertical combining, or 'late' handmade forms (such as internally thicken jar rims, of pronounced S-profiled bowl/jar forms), suggests that the pottery pre-dates the 1st century AD. A date bracketing the 3rd-1st century BC would therefore seem appropriate for this assemblage. More broadly, the pottery compares well with that recovered from Mary Cra'ster's 1967 excavation of the enclosure (Cra'ster 1969). A review of the ceramics collected from these excavations (now kept in at the Cambridge University Museum of Archaeology and Anthropology) has confirmed that the forms and fabrics are identical. Of note are the small number of flint-tempered sherds amongst Cra'ster's Middle Iron Age material, which indicate a previously unrecognised or unpublished Late Bronze Age/ earliest Iron Age presence in this area

Bulk Environmental Sample Anne de Vareilles

Two of the three bulk soil samples taken on site were processed using an Ankara-type flotation machine at the Cambridge Archaeological Unit. The flots were collected in 300µm meshes and the remaining heavy residues

washed over a 1mm mesh. The flots were dried indoors and scanned for the presence of charred plant macro remains and other ecofacts. Sorting and identification of macro remains were carried out under a low power binocular microscope. Identifications were made using the reference collection of the George Pitt-Rivers Laboratory, McDonald Institute, University of Cambridge. Nomenclature follows Stace (1997) for flora and Beedham (1972) for molluscs. All environmental remains are listed in Table 1.

Sample number		<2>	<4>
Context		[03]	[06]
Feature		Ditch F.2	
Feature fill		Top	Basal
Phase / Date			
Sample volume – litres		9.5	6
Flot fraction examined		1/1	1/1
Cereal grains			
Triticum dicoccum /spelta	Emmer or Spelt wheat grain	3	
Triticum / Hordeum	Wheat or Barley grain	8	
Indeterminate cereal fragments		4	
Cereal chaff			
Triticum sp. glume base	Wheat glume base	3	
T. spelta glume base	Spelt wheat glume base	1	
Wild Plant Seeds			
Chenopodium sp.	Goosefoot	5	
Persicaria hydropiper	Water-pepper	6	
Trifolium / Medicago	Clovers / Medics	3	
Prunella vulgaris	Selfheal	1	
Large Poaceae fragments	Large wild grass seed	5	
Medium Poaceae frags.	Small wild grass seed	3	
Poaceae fragments	Wild or cultivated grass	4	
Indeterminate wild seed		2	
Charcoal			
>4 mm		+	
2 – 4 mm		++	
<2 mm		+++	+
Vitrified		+	-
Parenchyma - Undifferentiated plant storage tissue		+	-
Culm node	Grass stem node	1	
Mollusca	Habitat		
Anisus leucostama	Fresh water snail, withstands drying		-
Cochlicopa lubrica	Damp localities	+	
Columella edentula	Damp, woodlands	+	-
Vallonia sp.		++	-
Ceciloides acicula	Blind burrowing snail	+++	++
Trichia striolata/hispida	Varying habitats	++	-
Helicella itala	Dry, grassy localities	++	+

Key: '-' 1 or 2, '+' <10, '++' 10-50, '+++' >50 items.

Table 1: Environmental Remains from the Bulk Soil Samples

All plant remains were preserved through carbonisation, their condition is poor making identification to species, and sometimes genus, difficult. Intrusive rootlets present in all samples, modern seeds and the burrowing snail *Ceciloides acicula* are indicative of bioturbation through which ecofacts may have been lost and/or displaced. Though other molluscs were also found they do not occur in sufficient quantities to be discussed here.

Ditch F.2, upper fill [03] and basal fill [06]
Whereas the sample from the basal fill [06] contained no plant macro remains other than a few pieces of very small charcoal (<2mm), the upper fill [03] revealed some cereal grains, cereal chaff and a limited range of wild plant seeds.

Upper fill [03]
Only three of the cereal grains could be identified to type: spelt or emmer (*Triticum spelta / dicoccum*). Barley may also be present (eight grains of *Triticum / Hordeum*) along with other cereal types within the indeterminate cereal fragment category. The chaff component consists of four wheat glume bases, one of which is spelt wheat. A maximum of 29 wild plant seeds were found, all of which originate from grassland, waste land or arable.

This poor assemblage does not seem to represent a specific action in time and may in fact be a collection of 'background noise'. It remains possible that ecofacts in [03] have slowly 'travelled' down profile into lower contexts.

In conclusion, the assemblage in [03] is probably waste from various cereal processing events, and may testify to the nearby consumption of wheat (and possibly barley). No further interpretations are possible at this point, due to the overall paucity of remains and general lack of samples.

The Faunal Assemblage Krish Seetah

A small assemblage was recovered from the site. The feature (2) was split between [03] representing the upper, and [04] the lower, fills of the Middle Iron Age ditch. The assemblage was analysed using Grants tooth wear stages (Grant 1982) and measurements as indicated by von Den Driesch (1976).

The overall size of the assemblage numbered 281 fragments ([03] = 212; [04] = 69), of which 126 fragments (45%) were identifiable ([03] = 103; [04] = 23).

The overwhelming majority of the remains were dominated by cattle bones with only one element, a tibia shaft, identified to the size category UMM (Unidentified Medium Mammal). This element probably represented an ovicaprid; unfortunately, in the absence of either proximal or distal ends it was impossible to make a more conclusive identification. [03] was dominated by elements from the skull, although these would all appear to be the highly fragmented remains of one individual, possibly from a juvenile due to the level of porosity. Furthermore, there were corresponding left and right petrous portions and occipital condyles, reinforcing the notion that all the elements were from one animal. Although smaller, [04] showed a greater element representation, with indications of at least one adult animal as

evidenced from a mandible with adult teeth present and in-wear. Overall, for both contexts the MNI was calculated at two individuals (from the tibia count). The assemblage would indicate at least one juvenile animal with a minimum age, as evidenced from an unfused distal tibia, of 20-2months (Silver 1969).

It is difficult to discuss this assemblage further in the absence of any butchery, and near absence if tooth wear data or measurements. However, the general size of the elements does seem to indicate relatively small animals which fit with wider research on the diminutive nature of animals during this period (Hambledon 1999).

Discussion - *The New Addenbrooke's Site Thirty Years on*

Comparing our exposure of the enclosure ditch's profile to that of Cra'ster's, indicates that the 1960s construction involved upwards of 0.40-.50m truncation, and this, otherwise, accounts for the paucity of archaeological survival within this area today.

From the outset, given the direct correspondence of our digital plot and the 1967 plan (Figure. 5), the accuracy of their surveying at that time seems quite remarkable. This is especially true as it is reported that conditions on-site were then pretty horrid (earthmoving machines churning up surfaces, *etc.*; K. Pretty pers comm.), and which must account for their rather 'fragmentary'/partial recovery of more shallow settlement features. In turn, the ensuing truncation has meant that now, thirty years later, our work did not greatly elucidate the nature of the site's settlement component *per se*. However, by the marked distinction of the main ditch's lower and upper fills - the former being quite leeched-out and relatively sterile; the latter, near black and rich in occupation debris - could suggest that much of the settlement activity, as such, was secondary and not directly contemporary with the original usage of the enclosure. In fact, its respective fills were so distinct that we expected them to be of different periods; the cutting of the enclosure ditch, perhaps, dating to the later Bronze or Early Iron Age. Yet, this proved not to be the case and Middle Iron Age pottery (only) was found throughout its profile (though in substantially greater quantities in the upper fill).

Essentially confirming Cra'ster's dating, it is crucial to stress that, of Middle Iron Age date, this enclosure (and settlement) was earlier than the Late Iron Age, wheelmade pottery-associated occupation to the west at the Hutchison Site (fig. 1; Evans *et al.* 2004). In the light of the latter's results, it is noteworthy that no Roman material was found in the course of our recent Car Park fieldwork. This would seem to confirm Cra'ster's interpretation that only the outlying, southern parallel ditches were of Roman attribution. These would certainly seem to border, if projected, the line of the Roman road that traversed the southern side of the Hutchison Site. As regards issues of

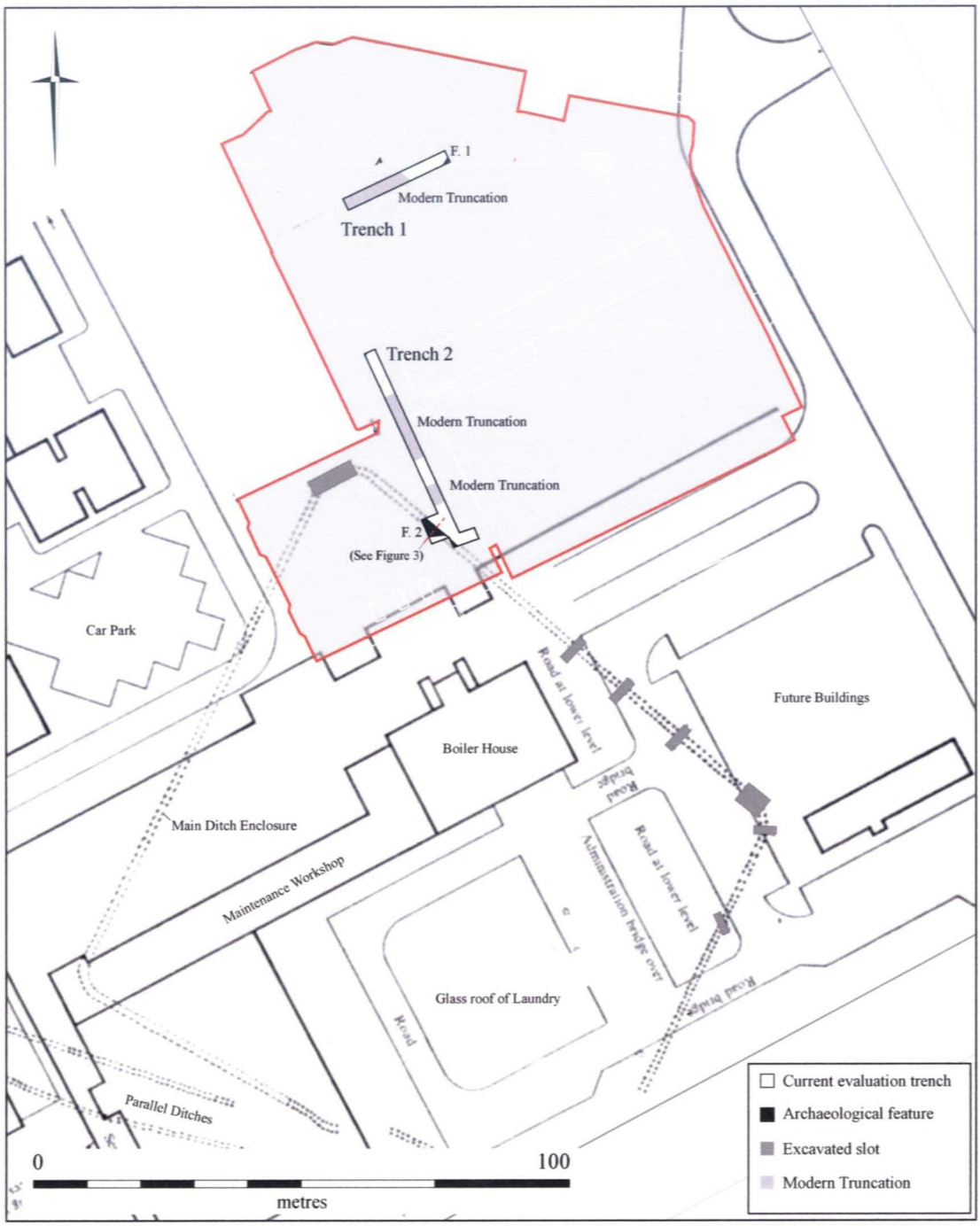

Figure 5. 2007 Trench Location Plan with 1967 underlay

potential long-term, Iron Age/Roman continuity within the Addenbrooke's landscape, it should be recognised that, while the roadside ditches appear vaguely sympathetic to the orientation of Cra'ster's main Iron Age enclosure, projected further eastwards they would have actually truncated and cut across its southern corner.

Acknowledgements

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