



**Archaeological investigations
at the 'Energy from Waste' site
Fourth Drove, Fengate
Peterborough
April 2013 to June 2015**

Report No. 16/4

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Paul Clements

Illustrators: Olly Dindoll
John Walford



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OAS/S REPORT FORM

PROJECT DETAILS		molanort1-	
Project title	Archaeological investigations at the 'Energy from Waste' site, Fourth Drove, Fengate, Peterborough		
Short description	MOLA Northampton (formerly Northamptonshire Archaeology) was commissioned by Interserve to undertake a programme of archaeological investigations during the redevelopment of an industrial site at Fourth Drove, in the Fengate district of Peterborough. Extensive archaeological remains had been recorded within the site from the 1970s to the 1990s, prior to its original development. The programme of works comprised targeted areas of excavation, and strip map and record together with a general watching brief on the development groundworks. One excavation exposed an Iron Age ditch and a gully previously recorded in the 1970s 'Cat's Water' excavation project, and another exposed two postholes and a large waterlogged pit or waterhole of indeterminate date. Minor, undated features were recorded elsewhere during the watching brief, with a particular concentration of these towards the south-east of the site.		
Project type	Watching Brief		
Previous work	Excavations (Prior 1984 & 2001; Brittain and Standring 2008; Evans 2009).		
Current land use	Industrial development site		
Future work	None		
Monument type / period	Iron Age ditches, undated waterhole, undated postholes		
Significant finds	None		
PROJECT LOCATION			
County	Peterborough Unitary Authority		
Site address	Fourth Drove, Fengate, Peterborough		
Easting Northing	TL 216 989		
Area			
Height aOD	1m-4m aOD		
PROJECT CREATORS			
Organisation	MOLA Northampton		
Project brief originator	Rebecca Casa-Hatton, Peterborough City Archaeologist		
Project Design originator	MOLA Northampton		
Director/Supervisor	Various		
Project Manager	Adam Yates		
Sponsor or funding body	Interserve		
PROJECT DATE			
Start date	April 2013		
End date	June 2015		
ARCHIVES	Location	Contents	
Physical		None	
Paper		1 archive box of site records	
Digital		Digital photographs, pdf of report and dxf data	
BIBLIOGRAPHY			
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Archaeological investigations at the 'Energy from Waste' site Fourth Drove, Fengate, Peterborough April 2013 - June 2015

Abstract

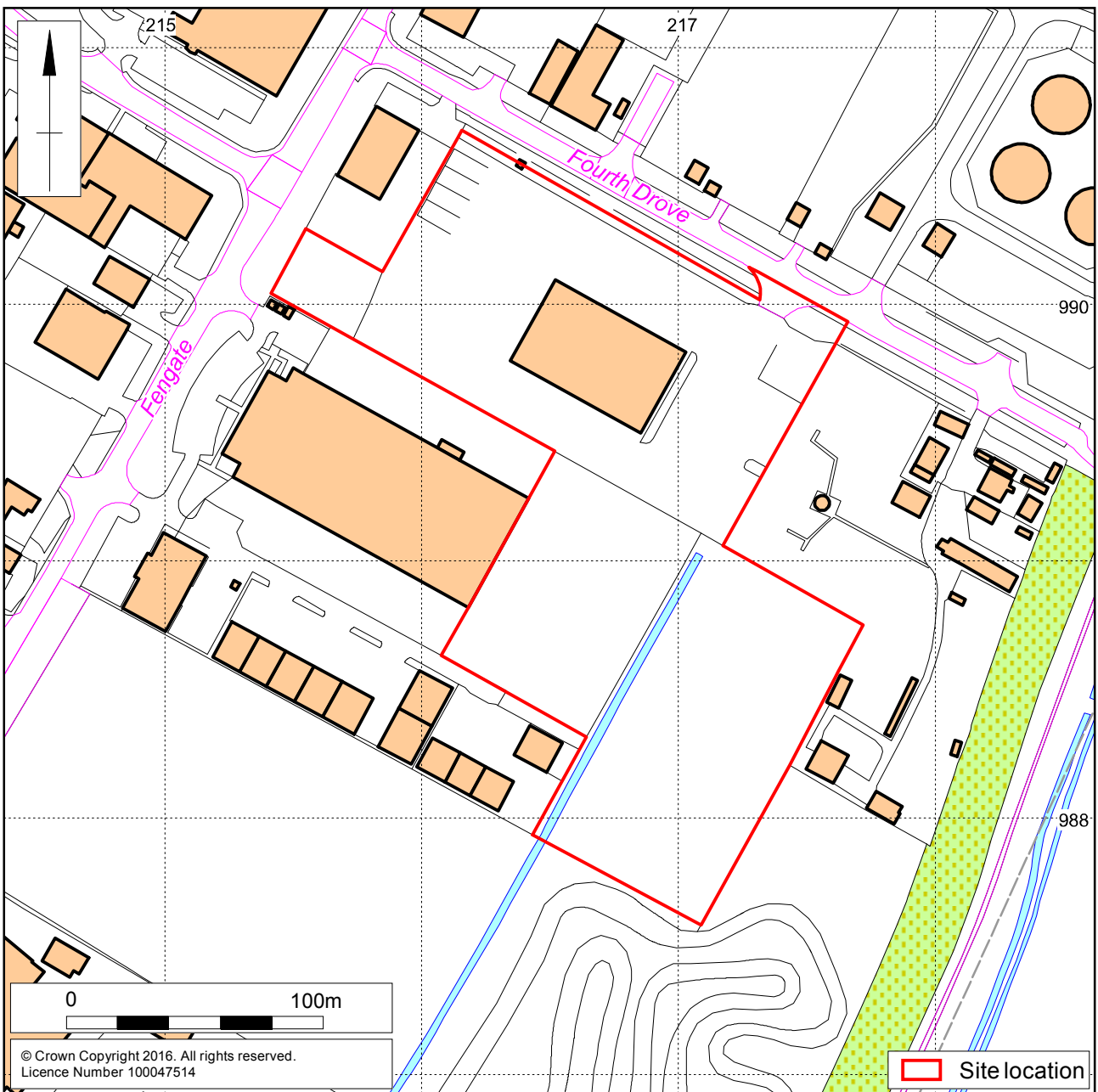
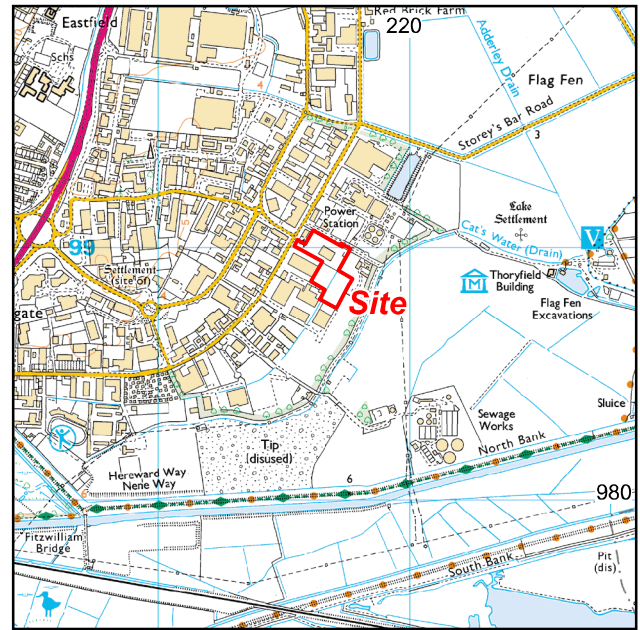
MOLA (formerly Northamptonshire Archaeology) was commissioned by Interserve to undertake a programme of archaeological investigations during the redevelopment of an industrial site at Fourth Drove, in the Fengate district of Peterborough. Extensive archaeological remains had been recorded within the site from the 1970s to the 1990s, prior to its original development. The programme of works comprised targeted areas of excavation, and strip, map and record, together with a general watching brief on the development groundworks. One excavation exposed an Iron Age ditch and a gully previously recorded in the 1970s 'Cat's Water' excavation project, and another exposed two postholes and a large waterlogged pit or waterhole of indeterminate date, but most likely relating to the Bronze Age activity identified by the previous excavations. Minor, undated features were recorded elsewhere during the watching brief, with a particular concentration of these towards the south-east of the site.

1 INTRODUCTION

MOLA (formerly Northamptonshire Archaeology) was commissioned by Interserve to carry out a programme of archaeological mitigation works at the 'Energy from Waste' (EfW) development site, Fourth Drove, Fengate, Peterborough (NGR TL 216 989; Fig 1). The works comprised excavations, strip, map and record, and a general watching brief, conducted on an episodic basis between April 2013 and June 2015.

The development of the site involved the demolition of the existing recycling plant and the construction of a new facility to generate energy from waste materials. The construction of this facility was accompanied by ancillary works including the creation of a temporary site compound and the installation of new services and infrastructure. The planning application to undertake these works (09/00078/MMFUL) was approved subject to conditions, including "the implementation of a programme of archaeological work in accordance with a written scheme of mitigation which has been submitted to and approved in writing by the Local Planning Authority".

All archaeological works followed the Written Scheme of Investigation (WSI) (Howard and Hales 2012) which was approved by Rebecca Casa-Hatton, the Peterborough City Archaeologist. This specified that two areas were to be subjected to archaeological investigation with strip, map, and record on the new building footprint. A watching brief was maintained elsewhere where the development had the potential to disturb surviving archaeology.



Scale 1:2500

Site location Fig 1

2 AIMS AND OBJECTIVES

The WSI (Howard and Hales 2012) specified separate aims for the watching brief and excavation elements of the project, as follows:

Watching brief

- To determine the extent, condition, nature, character, quality and date of any archaeological remains encountered, through the implementation of an archaeological watching brief during groundworks, as dictated by current best practice.
- To establish whether any further salvage archaeological excavation works may be necessary.
- To prepare a report and archive for the project

Excavation

- To ascertain the extent of any significant archaeological remains and characterise their nature;
- To accurately characterise and date the archaeological remains
- To preserve by record any archaeological remains that will be impacted by the construction of the EfW complex
- To confirm and enhance the results of the previous archaeological excavations.

The WSI further stipulated that the results of the investigations would be combined and disseminated and that a site archive containing all the data collected during the fieldwork would be deposited with the Peterborough Historic Environment Record.

3 BACKGROUND

3.1 Location

The EfW development site is located in the Fengate district of Peterborough, close to the eastern edge of the city (Fig 1). It lies immediately east of Storey's Bar Road and south of Fourth Drove, almost adjacent to the Fengate Power Station. Its total extent, including the temporary works compound, is approximately 3ha.

3.2 Topography and geology

The development site occupies a fen-edge location to the immediate west of the Flag Fen embayment. It slopes very gently south-eastwards, from approximately 1m to 4m above Ordnance Datum. A drainage dyke, known as the Parish Drain, crosses the site from north-east to south-west, running more or less parallel with the larger 'Cat's Water' drain which marks the present boundary of the fen c 200m to the east (Figs 1-2).

The natural geology of the area comprises Kellaways Clay and Oxford Clay, overlain by a layer of late Pleistocene sand and gravel (BGS 2016). There is also some evidence for Holocene alluvial deposits overlying the gravel at the eastern end of the site, downslope of the Parish Drain (BGS 2016, Brittain and Standring 2008).

3.3 Historical and archaeological background

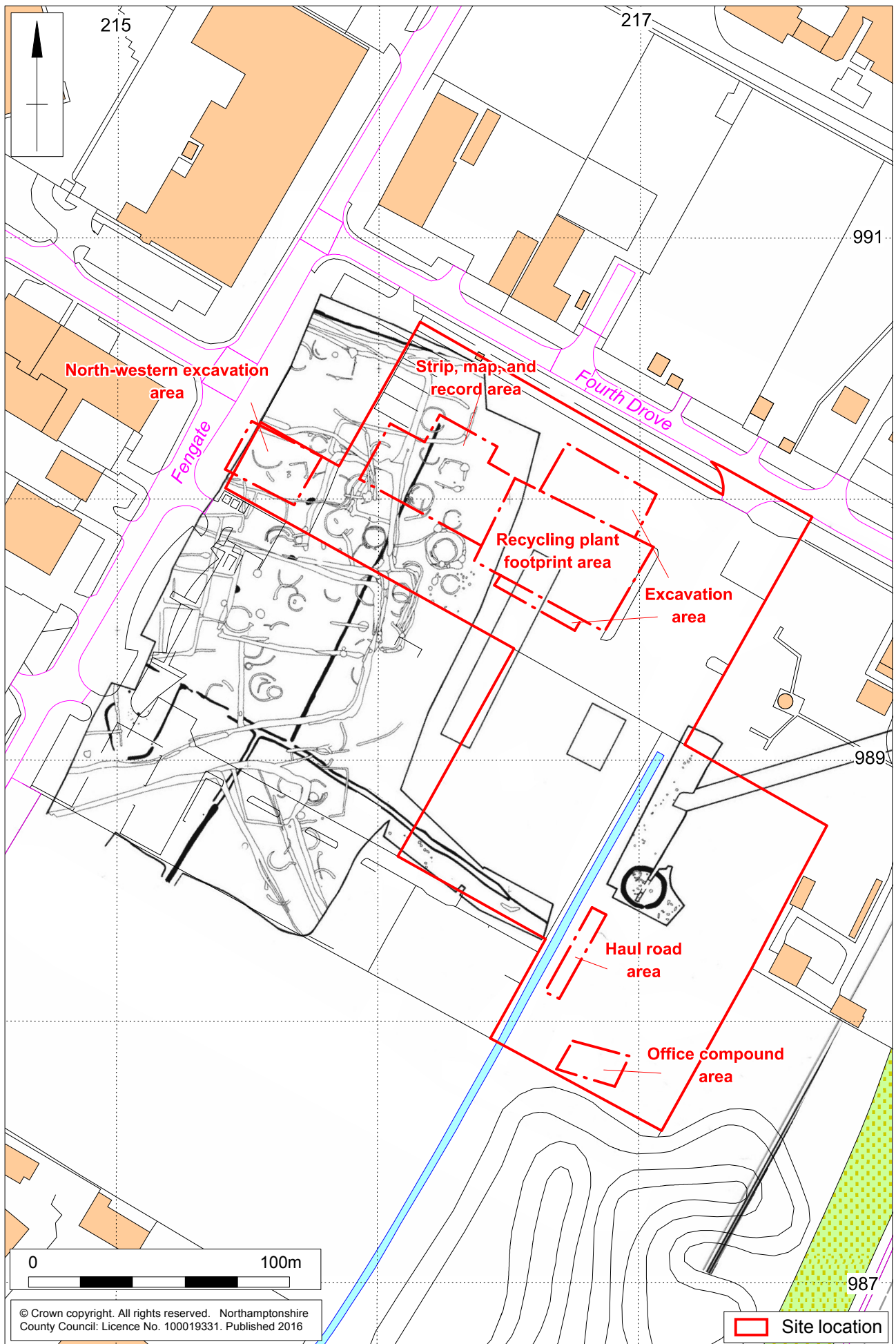
The EfW site lies within an area that is recognised for the importance of its prehistoric archaeology and has seen extensive research since the 1970s (Prior 1984; Prior 2001; Evans 2009). Major parts of the development footprint have been subject to previous archaeological excavations, as shown in Figure 2, and similarly intensive work has occurred within the much of the surrounding area.

Neolithic remains occur sporadically across the Fengate landscape and three discoveries of note have been made within the EfW site itself. In the north-west, during the 1970s Cat's Water excavations, a multiple burial was discovered and in the south-east two separate excavations in the 1990s revealed a probable small henge and a concentration of postholes interpreted as the remnants of a mortuary structure (Fig 2).

During the Bronze Age a large co-axial field system, incorporating dispersed settlement features, was laid out across the dry ground on the edge of the fen. Elements of this were identified within the development site during the Cat's Water excavations (Fig 2). Later in the Bronze Age a timber alignment and platform were constructed within the fen, and waterlogged remains of this have been found at Flag Fen, 1km east of the site, and at the Fengate Power Station 200m to the north east (Prior 2001).

During the Iron Age and Roman periods, settlement and other activity seems to have been focused mostly on the dry ground of the fen edge. Particularly dense settlement occurred at the western end of the EfW site, where the 1970s Cat's Water excavations identified a palimpsest of middle Iron Age to Roman roundhouses and enclosure ditches (Prior 1984). Additionally, a Roman road, referred to as the 'Fen Causeway', ran approximately east to west through the Fengate Power Station site to the north (Prior 2001, 59)

Elevated water tables during the Saxon and Medieval periods are thought to have resulted in the flooding of much or all of the EfW site, rendering it unsuitable for settlement or agricultural activities (Howard and Hales 2012, 13). Post-medieval drainage ameliorated the situation, but the land remained largely undeveloped until the expansion of Peterborough in the latter half of the 20th century.



Scale 1:2000

Previously excavated archaeology and areas excavated during current works

Fig 2

4 METHODOLOGY

The WSI stipulated a twofold mitigation strategy, combining a general watching brief with areas of excavation, and strip, map, and record. The excavation areas were located at the north-west of the site, on the Storey's Bar Road frontage, and at the centre of the site, immediately north and south of the demolished recycling plant. The strip, map, and record area concentrated on the footprint new building. A watching brief was maintained on all other major intrusive groundworks, as indicated on Fig 3.

The strip, map and record, and excavation areas were stripped of topsoil and other modern overburden by a mechanical excavator fitted with a toothless ditching bucket, operated under archaeological supervision. Stripping ceased at the level of undisturbed archaeology or the surface of the natural gravels as appropriate. Where archaeological features were present these were hand-planned and sections were hand-dug across them. Discrete features were half-sectioned and linear ditches subject to a minimum 10% sample excavation.

The character, composition and general depositional sequence of the site stratigraphy were recorded on pro-forma sheets, with a unique context number being allocated to each distinct deposit and feature. A photographic record was maintained. All recording followed the guidelines detailed in the MOLA Northampton *Archaeological fieldwork manual* (MOLA 2014).

The area of investigation was surveyed using Leica System Viva Global Positioning System (GPS) survey equipment (Figs 4 & 5) using SMARTNET real-time corrections, operating to a 3D tolerance of $\pm 0.05\text{m}$.

5 THE ARCHAEOLOGICAL EVIDENCE

5.1 General stratigraphy

The solid geology of the site, comprising Kellaways or Oxford Clay, was observed in two deep hydrological test pits (TP 2 and 3) and less distinctly in the dredged base of the Parish Drain. Elsewhere, it was concealed by a superficial layer of red or orange iron-stained Pleistocene sand and gravel which contained localised clay patches and was quite variable in its composition and thickness. This gravel formed the uppermost natural deposit across the greater part of the site, except in the temporary compound area to the east of the Parish Drain, where there was a disturbed spread of alluvium capping the gravel.

Due to the prior development of the site, no undisturbed topsoil or subsoil was present above the natural geology. Instead, the uppermost strata variously comprised modern concrete, hardcore, disturbed or re-deposited topsoil and made ground.

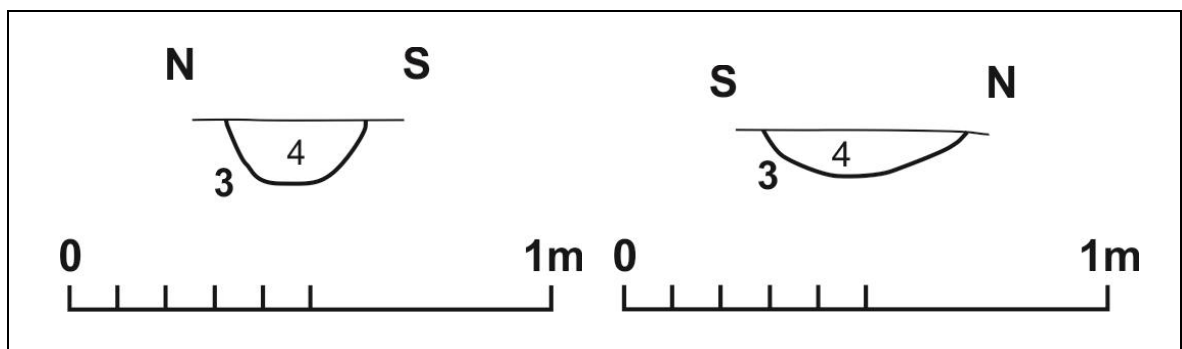
5.2 The north-western excavation area

In April 2013 a rectangular area, approximately 21m x 30m in extent, was stripped of recent made ground to re-expose archaeological features previously identified by the 1970s Cat's Water excavations (Prior 1984, fig 6). Two archaeological features were identified, both corresponding to late Iron Age features identified by Prior. Other features recorded by the same excavation could not be identified, presumably due to recent truncation.



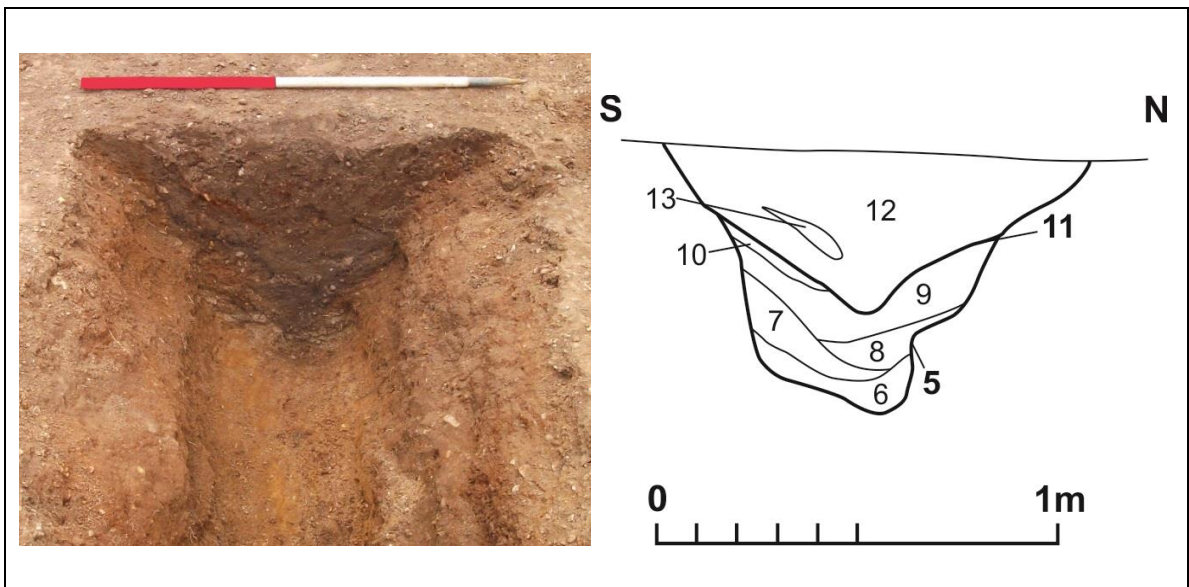
North-western excavation area, with gully [3] in foreground and ditch [5] in background, looking north-west Fig 3

Feature [3] was a shallow, L-shaped, flat-based gully with arms extending southwards and westwards. Two sections were recorded, one measuring 0.4m wide by 0.09m deep and the other 0.29m wide by 0.13m deep. The fill in each section was a firm mid grey sandy silt which broke away cleanly from the edges of the feature. This was likely to be modern backfill from the original excavation. The full extent of this feature was not apparent due to truncation.



Opposing sections of gully [3], looking east and west Fig 4

Ditch [5] was aligned west-north-west to east-south-east. It had an irregular profile, with a flat-base, 1.2m wide by 0.66m deep. It was re-cut by ditch [11] which followed the line of ditch [5]. It was 1.20m wide and 0.42m deep with a shallow V-shaped profile. Both [5] and [11] were truncated by three modern features (Fig 5).

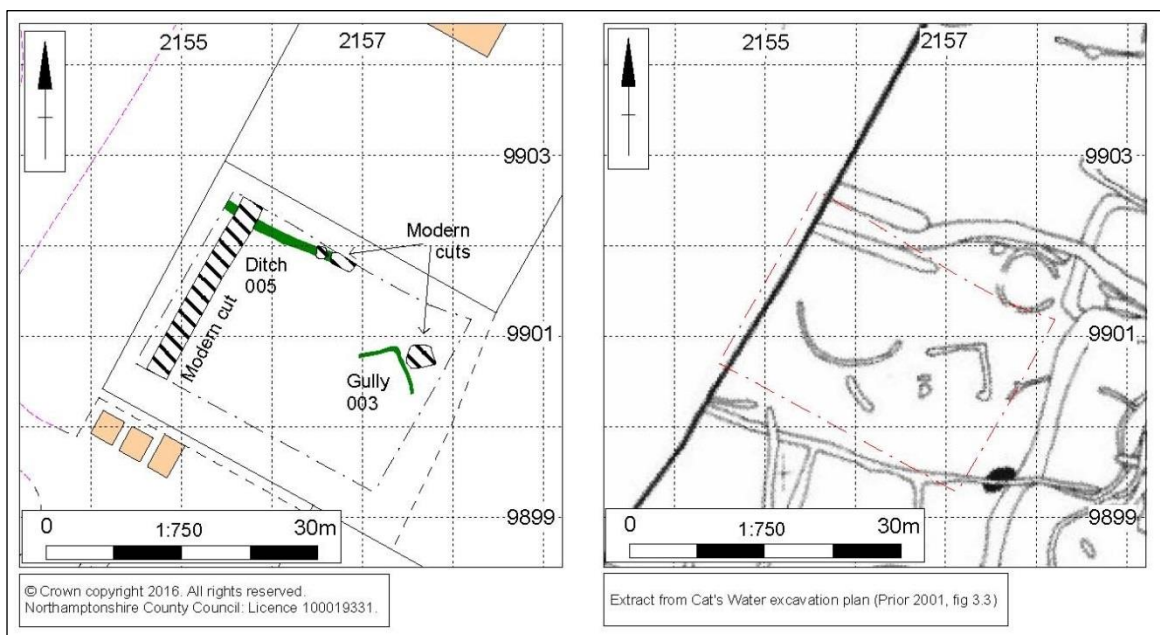


Section of ditch [5] and re-cut [11], looking west Fig 5

The basal fill of ditch [5] comprised pale yellowish quartz sand with gravel inclusions (6). It likely accumulated from the eroded sides during the initial edge stabilisation. It was overlain by two further sandy-gravel erosional deposits, (7) and (8), entering from the south and north edges respectively. Water lain deposit (9), a dark bluish-grey silt, overlay fills (7) and (8). Only visible on the southern half of the ditch was a charcoal rich deposit (10). Its full extent unknown as it has been truncated by ditch re-cut [11].

The re-cut ditch [11] was filled by naturally accumulated friable light grey sandy silt (12) exhibiting light iron mottling. Within the fill a thin seam of reddish iron-cemented sandy gravel (13) accrued concurrently for a short period.

A small number of finds were recovered from context (2), comprising an irregular shaped and unidentifiable pellet of fired clay, a burnt cobble, and seven pieces of animal bone. None of this material provides any dating evidence for the ditch.



Plan of north-western excavation area and comparative plan of Cat's Water excavation Fig 6

5.3 The central area (main construction site)

After demolition of the recycling plant in September 2013, its footprint was stripped of residual hardcore under archaeological observation. The removal of the existing concrete pads from the designated excavation areas to the north and south of the former building revealed heavy disturbance of the natural gravels. Any potential archaeological features that may have been present under these pads had been destroyed.

Further groundworks conducted to the north and west of the former building were subject to archaeological mitigation in 2014-15. The majority of these areas proved archaeologically sterile, any archaeological remains having been removed during construction of the recycling plant and concrete yards. However, works in this area in August 2014 did expose a large waterlogged pit. Consequently an area was opened to expose the extent of the feature and locate any potential additional associated features.

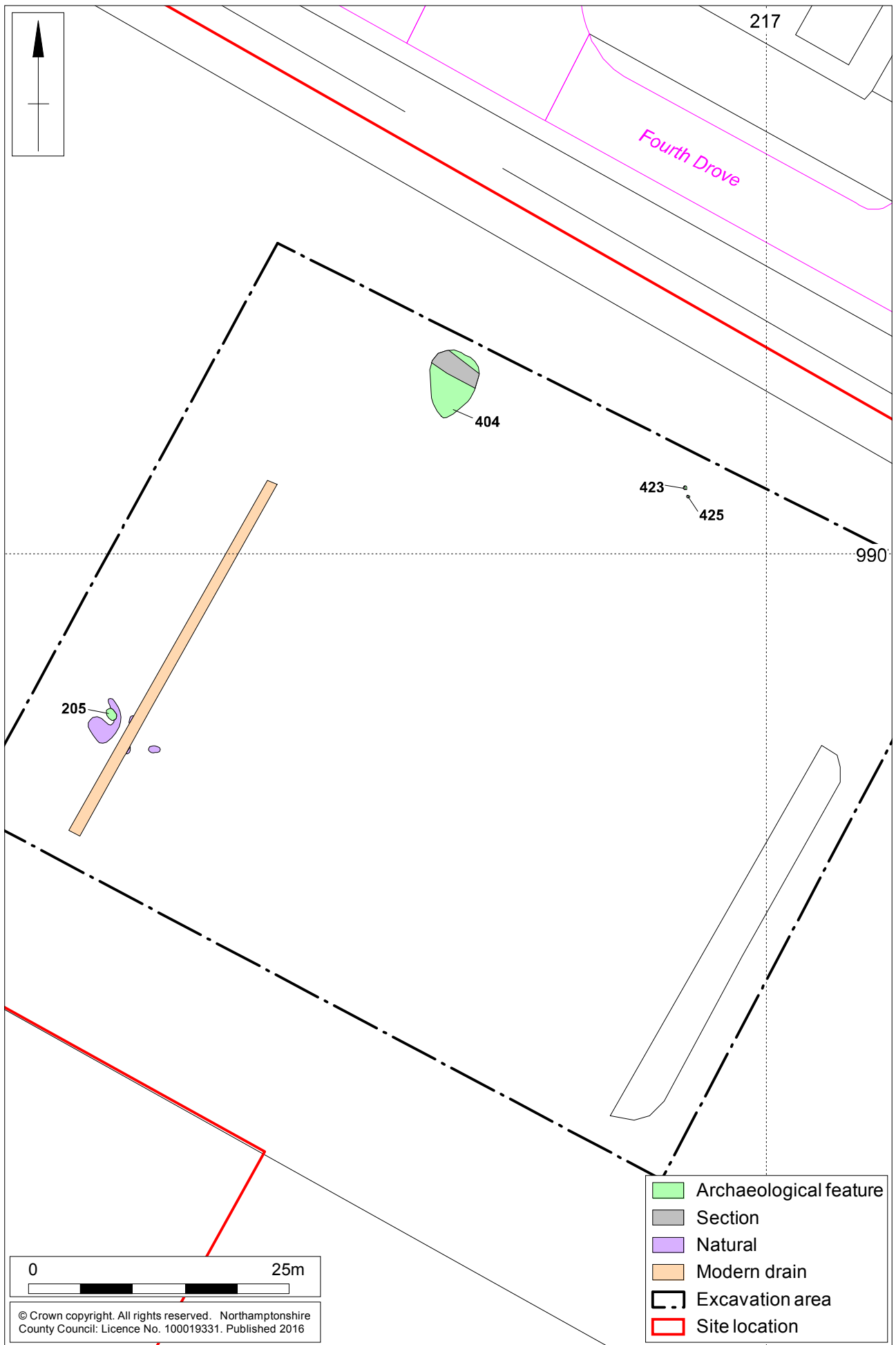
The recycling plant footprint

The area of the former plant was found to be heavily disturbed, with only one large posthole or small pit, and two root hollows surviving. Some lengths of 19th to early 20th century ceramic field drain were also observed in the stripped surface, together with various service trenches and other modern intrusions.

Pit [205] was elliptical in plan, aligned south-west to north-east along its long axis. It was 0.70m long, 0.60m wide and 0.24m deep, with a U-shaped profile. Its fill, (206), a compact grey-brown sandy-clay, contained numerous charcoal flecks and small clasts of gravel. Two further patches of similar material c 0.8m to the south-west and 1.8m to the north-west represent remnants of natural rooting hollows.



Pit [205], looking south-west Fig 7



Scale 1:500

Plan of the central area (main construction site) Fig 8

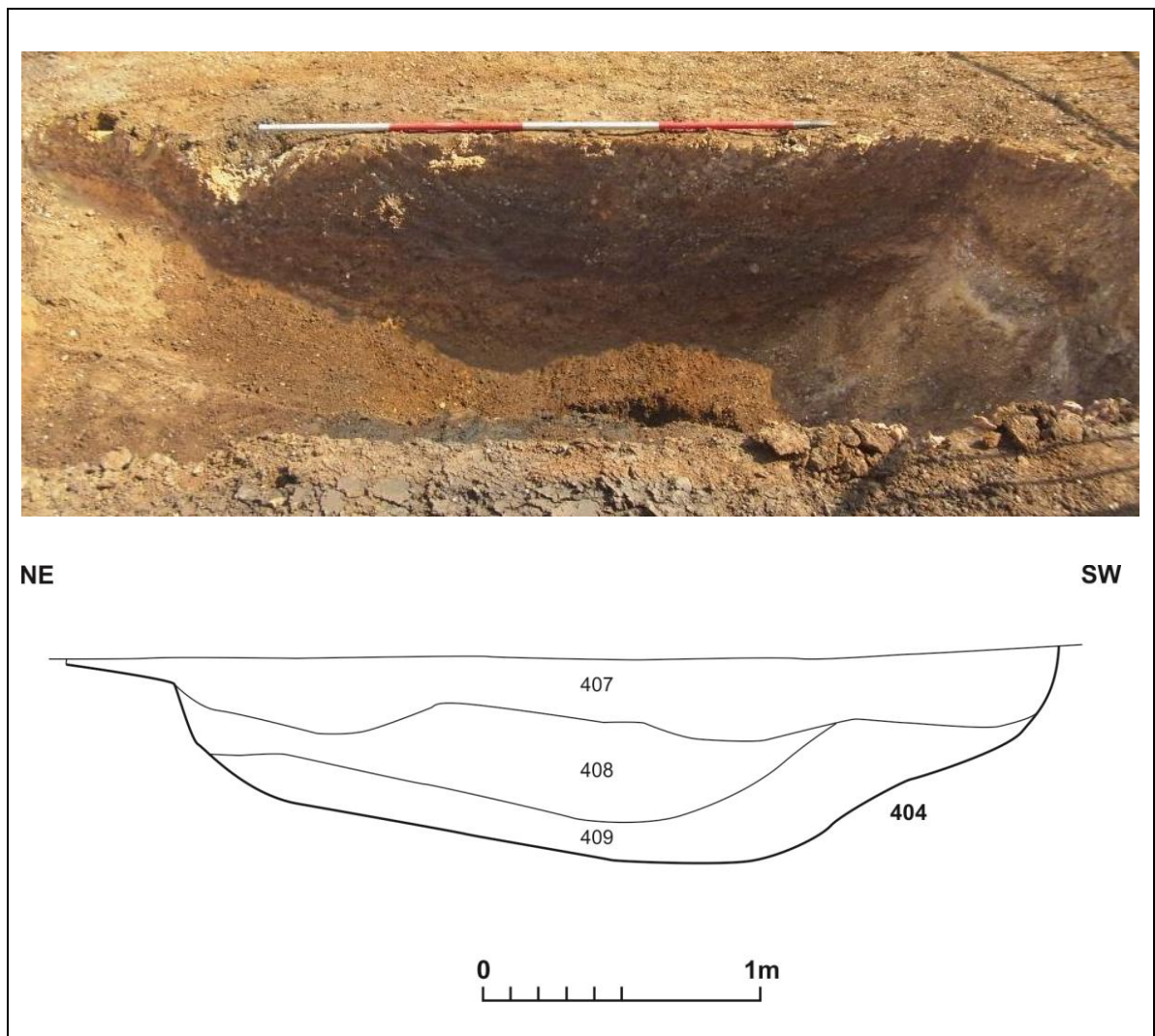
Archaeological features north of the former recycling plant

To the north of the former building the deposits of a large pit or waterhole [404] was present.

Pit [404] was oval in plan, 6.3m long, 4.9m wide, and 1.0m deep, with an irregular bowl-shaped profile, with a shallower slope to the north-west and a steeper slope to the south-east (Fig 9).

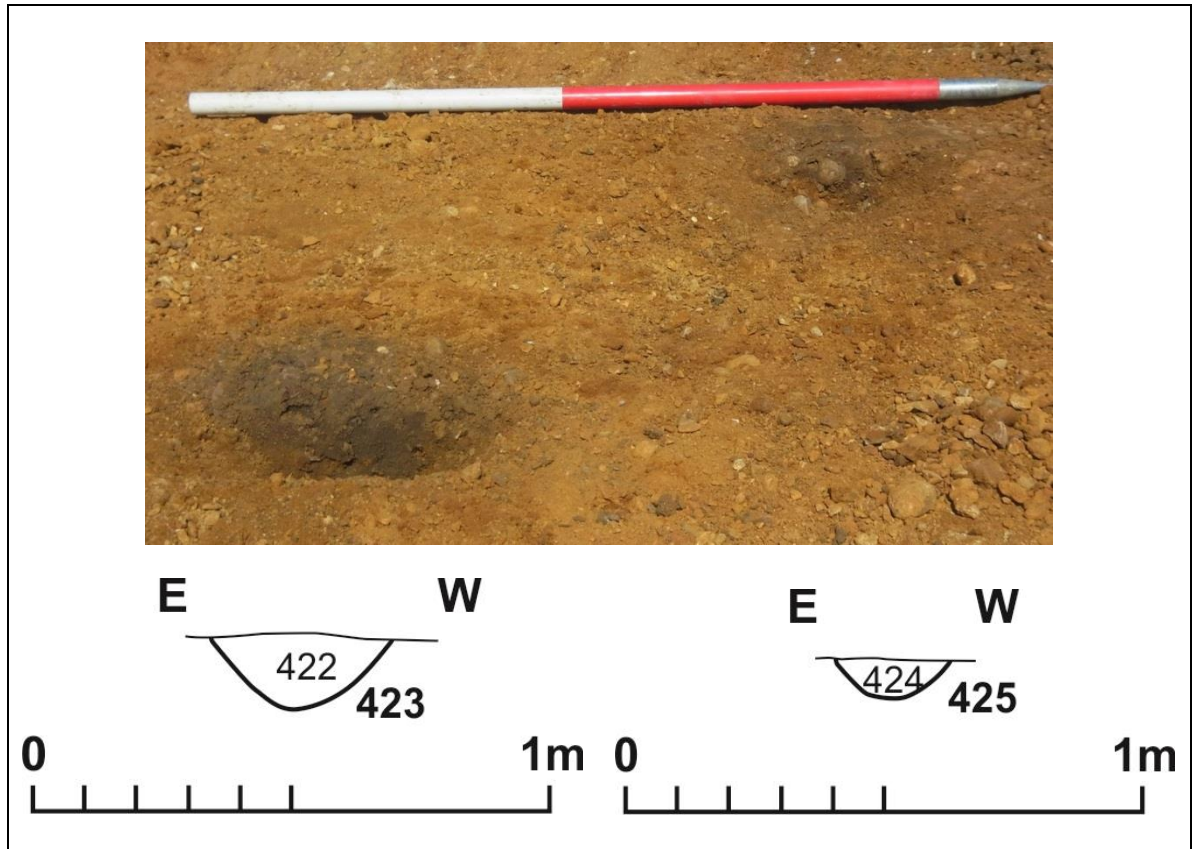
The basal fill (409) comprised mixed gravels eroded from the pit edges. Overlying the gravels was fill (408) naturally accrued silting material comprising mid bluish-grey clay containing occasional small to medium-sized sub-angular flint, gravel and abundant waterlogged organic material.

Above (408) were edge erosion gravel deposits (407), 0.60m thick, comprising light grey sandy silt gravel to slightly sandy silt.



Section of pit [404], looking north-west Fig 9

Two possible postholes, c 0.5m apart, were located 22m east of pit [404]. Both were circular in plan with bowl-shaped profiles. The northernmost, and larger, pit [423] was c 0.4m in diameter and 0.14m deep. The southern posthole [425] was 0.25m in diameter and 0.08m deep. Both holes contained similar fills of mid to dark grey silty clay with abundant gravel inclusions (Fig 10).



Sections of postholes [423] and [425], looking south Fig 10

5.4 The eastern area (temporary site compound)

The greater part of this area was stripped under archaeological observation in 2013, prior to the laying of a hardcore surface. However, the stripping was generally shallow (c 0.2m - 0.3m), and archaeological features could only be only identified in a few restricted areas where more deeply intrusive works occurred (Figs 2, 11, and 12). Across the remainder of the compound area the stripping exposed a series of deposits which appeared to include some undisturbed alluvium but also included trench backfill, redeposited gravel and other recently disturbed ground.



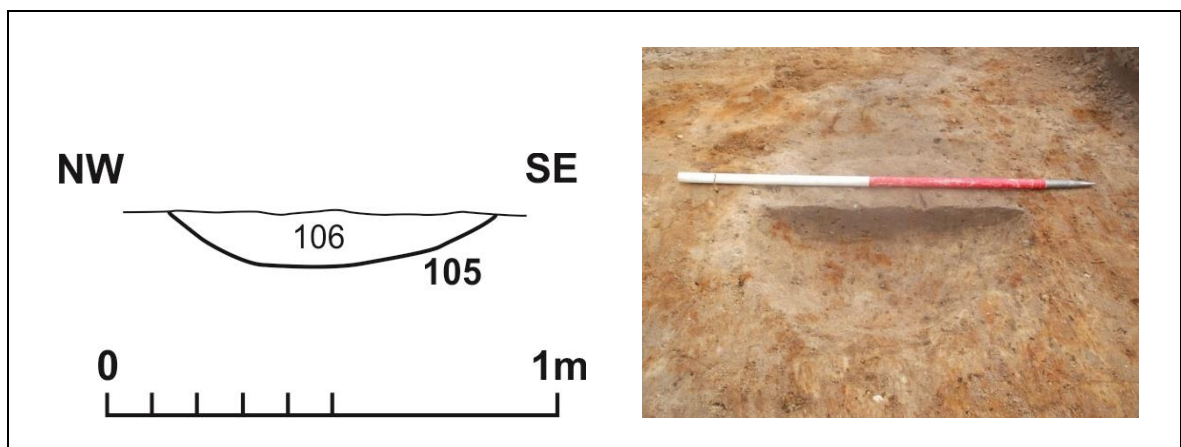
Compound area during removal of overburden showing a large right-angled cut, looking west Fig 11

Archaeological features in the haul road area

A group of archaeological features were identified towards the western side of the compound, where a short length of haulroad easement had been stripped deeply enough to expose the archaeological horizon. A group of features comprising two discrete pits, one partially exposed pit or ditch terminal and three other intercutting features were identified. These features directly underlay disturbed modern topsoil. However, across some of the site a thin layer of intervening alluvial subsoil (117) was evident (see below). No finds were recovered from any of the six features.

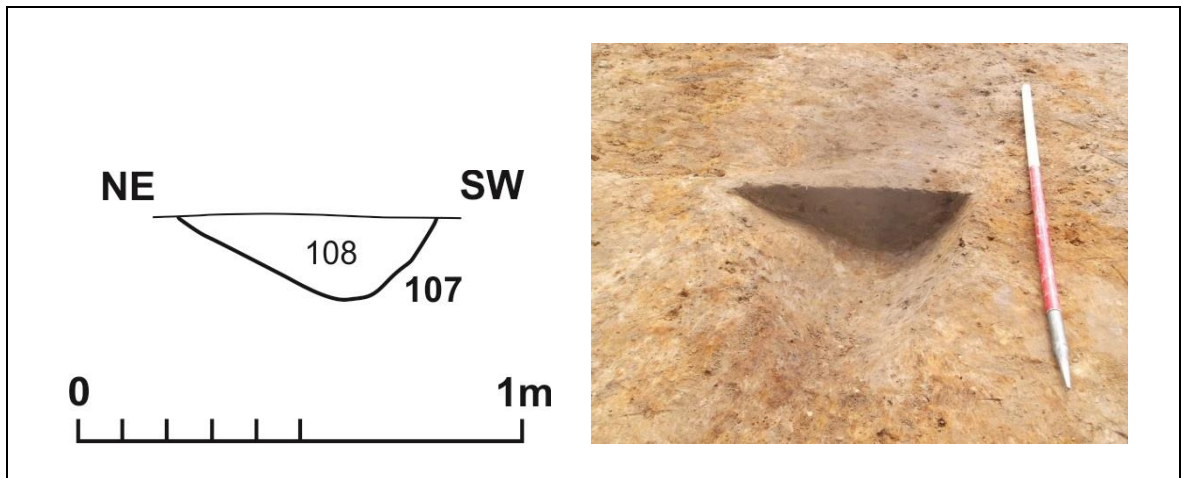
Pit [103] was 2.60m wide, 0.37m deep, and projected 0.84m from the baulk. It had steep cut sides and a flat base. It contained firm mid brown-grey sandy silt with sparse iron mottling and very sparse charcoal flecks (104).

Pit [105] was circular in plan, 0.72m wide and 0.13m deep, with a shallow bowl-shaped profile (Fig 12). Its fill, light brown-grey sandy silt (106), had accumulated naturally overtime.



Pit [105], looking north-east Fig 12

Pit [107] was oval in plan aligned north-west to south-east. It was 1.15m long, 0.60m wide and 0.19m deep, with a rounded profile (Fig 13). Light brown-grey sandy silt (108) naturally filled the pit.



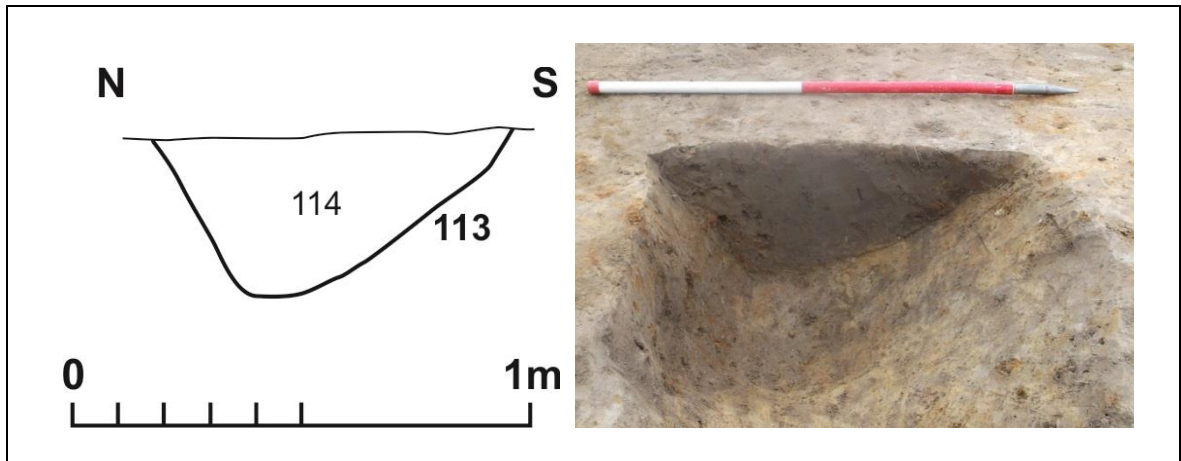
Pit [107], looking south-east Fig 13



Scale 1:250

Plan of haul road excavation area Fig 14

A short section of gully [112] and [113], aligned east-west, was 4.50m long and 0.90m wide. It had steep cut sides and a rounded base and contained brown-grey sandy silt (Fig 15). It was truncated by pit [109], 1.90m wide and 0.48m deep, which had steep cut sides with a rounded base. The pit contained brown-grey sandy silt which showed evidence of root disturbance, and was only slightly darker than that filling the gully.



Gully [113], looking east Fig 15

Archaeological features in the site office area

A group of undated pits and ditches were identified in a series of parallel trenches cut to provide footings for the site office cabins (Fig 18).

Features [115], [121] and [129], and [135] possibly represent two segments of gully forming an arc with feature [135] potentially a terminal of a third gully. They averaged 0.50m wide and 0.30m deep. All contained dark grey-brown silty clay fills (Fig 16).



Gullies [115] and [121], looking east Fig 16

Within the arc of features was gully [119]. It was 0.90m wide and 0.25m deep and contained a natural accumulation of silty sand.

[123] and [125], were both 0.30m wide and 0.20m deep with U-shaped profiles. Both contained naturally accumulated mid grey-brown silty-clay (Fig 17). To the east of these was gully [137], 0.40m wide and 0.15m deep with a shallow bowl-shaped profile. Mid grey-brown silty-clay naturally infilled the gully.



Posthole [125], looking south Fig 17

A small pit [133] was located to the east of this group of features. It was circular in plan, 0.60 wide and 0.30m deep with a bowl-shaped profile. It was filled with naturally accrued dark grey silty sand.

Features [127] and [131] represent natural rooting hollows. A small area of naturally occurring sand and gravel was identified towards the western corner of the cabin footings.



Scale 1:250

Plan of cabin footings Fig 18

6 THE FINDS AND ENVIRONMENTAL EVIDENCE

6.1 The animal bone by Adam Reid

7 fragments of animal bone with a total weight of 135g were hand collected from fill (12) of ditch recut [11]. Two of the fragments could be identified; a pig tibia fragment and a cattle tooth. The other fragments were all from medium to large mammalian taxa. The small assemblage adds little to the overall interpretation of the site.

6.2 Miscellaneous finds

One burnt fragment of quartzite cobble and one small irregular pellet of fired clay were recovered from fill (12) of ditch recut [11].

6.3 The environmental evidence by Val Fryer

Two samples were taken from the waterlogged clay, secondary fill, of pit [404].

The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. As both flots contained high densities of waterlogged plant material, the remains were stored in water prior to sorting under a binocular microscope at magnifications up to x 16. The plant macrofossils and other remains noted are listed in Table 1, with nomenclature following Stace (2010).

The non-floating residues were collected in a 1mm mesh sieve and sorted when dried.

Results

Seeds of ruderal weeds, grassland herbs and wetland/aquatic plants are present at a low to moderate density within both assemblages. Most remains are waterlogged, although occasional charred macrofossils are also recorded, most notably within the assemblage from sample 2 (context 420). Preservation is moderately good, although some of the waterlogged remains are crushed and distorted, presumably as a result of the compaction of the deposit.

A single charred spelt wheat (*Triticum spelta*) glume base, noted within the assemblage from sample 2, is of note as it potentially represents an early occurrence of this cereal. However, it should be noted that a single specimen can easily travel through the soil column (particularly within a clay soil which cracks if dried for any period of time), and it is, therefore, equally likely that this example could be intrusive from elsewhere.

Seeds of common weeds and grassland herbs are present within both assemblages, with taxa occurring most frequently including musk thistle (*Carduus* sp.), fat hen (*Chenopodium album*), thistle (*Cirsium* sp.), grasses (Poaceae), buttercup (*Ranunculus* sp.), dock (*Rumex* sp.), black nightshade (*Solanum nigrum*), sow thistle (*Sonchus asper*), chickweed (*Stellaria media*) and stinging nettle (*Urtica dioica*). Wetland/aquatic plant macrofossils include sedge (*Carex* sp.) nutlets and seeds of water plantain (*Alisma plantago-aquatica*) and water crowfoot (*Ranunculus* subg. *Batrachium*). Tree/shrub macrofossils, including seeds of hawthorn (*Crataegus* sp.) and elderberry (*Sambucus nigra*), sloe (*Prunus spinosa*) fruit stones and bramble (*Rubus* sect. *Glandulosus*) 'pips', are also recorded. Both assemblages are largely composed of waterlogged root/stem fragments, but other plant macrofossils include small pieces of charcoal or charred root/stem, bracken (*Pteridium aquilinum*) pinnule fragments and indeterminate buds, leaf fragments, moss fronds, thorns and twigs. Other remains are very scarce, but do include caddis larval cases, small mammal/amphibian bones and waterlogged arthropod remains. A small number of shells of terrestrial and freshwater molluscs are also present.

Discussion

In summary, the composition of both assemblages would appear to be primarily indicative of a relatively rough grassland habitat, with the presence of stinging nettle seeds possibly suggesting that the area was intermittently used as pasture. The pit itself was probably wet or seasonally water filled and it may also have been partly overgrown by colonising shrubs. The presence of numerous leaf fragments may suggest that the feature stood open for some considerable period, with detritus from at least one season's growth/leaf fall naturally accumulating within the fill. The few charred macrofossils are almost certainly derived from the nearby settlement (possibly from burnt cereal processing waste or bedding/flooring), although as noted above, the presence of spelt is inconclusive as the sole glume base may be intrusive.

Although both assemblages do contain sufficient material for quantification (i.e. 100+ specimens), further analysis would probably add very little to the data included within this assessment and, therefore, no further work has been conducted from the site.

Table 1: Quantification of environmental specimens

Sample No.	1	2
Context No.	408	420
Cereals		
<i>Triticum spelta</i> L. (glume base)		xc
Dry land herbs		
<i>Aethusa cynapium</i> L.		xw
<i>Aphanes arvensis</i> L.		xw
Brassicaceae indet.		xw
<i>Carduus</i> sp.	xw	xw
<i>Chenopodium album</i> L.		xw
<i>Cirsium</i> sp.		xw
Fabaceae indet.		xc
<i>Galeopsis</i> sp.		xw
<i>Lysimachia</i> sp.		xw
<i>Malva</i> sp.		xf w
<i>Persicaria</i> sp.	xw	
<i>Plantago major</i> L.		xw
Small Poaceae indet.	xxw	xw
<i>Polygonum aviculare</i> L.		xw
<i>Potentilla</i> sp.	xcfw	
<i>Ranunculus</i> sp.	xw	
<i>R. acris/repens/bulbosus</i>	xw	xw
<i>R. parviflorus</i> L.	xw	
<i>Rumex</i> sp.	xxxw	xw
<i>R. acetosella</i> L.		xcf w
<i>Sinapis</i> sp.		xw
<i>Solanum nigrum</i> L.	xxw	xw
<i>Sonchus asper</i> (L.) Hill	xw	xw
<i>S. oleraceus</i> L.		xw
<i>Stellaria media</i> (L.) Vill	xw	xw
<i>Torilis japonica</i> Houtt DC		xw
<i>Urtica dioica</i> L.	xw	xw
Wetland/aquatic plants		
<i>Alisma plantago-aquatica</i> L.	xw	xxw
<i>Carex</i> sp.	xw	xw
<i>Hydrocotyle vulgaris</i> L.	xw	
<i>Persicaria hydropiper</i> L.		xw
<i>Ranunculus</i> subg, <i>Batrachium</i> (DC) A. Gray	xw	xw
Tree/shrub macrofossils		
<i>Crataegus</i> sp.		xw
<i>Prunus spinosa</i> L.		xw
<i>Rubus</i> sect. <i>Glandulosus</i> Wimmer & Grab	xw	xw
<i>Sambucus nigra</i> L.	xw	xw

Sample No.	1	2
Other plant macrofossils		
Charcoal >2mm	x	x
Charcoal >10mm		x
Charred root/stem		x
Waterlogged root/stem	xxxx	xxxx
Mineral replaced root channels	x	x
<i>Pteridium aquilinum</i> (L.) Kuhn (pinnule frags.)		xw
Indet. Buds	xw	xw
Indet. leaf frags.	xxw	xxx w
Indet. Moss	xw	xw
Indet. Seeds	xw	xw
Indet. thorns (<i>Prunus</i> type)	xw	xw
Indet. tuber frag.	xw	
Indet. Twigs	xxw	
Wood frags. >10mm	xw	
Other remains		
Caddis larval cases	xw	xw
Ostracods		x
Small mammal/amphibian bones		x
Waterlogged arthropod remains	x	xx
Mollusc shells		
Terrestrial species		
<i>Vallonia</i> sp.		x
<i>V. costata</i>		x
<i>V. pulchella</i>		x
Limacid plates		x
Freshwater species		
<i>Armiger crista</i>	x	x
<i>Pisidium</i> sp.		x
<i>Valvata cristata</i>		x
Sample volume (litres)	10ss	10s
Volume of flot (litres)	0.3	0.2
% flot sorted	50%	50%

x = 1 – 10 specimens xx = 11 – 50 specimens
xxx = 51 – 100 specimens xxxx = 100+ specimens
c = charred w = waterlogged fg = fragment cf = compare ss = sub-sample

7 CONCLUSION

The archaeological investigations at the EfW site have demonstrated that some individual pockets of undisturbed archaeology survived the original development in the 1990s. However, all but one of the recorded archaeological features was artifactually sterile, preventing any confident dating. As a result, this conclusion can amount to little more than a brief descriptive summary of the findings.

The re-opening of a small part of the Cat's Water excavation exposed two previously identified features of late Iron Age date, but added little if anything to the understanding of these.

The area of the former recycling facility at the centre of the site was found to be heavily disturbed, with only minor features of uncertain date being recorded. However, a large waterlogged pit did survive just to the north of the former building and, whilst this lacked any direct dating evidence, it is comparable to prehistoric waterholes identified elsewhere in the Fengate area.

A watching brief was maintained on the site of the construction compound, to the east of the Parish Drain, but the groundworks in this area rarely penetrated deeply enough to expose archaeological deposits

The remainder of the compound area was only stripped to a shallow depth, before being stoned up with hardcore, and it appeared that potential archaeological horizons were not reached.

BIBLIOGRAPHY

BGS 2016 <http://www.bgs.ac.uk/geoindex/home.html> British Geological Survey website

Brittain, M, and Standring, R, 2008 *Archaeological monitoring at the former Co-op site, Fengate, Peterborough*, Cambridge Archaeological Unit report, **849**

CIfA 2014 *Code of Conduct*, Chartered Institute for Archaeologists

CIfA 2014 *Standard and guidance for an archaeological watching brief*, Chartered Institute for Archaeologists

Evans, C, 2009 *Fengate Revisited: Further fen-edge excavations, Bronze Age fieldsystems & settlement and the Wyman Abbott/Leeds archives*, Cambridge Archaeological Unit

Howard, C, and Hales, S, 2012 *Written scheme of investigation for archaeological mitigation, Fengate Energy from Waste Facility, Peterborough*, Mouchel

Medlycott, M, 2011 *Research and Archaeology Revisited. A Revised Framework for Eastern England*, East Anglian Archaeology, **24**

MOLA 2014 *Archaeological Fieldwork Manual*, MOLA Northampton

Prior, F, 1984, *Excavations at Fengate, Peterborough, England: The fourth report*, Northamptonshire Archaeological Society monograph, **2** / Royal Ontario Museum Archaeology Monograph, **7**

Prior, F, 2001 *The Flag Fen basin: Archaeology and environment of a Fenland landscape*, English Heritage

Stace, C, 2010 *New Flora of the British Isles*. 3rd edition, Cambridge University

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