Archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex, CO5 8SA

January 2021

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commissioned by Peter Johnson (The Johnson Dennehy Planning Partnership)
on behalf of BlueSquare Homes (New Build Developments)

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List of photographs, tables and figures

Cover: extract from Chapman and André's map of Essex, 1777

1 Summary

An archaeological evaluation (eleven trial-trenches) was carried out on land at 102 East Road, West Mersea, Colchester, Essex in advance of the construction of fifty-six new dwellings and a new access road with associated landscaping. The development site lies to the south of the Mersea Barrow, and near to numerous cropmarks, including a possible ring-ditch. Twelve features – five pits, four ditches, a ditch/gully, a pit/ditch terminus and a natural feature – were excavated. A Bronze Age pit and a Roman ditch or gully were revealed. These remains possibly represent an extension of prehistoric and Roman activity recorded during an evaluation carried out to the southwest in 2019. Evidence of medieval and post-medieval activity was also uncovered.

2 Introduction (Fig 1)

This is the report for an archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex which was carried out from 11th to 15th January 2021. The work was commissioned by Peter Johnson of The Johnson Dennehy Planning Partnership on behalf of BlueSquare Homes of New Build Developments, in advance of the construction of fifty-six new dwellings and a new access road with associated landscaping, and was carried out by Colchester Archaeological Trust (CAT).

As the site lies within an area highlighted by the EHER/CHER as having a high potential for archaeological deposits, an archaeological condition was recommended by the Colchester Borough Council Archaeological Advisor (CBCAA). This recommendation was for an archaeological evaluation by trial-trenching and was based on the guidance given in the *National Planning Policy Framework* (MHCLG 2019).

All archaeological work was carried out in accordance with a *Brief for a Trial Trenched Evaluation*, detailing the required archaeological work, written by Dr Richard Hoggett (CBCAA 2020), and a written scheme of investigation (WSI) prepared by CAT in response to the brief and agreed with ECCPS (CAT 2020).

In addition to the brief and WSI, all fieldwork and reporting was done in accordance with English Heritage's *Management of Research Projects in the Historic Environment* (*MoRPHE*) (English Heritage 2006), and with *Standards for field archaeology in the East of England* (EAA **14** and **24**). This report mirrors standards and practices contained in the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (CIfA 2014a) and *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b).

3 Archaeological background

The following archaeological background draws on the Colchester Archaeological Trust report archive and the Colchester Historic Environment Record (CHER, ECC/MCC numbers) accessed via the Colchester Heritage Explorer (www.colchesterheritage.co.uk).

The site is located within an area of fields containing cropmark complexes recorded through aerial photography. The majority of these cropmarks indicate the presence of linear features which are likely historic agricultural boundaries. Several such cropmarks lie within fields immediately to the east of the site, at West Barn Farm (MCC5595). Further cropmarks, including a possible ring-ditch, are situated immediately to the north of West Barn Farm (MCC8721). Cropmarks thought to indicate the presence of trackways and linear features are located to the north of the site, at Barrow Hill, along with substantial geological deposits which may be masking evidence of further archaeology (MCC4746). Other cropmarks to the north of the site appear to evidence the presence of a building of unknown date (MCC8930).

The site is located approximately 975m south of Mersea Barrow (MCC6928, Scheduled Ancient Monument No: SM 32425; NHLE no. 1019019). The barrow was excavated in

1912 (Warren 1913). Originally, the burial was dated to the late 1st century (Warren 1913, 138) but this was subsequently revised by Hull to AD 100-120 (VCHE 3, 160). More recently, it has been suggested that a mid-2nd century date for the barrow is more likely (Benfield & Black 2014, 67, 72).

In 2012-13, the cremated human remains recovered from the barrow were re-examined by Jacqueline McKinley of Wessex Archaeology (McKinley 2014). It was determined that the bone came from a male aged between 35 and 45. There was evidence of spinal lesions and excessive bony growths, indicating that he suffered from diffuse idiopathic skeletal hyperostosis (DISH). This is a disease of the joints that today is found mainly in men over 50. The presence of exotic items, including pine resin and frankincense, was also detected (Brettell et al 2013). These were probably added to the bone after cremation, and are suggestive of an elaborate funerary ritual.

CAT carried out watching briefs at Mersea Barrow in 2014 and 2016 during works to improve visitor access and amenities. No significant archaeological deposits were uncovered, although a small quantity of Roman roof tile fragments was recovered from the modern topsoil on the eastern side of the barrow (CAT Report 992).

There is an unconfirmed report that two Roman rings and fragments of a tessellated pavement were found fairly close to the Mersea Barrow, in nearby Bower Hall Lane (J Read to D Clarke, 28th August 1980; Howlett 2012, 66, 76).

A programme of fieldwalking, metal-detecting and geophysical survey, along with a trail-trenched evaluation, was carried out on farmland 480m northwest of the site in 2019, in advance of the construction a residential development (CAT Report 1499). The trial-trenching revealed five post-medieval/modern field boundary ditches and six drainage gullies, along with a medieval/post-medieval pit, a possible Roman pit, a possible prehistoric ditch and fifteen undated features (seven tree-throws, four pits, two gullies and two ditches).

Fieldwalking, metal-detecting, geophysical survey and trial-trenching investigations were also carried out at Brierley Paddocks, 330m southwest of the site, in 2019 and 2020 (ECC4325, Archaeological Solutions Ltd 2020). The evaluation uncovered 127 archaeological features, including ditches, pits and hollows. Many of the features contained dating evidence, with the prehistoric, Roman, and post-medieval periods all being represented. Several trampled/metalled surfaces were uncovered during the evaluation, as well as a Roman kiln/oven.

A geophysical survey of the site was carried out prior to the evaluation in advance of the evaluation. Strong modern interference was identified close to the residential properties which border the northern part of the site. Natural variations within the local superficial deposits, possible agricultural cultivation and field drains were interpreted from the survey data and possible historic cultivation and the possible backfill of a former pond or extraction pit were also identified. No anomalies indicative of possible archaeology have been identified, however (Magnitude Surveys 2020).

4 Aim

The aims of the archaeological evaluation were to record the extent of any surviving archaeological deposits and to assess the archaeological potential of the site to allow the CBCAA to determine if further investigation is required.

5 Results (Figs 2-8)

Eleven trial-trenches, 30m long by 1.8m wide, were machine-excavated under the supervision of a CAT archaeologist. They were cut through modern topsoil (L1, 0.28-0.64m thick) and subsoil (L2, *c* 0.09-0.41m thick) onto natural (L3, encountered at a depth

of 0.58-1m below current ground level). A sondage was excavated in trench T10 to confirm the identification of L3 as natural.

There were no archaeological features in trenches T4, T7, T8 or T11.

Trench 1 (T1): 30m long by 1.8m wide
Ditch F2, which was of 11th- to early 13th-century date, passed through the southern end of the trench on a NE-SW alignment. It was 0.96m wide and 0.2m deep.

Pit F1 lay within the centre of the trench. The feature extended beyond the limit of excavation (LOE) and so its full dimensions could not be ascertained but its exposed extent was 7.9m across. Detritus on the surface of the feature identified it as modern and so it was not excavated.

Photograph 1 T1 trench shot – looking north

Trench 2 (T2): 30m long by 1.8m wide
Ditch F4 extended through the trench on a NNW-SSE alignment and was 2.08m wide and 0.3m deep. A fragment of plastic was found within the fill of the feature, indicating that it was modern.

Trench 3 (T3): 30m long by 1.8m wide
Pit F10 lay within the centre of the trench. The feature extended beyond the LOE but its exposed extent was 5.5m across and it was excavated to a depth of 0.66m whereupon excavation ceased due to waterlogging. It cut two ditches or gullies, F9 and F12, which were 0.8m wide and 0.27m deep and 0.48m wide and 0.16m deep, respectively, and ran parallel to one another on a NNW-SSE alignment. F10 produced a pottery sherd of possible Bronze Age date, along with three worked flints possibly dating to the Mesolithic or Neolithic periods. However, a fragment of Roman CBM was recovered from F9, indicating that the prehistoric material in F10 was residual.

An undatable pit, F11, lay just adjacent to F9. The feature extended beyond the LOE but its exposed extent was 1.22m wide and 0.26m deep.

A further pit, F3, was situated at the southern end of the trench. It extended beyond the LOE but its exposed width was 2.5m. The pit was excavated to a depth of 1.12m whereupon excavations ceased due to waterlogging and the need to remain within safe working depths. Pottery of possible Bronze Age date was recovered from the feature.

Photograph 2 T3 trench shot – looking south

Trench 5 (T5): 30m long by 1.8m wide
Medieval or post-medieval (mid 13th to early 16th century) pit/ditch terminus F5 was uncovered. Its exposed dimensions were 1.32m wide and 0.34m deep.

Trench 6 (T6): 30m long by 1.8m wide
Ditch F6, which was of 11th- to early 13th-century date, passed through the trench on a NE-SW alignment and was 1.08m wide and 0.28m deep.

Trench 9 (T9): 30m long by 1.8m wide
Undatable pit F8 was excavated. The feature extended beyond the LOE but its exposed extent was 1.38m wide and 0.33m deep.

Trench 10 (T10): 30m long by 1.8m wide
Natural feature F7 was excavated.

6 Finds

6.1 Pottery and ceramic building material

by Dr Matthew Loughton

The evaluation uncovered 44 sherds of pottery and ceramic building material (henceforth CBM) with a weight of just over 1.5 kg and 0.70 vessels according to the rim EVE (Table 1). The mean sherd weight is 35g.

Ceramic material	no.	Weight (g)	MSW (g)	Rim EVE
Pottery	13	721	56	0.70
CBM	31	833	27	-
All	**44**	**1,554**	**35**	**0.70**

Table 1 Details on the main types of ceramics and pottery

This material was recovered from seven features and one layer although most came from pits F3 and F10 (Table 2).

Cxt	Description	no.	Weight (g)	MSW (g)
F1	Pit	2	637	319
F2	Ditch	1	7	7
F3	Pit	18	458	25
F5	Pit/ditch terminus	1	16	16
F6	Ditch	8	24	3
F9	Ditch/gully	1	219	219
F10	Pit	12	182	15
L1	Top soil	1	11	11
	Total	44	1,554	35

Table 2 Quantities of pottery and CBM by features and layers

Prehistoric pottery
Two sherds (29g) of oxidised handmade flint-tempered pottery (HMF) were recovered from pit F3 and pit F10. These sherds are probably of Bronze Age date.

Post-Roman pottery
Post-Roman pottery was recorded according to the fabric groups from *CAR* **7** (2000) while the number of vessels was determined by rim EVE (estimated vessel equivalent) (Table 3).

There were only eleven sherds with a weight of 692g and 0.70 vessels (Table 4). Most of this material consists of early medieval sandy wares (Fabric F13) dating from the 11th to the early 13th century, which came from ditch F2 and ditch F6. Pit or ditch terminus F5 contained a possible Coarse Border Ware (Fabric F23F) small dish (EVE: 0.10) with a thumbed rim and traces of green glaze, dating to *c* 1250-early 16th century. Finally, pit F1 contained sherds of 19th-20th century Staffordshire-type white earthenware (Fabric F48D) and a nearly complete (EVE: 0.60) Modern English stoneware (Fabric F45M) jar.

Fabric code	Fabric description	Fabric date range guide
F13	Early Medieval sandy wares	11th-early 13th century
F20	Medieval sandy greywares	c.1150-1375/1400
F23F	Coarse Border Ware	c.1250-early 16th century
F45M	Modern English stoneware	19th-20th century
F48D	Staffordshire-type white earthenware	19th-20th century

Table 3 Post-Roman pottery fabrics recorded.

Fabric Group	Fabric description	no.	weight (g)	MSW (g)	EVE
F13	Early Medieval sandy wares	7	28	4	0.00
F20	Medieval sandy greywares	1	11	11	0.00
F23F	Coarse Border Ware	1	16	16	0.10
F45M	Modern English stoneware	1	622	622	0.60
F48D	Staffordshire-type white earthenware	1	15	15	0.00
	Total	**11**	**692**	**63**	**0.70**

Table 4 Details on the post-Roman pottery

Ceramic building material (CBM)
Most of the ceramic building material (CBM) consists of baked clay and/or daub which was recovered from the pit F3 (no. 17/436g), ditch F6 (no. 2/3g) and pit F10 (no. 11/175g). Finally, there was one fragment of Roman brick (219g) which came from the ditch/gully F9.

Conclusion
Table 5 summarizes the dating evidence for the features and layers which produced dateable ceramic finds. One feature (pit F3) is prehistoric (Bronze Age?). One definitively Roman feature, ditch/gully F9, was uncovered. F10 produced prehistoric artefacts but cut F9 and so must also be Roman at earliest. Ditch F2, pit/ditch terminus F5 and ditch F6 are medieval. Finally, the pit F1 is modern.

Cxt	Feature type	Prehistoric	Post Roman	CBM	Overall date Approx.
F1	Pit	-	F45M F48D	-	19th-20th century
F2	Ditch	-	F13	-	11th-early 13th century
F3	Pit	HMF	-	-	?Bronze Age
F5	Pit/ditch terminus	-	F23F	-	*c* 1250-early 16th century
F6	Ditch	-	F13	-	11th-early 13th century
F9	Ditch/ gully	-	-	RB	Roman
F10	Pit	HMF	-	-	Roman at earliest
L1	Top soil	-	F20		Modern

Table 5 Approximate dates for the individual features and layers

6.2 Flints
by Adam Wightman

Three prehistoric worked flints were recovered from a large, sub-circular pit (F10). Pit F10 cut ditch/gully F9, which contained Roman CBM. Therefore, the three prehistoric worked flints are considered to be residual in this context.

The worked flint assemblage (finds no. 9) consists of two small flakes or blades and a large, thick, broken flake. The smallest piece is only 27mm long and could be a small flake or an early removal in the blade production process (*c* 65% of the distal surface retains cortex). The flint is mid-brown in colour and was either procured from the local river gravels or imported into the region. The other small (32mm long) flake or blade has been exposed to heat. The external surface at the proximal end has turned white and begun to crack on both the dorsal and ventral faces and at the distal end of the piece has reddened all the way through the flint. The fill of the pit from which it was recovered contained charcoal and it is probable that both the charcoal and the burnt flint were swept up from a fire before being deposited in the pit. The large flake is made from a dark black local flint and has the scars of many previous removals on its distal face (less than 5% cortex remains). The piece is broken along the left lateral edge and only part of the platform remains. The surviving lateral edge is convex and still sharp, with some evidence of use-wear or edge-damage. It is possible that the piece was a formal tool which has been broken. None of the pieces are typologically diagnostic, but the presence of possible blades and a well-made flake suggests that as an assemblage they are most likely to date from the Mesolithic or Neolithic periods.

6.3 Other finds
by Laura Pooley

Three complete 19th- to 20th-century glass bottles came from F1, with fragments of metal-working debris from F9 and F10.

Cxt	Feature type	Finds no.	Finds
F1	Pit	1	a) Complete colourless glass bottle, cylindrical with long neck waisted at shoulder with cork *in situ*, brown-staining internally, 143mm high, 65mm diameter, 439.2g. b) Complete colourless glass fish paste bottle, moulded with ribbing on

			body and two plain oval panels for the adhesive labels, 90mm high, 46mm diameter, 140.1g. c) Complete clear glass bottle, cylindrical, 96mm high, 26mm diameter, 50.2g.
F9	Ditch/gully	8	Two small fragments of metal-working debris, 9.9g.
F10	Pit	9	Three fragments of metal-working debris, 50.6g.

Table 6 Other finds by context

7 Environmental assessment

Environmental samples were taken from features F3 (40L), F6 (40L), F10 (40L). They were all 100% processed by Colchester Archaeological Trust using a Siraf-type flotation device with the flot collected in a 300-micron mesh sieve. None of the samples produced environmental remains suitable for analysis.

8 Discussion

Excavations at this site revealed only limited remains. Twelve features were uncovered: five pits, three ditches, two ditches/gullies, a pit/ditch terminus, and a natural feature. These remains were clustered within the northern section of the site, particularly in trench T3, in its northeastern corner.

The earliest evidence of human activity found at the site were three worked flints of possible Mesolithic or Neolithic date which were residually present in Roman or post-Roman pit F10, which also produced a single sherd of possible Bronze Age pottery. A further sherd of pottery which possibly originated during the Bronze Age was recovered from pit F3. Additionally, a Roman ditch or gully was uncovered. All of these remains were located in trench T3, int eh northeastern corner of the site. An evaluation carried out in 2019 at Brierley Paddocks, approximately 125m southwest of the site, similarly uncovered several Bronze Age features as well as a considerable Roman remains which suggested that the site of a Roman villa may lie in the vicinity. The deposits excavated during the present investigation presumably represent an extension of this activity. Their sparsity, however, indicates that the focus of this activity lies to the west and southwest.

In contrast to the 2019 evaluation, however, excavations also revealed evidence of medieval activity at the site. Two ditches, F2 (T1) and F6 (T6), yielded pottery sherds dating from the 11th to the early 13th century, while pit/ditch terminus F5 (T5) produced sherds of mid 13th- to early 16th-century date. These remains indicate domestic occupation in the vicinity during this period but it is unclear whether they are representative of one phase of activity or two distinct periods.

A number of modern features were also excavated. Ordnance Survey mapping of the area compiled during the 19th century depicts the site as part of a field system, and these features were likely the product of agricultural activity.

Finally, while geophysical surveying detected a number of anomalies across the site, none of these were found to correspond to any archaeological features (see fig 3).

9 Acknowledgements

CAT thanks Peter Johnson (The Johnson Dennehy Planning Partnership) and BlueSquare Homes (New Build Developments) for commissioning and funding the work. The project was managed by C Lister, fieldwork was carried out by N Rayner with N Pryke and M Perou. Figures are by C Lister, E Holloway and S Carter. The project was monitored for Colchester Borough Council by Dr Richard Hoggett.

10 References

Note: all CAT reports, except for DBAs, are available online in PDF format at http://cat.essex.ac.uk

Archaeological Solutions Ltd	2020	*Brierley Paddocks, West Mersea, Essex: An Archaeological Evaluation*
Benfield, S & Black, E	2013	'The West Mersea Roman Barrow (Mersea Mount)', *Essex Archaeology and History* **4**, 59-73
Brettell, R C, Stern, B & Heron, C P	2013	'Mersea Island Barrow: molecular evidence for frankincense', *Essex Archaeology and History* **4**, 81-7
Brown, D	2011 (2nd ed.)	*Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation*
CAR **7**	2000	*Colchester Archaeological Report* **7***: Post-Roman pottery from excavations in Colchester, 1971-85*, by J Cotter
CAT	2019	*Health & Safety Policy*
CAT	2021	*Written Scheme of Investigation (WSI) for an archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex, CO5 8SA*
CAT Report 1499	2019	*Archaeological fieldwalking, metal-detecting and geophysical surveys plus a trial-trenching evaluation on land to the west of Dawes Lane, West Mersea, Essex, CO5 8GJ: October-November 2019*, by L Pooley
CAT Report 992	2016	*Archaeological watching briefs at Mersea Barrow, Barrow Hill Farm, East Mersea Road, West Mersea, Essex, CO5 8SL July & September 2014 & July 2016*, by D Shimmin
CBCAA	2020	*Brief for Archaeological Evaluation at Land at 102 East Road, West Mersea, Colchester, CO5 8SA*, by R Hoggett
CIfA	2014a	*Standard and Guidance for archaeological evaluation*
CIfA	2014b	*Standard and guidance for the collection, documentation, conservation and research of archaeological materials*
Gurney, D	2003	*Standards for field archaeology in the East of England.* East Anglian Archaeology Occasional Papers 14 (EAA **14**)
Historic England (HE)	2015	*Management of Research Projects in the Historic Environment (MoRPHE)*
Howlett, S	2012	*The Secrets of the Mound: Mersea Barrow, 1912-2012*
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McKinley, J I	2013	'Mersea Island Barrow: the cremated bone and aspects of the mortuary rite', *Essex Archaeology and History* **4**, 74-80
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MHCLG	2019	*National Planning Policy Framework.* Ministry of Housing, Communities and Local Government.
VCHE **3**	1963	*A history of the County of Essex* **3***: Roman Essex*, ed. WR Powell, *The Victoria History of the Counties of England*
Warren, S H	1913	'The Opening of the Romano-British Barrow on Mersea Island, Essex', *Transactions of the Essex Archaeological Society* **13**, 116-40

11 Abbreviations and glossary

Bronze Age	period from *c* 2500 – 700 BC
CAT	Colchester Archaeological Trust
CBC	Colchester Borough Council
CBCAA	Colchester Borough Council Archaeological Advisor
CBM	ceramic building material, ie brick/tile
CHER	Colchester Historic Environment Record
CIfA	Chartered Institute for Archaeologists
context	specific location of finds on an archaeological site
EHER	Essex Historic Environment Record
feature (F)	an identifiable thing like a pit, a wall, a drain: can contain 'contexts'
layer (L)	distinct or distinguishable deposit (layer) of material
medieval	period from AD 1066 to *c* 1500
Mesolithic	period from *c* 10,000 – 4000BC

modern	period from *c* AD 1800 to the present
natural	geological deposit undisturbed by human activity
Neolithic	period from *c* 4000 – 2500 BC
NGR	National Grid Reference
OASIS	**O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S**, http://oasis.ac.uk/pages/wiki/Main
post-medieval	from *c* AD 1500 to *c* 1800
prehistoric	pre-Roman
residual	something out of its original context, eg a Roman coin in a modern pit
Roman	the period from AD 43 to *c* AD 410
section	(abbreviation sx or Sx) vertical slice through feature/s or layer/s
wsi	written scheme of investigation

12 Contents of archive

Finds: part of one box (pottery, flints)

Paper record

One A4 document wallet containing:
The report (CAT Report 1626)
CBC evaluation brief, CAT written scheme of investigation
Original site records (trench sheets, sections)
Site digital photographic thumbnails and log

Digital record

The report (CAT Report 1626)
CBC evaluation brief, CAT written scheme of investigation
Site digital photographs, photographic thumbnails and log
Graphic files
Survey data

13 Archive deposition

The paper and digital archive is currently held by the Colchester Archaeological Trust at Roman Circus House, Roman Circus Walk, Colchester, Essex CO2 7GZ, but will be permanently deposited with Colchester Museum under project ref. ECC4589.

Distribution list:
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BlueSquare Homes (New Build Developments)
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Date: 25.01.2021

Appendix 1 Context list

Context Number	Trench number	Finds Number	Feature / layer type	Description	Date
L1	All	3	Topsoil	Soft, wet dark yellow/grey/brown clayey-loam with charcoal, oyster shell and CBM flecks	Modern
L2	All	-	Subsoil	Soft, moist medium yellow/brown sandy-silty-clay with charcoal flecks	Undatable
L3	All	-	Natural	Soft, wet light/medium yellow/brown sandy-silty-clay	Post-glacial
F1	T1	1	Pit	Soft, moist dark yellow/grey/brown sandy-loam with charcoal, oyster shell and CBM flecks and 10% stones	Modern
F2	T1	2	Ditch	Soft, moist medium yellow/grey/brown silty-clay with 1% stones	11th to early 13th century
F3	T3	5, 6, <1>	Pit	Fill A: firm, moist dark grey/brown silty-clay with with daub flecks and occasional stones; Fill B: firm, moist medium/dark red/brown silty-clay with frequent daub and charcoal flecks; Fill C: firm, moist medium grey/brown silty-clay with occasional daub flecks	?Bronze Age
F4	T2	-	Ditch	Friable, moist dark grey/brown silt	Modern
F5	T5	4	Pit/ditch terminus	Friable, dry/moist dark grey/brown sandy-clayey-loam with 12% gravel	Mid 13th to early 16th century
F6	T6	7, <2>	Ditch	Firm, wet medium/dark grey/brown clay with charcoal and daub flecks	11th to early 13th century
F7	T10	-	Natural feature	Firm, wet light, yellow/grey/brown silty-clay with 1% stones	Post-glacial
F8	T9	-	Pit	Soft light grey/brown clayey-silt	Undatable
F9	T3	8	Ditch/gully	Firm, wet medium brown clay with CBM flecks	Roman
F10	T3	9, <3>	Pit	Firm, wet dark black clay with charcoal and daub flecks 25% gravel and 20% stones	Roman at earliest
F11	T3	-	Pit	Soft, moist medium yellow/grey/brown silty-clay with charcoal and daub flecks and 1% stones	Undatable
F12	T3	-	?Ditch	Firm, moist medium brown clay with 10% stones	Undatable

Appendix 2 Pottery list

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Rim	Handle	Base	Stamp	Burn	Fabric Grp	Typology	EVE	Diam.	Vessel H.	Comments	Date
F1	Pit	1	1	15	*15*	X						F48D						19TH-20TH CENTURY
F1	Pit	1	1	622	*622*		1	0	0	X		F45M	JAR	0.60	90	150	ILLEGIBLE STAMP	19TH-20TH CENTURY
F2	Ditch	2	1	7	*7*		0	0	1			F13						11TH-EARLY 13TH CENTURY
F3	Pit	5	1	22	*22*							HMF					BROWN, FREQ COARSE FLINT	BRONZE AGE
F5	Pit/ditch terminus	6	1	16	*16*		1	0	0			F23F	DISH	0.10	170		THUMBED RIM, TRACES GREEN GLAZE	c.1250-EARLY 16TH CENTURY
F6	Ditch	7	5	16	*3*							F13						11TH-EARLY 13TH CENTURY
F6	Ditch	7	1	5	*5*						X	F13						11TH-EARLY 13TH CENTURY
F10	Pit	9	1	7	*7*							HMF					BROWN, MOD FINE-MED FLINT	BRONZE AGE
L1	Topsoil	3	1	11	*11*							F20						c.1150-1375/1400

Appendix 3 CBM list

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Burnt	Date
F3	Pit	6	9	296	*33*		BAKED CLAY		?
F3	Pit	5	8	140	*18*		BAKED CLAY		
F6	Ditch	7	2	3	*2*		BAKED CLAY		?
F9	Ditch/gully	8	1	219	*219*	X	RB		ROMAN
F10	Pit	9	9	136	*15*		BAKED CLAY		?
F10	Pit	9	1	19	*19*		BAKED CLAY	X	?
F10	Pit	9	1	20	*20*		DAUB?		?

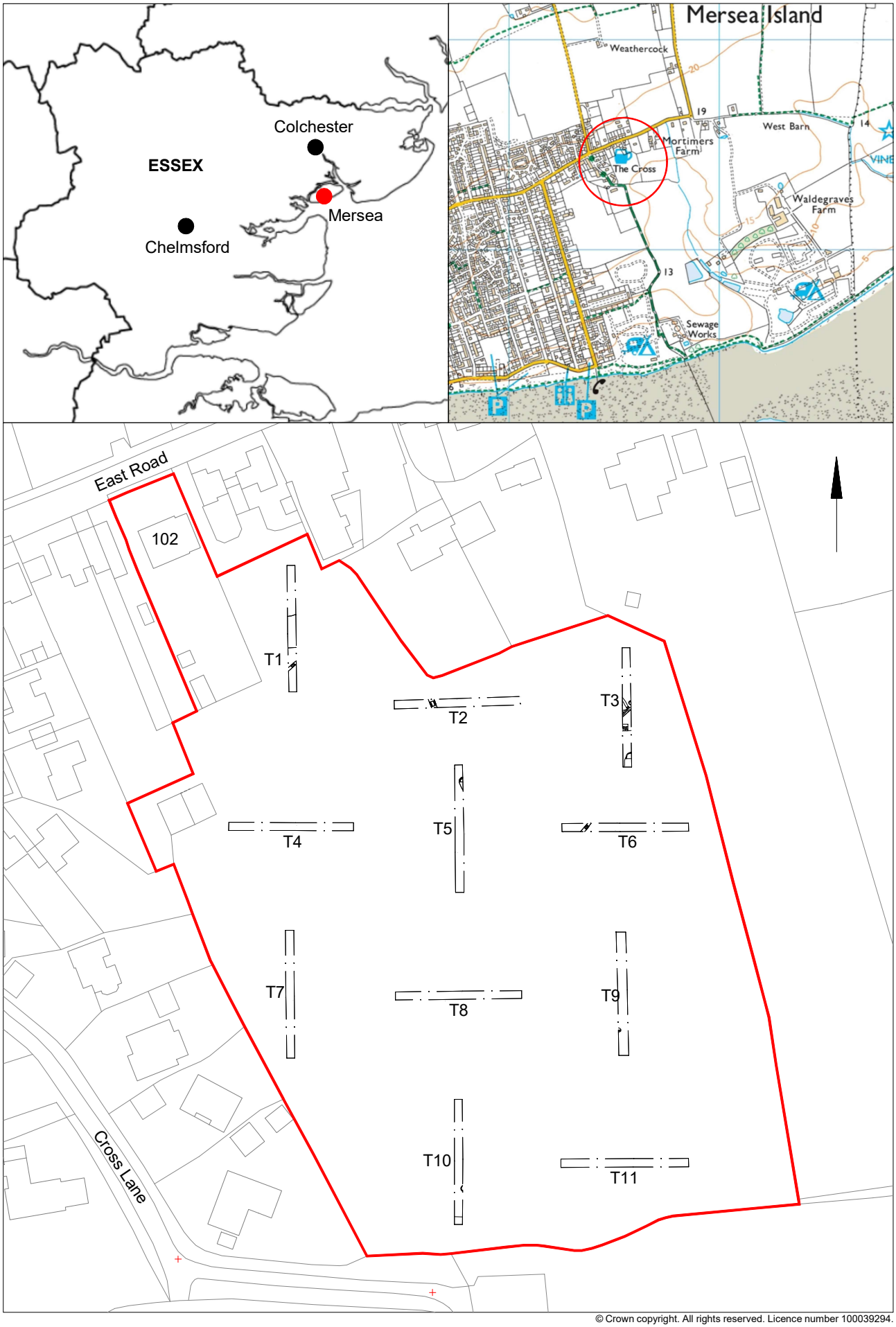

Fig 1 Site location.

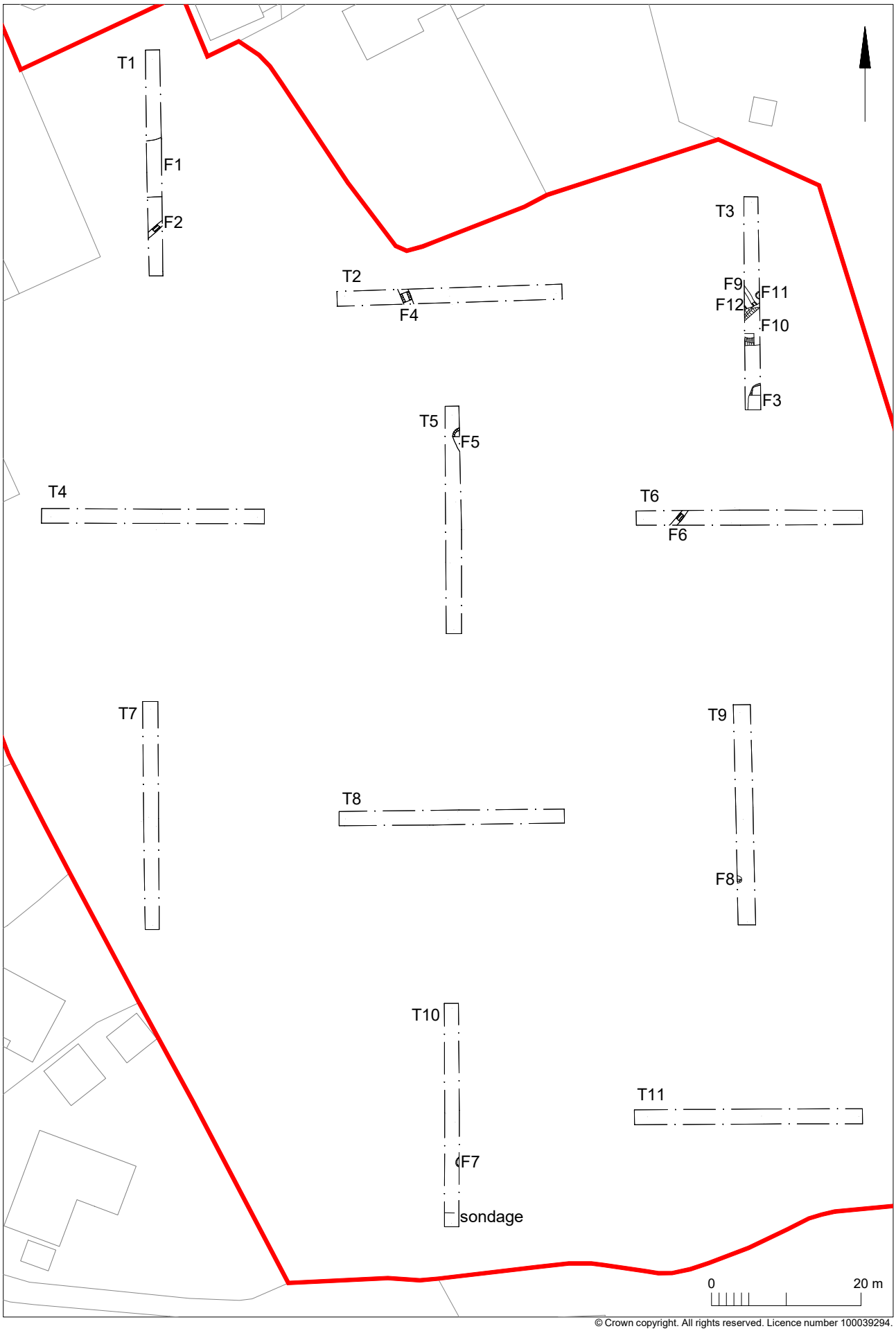

Fig 2 Results.

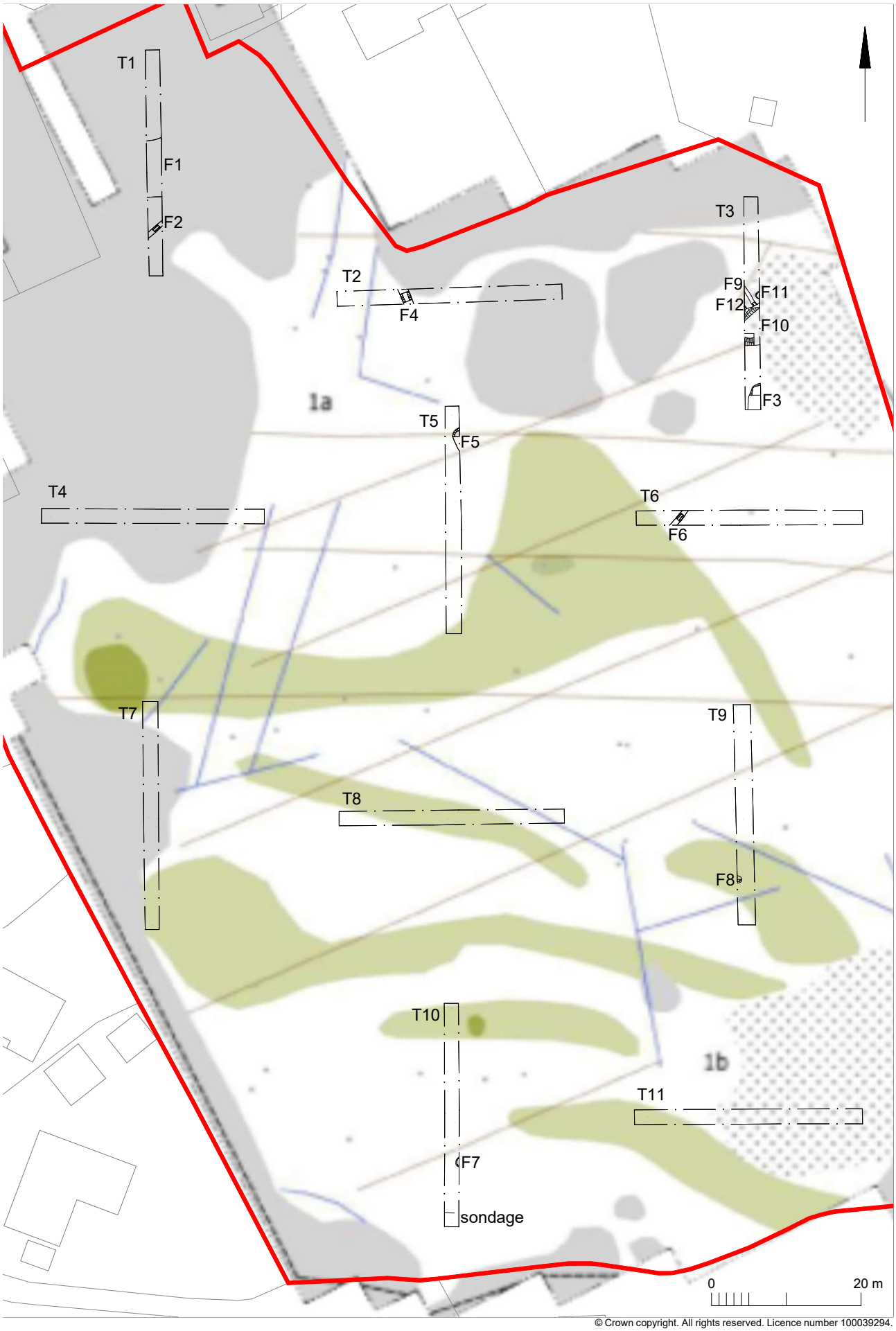

Fig 3 Results in relation to the geophysical survey (Magnitude Surveys 2020)

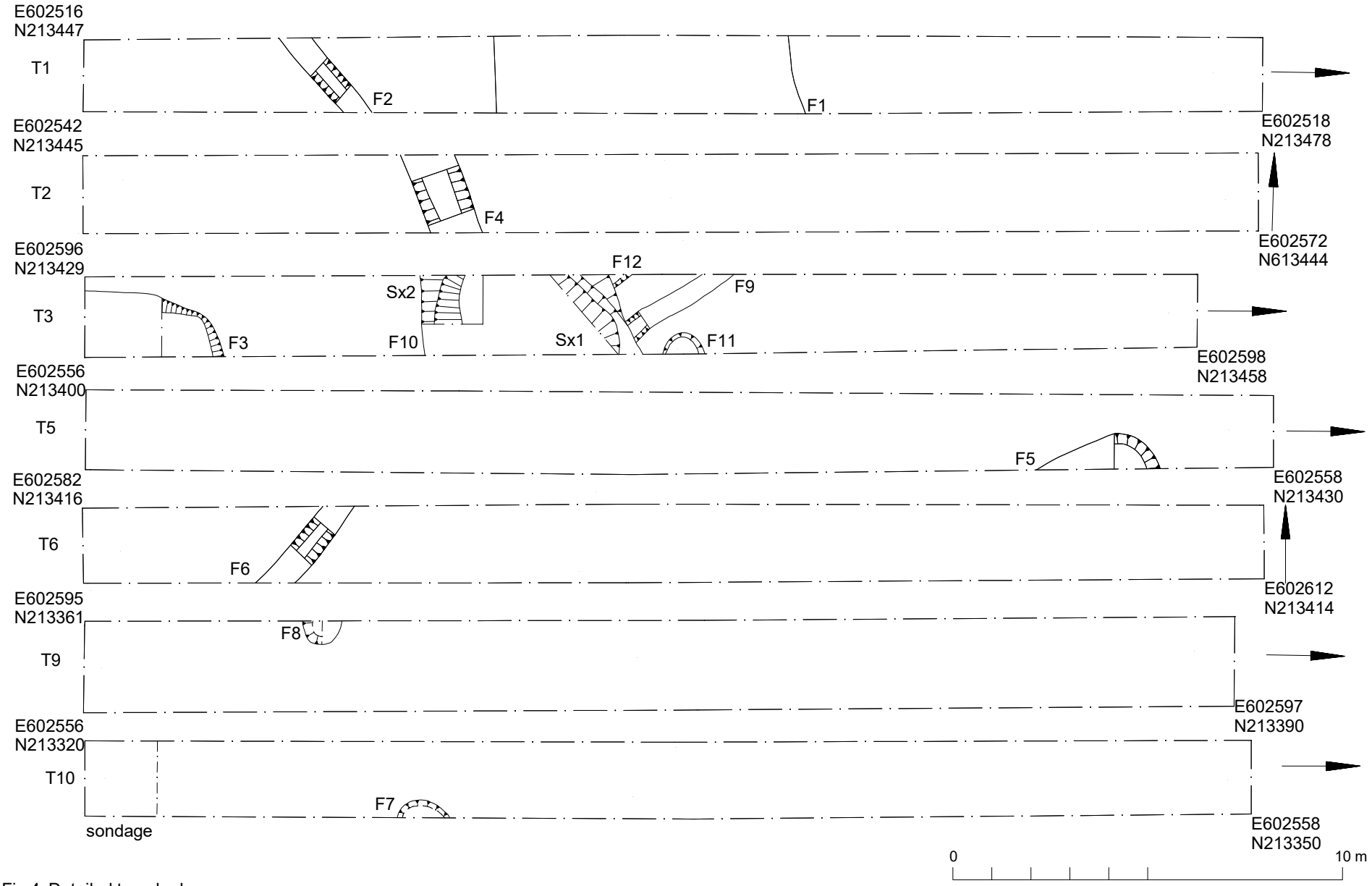

Fig 4 Detailed trench plans.

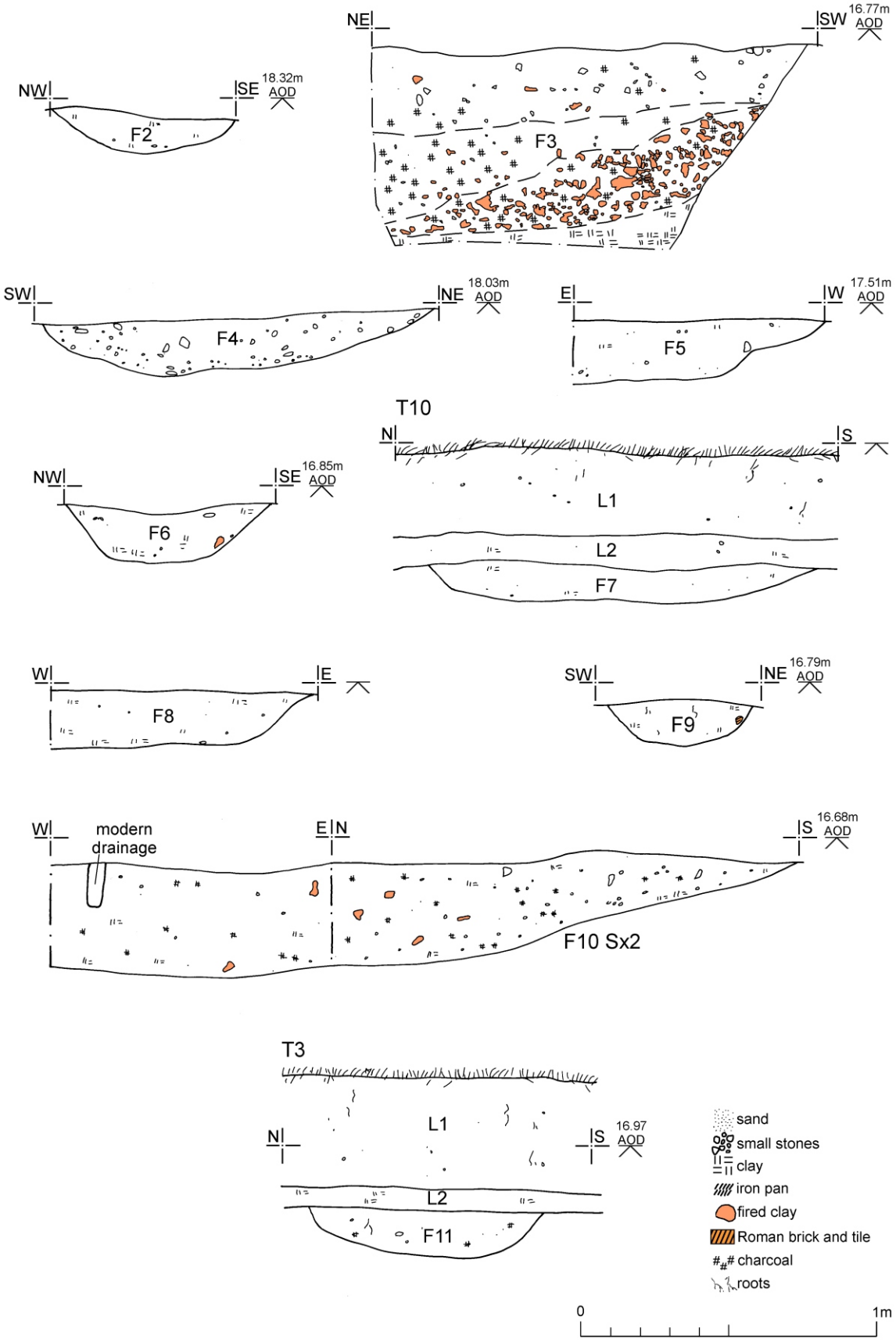

Fig 5 Feature and representative sections.

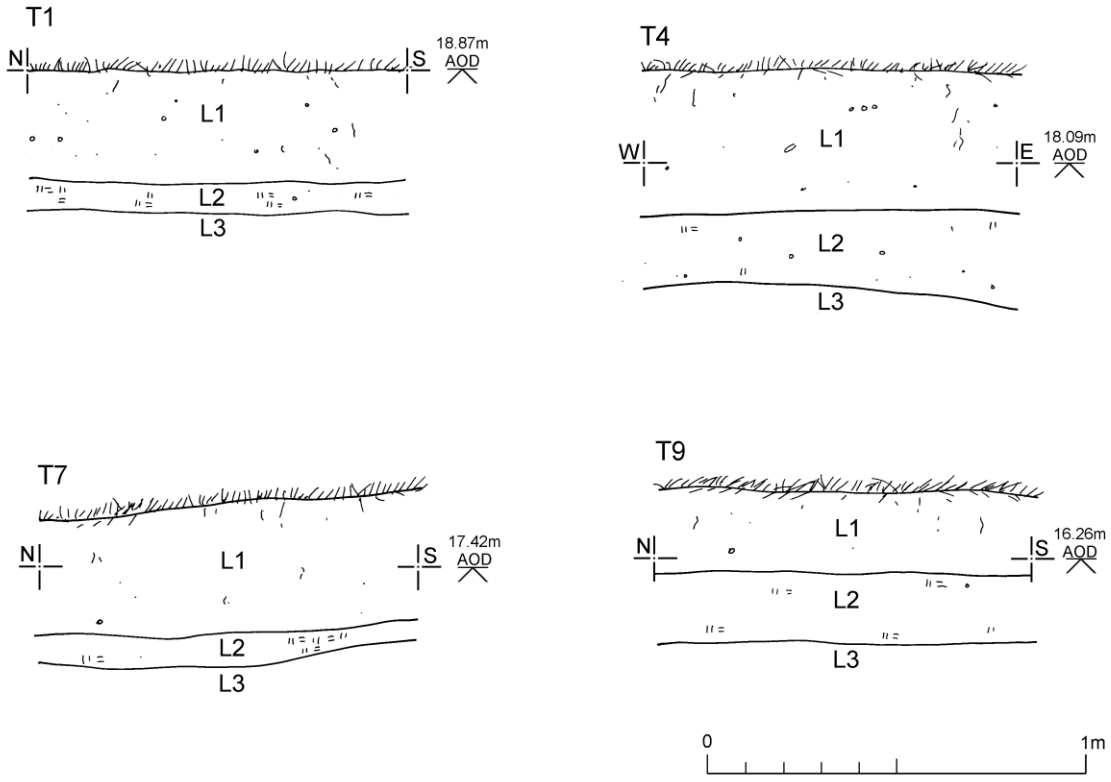

Fig 6 Representative sections.

Written Scheme of Investigation (WSI) for an archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex, CO5 8SA

NGR: TM 0253 1343 (centre)
District: Colchester

Planning references: 201467

Commissioned by: Peter Johnson
(The Johnson Dennehy Planning Partnership)
On behalf of: BlueSquare Homes (New Build Developments)

Curating museum: Colchester
CHER number: tbc

CAT project code: 2020/11g
OASIS project number: colchest3-411627

Site manager: Chris Lister
CBC monitor: Dr Richard Hoggett

This WSI written: 04/01/2021

COLCHESTER ARCHAEOLOGICAL TRUST,
Roman Circus House,
Roman Circus Walk,
Colchester,
Essex, CO2 7GZ

tel: 01206 501785
email: mb@catuk.org

Site location and description

The proposed development site lies at the eastern end of the town of West Mersea, immediately to the south of 102 East Road, CO5 8RS (Fig 1). The site is centred on National Grid Reference (NGR) TM 0253 1343.

Proposed work

The development comprises the construction of 56 dwellings, including landscaping, and the construction of access from East Road after the demolition of the existing dwelling.

Archaeological background

The following archaeological background draws on the Colchester Archaeological Trust report archive and the Colchester Historic Environment Record (CHER, ECC/MCC numbers) accessed via the Colchester Heritage Explorer (www.colchesterheritage.co.uk).

The site is located within an area of fields containing cropmarks recorded through aerial photography. The majority of these cropmarks have been interpreted as linear features which likely represent historic agricultural boundaries. Fields immediately to the east of the site, at West Barn Farm, contain multiple such cropmarks (MCC5595). Immediately to the north of West Barn Farm are further cropmarks, including a possible ring-ditch (MCC8721). To the north of the site at Barrow Hill, cropmarks interpreted as trackways and linear features are present, as well as a large amount of geological deposits which may be masking evidence of further archaeology (MCC4746). Other cropmarks to the north of the site appear to show evidence of a building of an unknown date (MCC8930).

The site is located approximately 986m to the south-east of Mersea Barrow (MCC6928, Scheduled Ancient Monument No: SM 32425; NHLE no. 1019019). The barrow was excavated in 1912 (Warren 1913). The excavation consisted of a trench dug from the eastern side of the barrow into its centre, where a large central shaft was excavated. A Roman cremation burial was located near the centre of the barrow. It lay within a chamber constructed of Roman roof tiles (*tegulae*) set in mortar. The chamber contained a lead casket, within which was a glass urn containing the cremated human remains. In 1912 the barrow survived to a size of approximately 33.5 m in diameter and 6.9 m high. No trace was discovered in 1912 of a ditch around the barrow. The 1912 excavation trench was subsequently roofed over and concreted to form a tunnel to allow visitors access to the burial chamber from the eastern side of the barrow.

The burial was dated in the original site report to the late 1st century (Warren 1913, 138). The date of the burial and barrow was subsequently reassessed by Hull to AD 100-120 (VCHE 3, 160). More recently, it has been suggested that a mid-2nd century date for the construction of the barrow is more likely (Benfield and Black 2014, 67 & 72).

The cremated human remains were re-examined in 2012-3 by Jacqueline McKinley of Wessex Archaeology (McKinley 2014). The bone came from a male aged between 35 and 45. There is evidence of spinal lesions and excessive bony growths, indicating that he suffered from diffuse idiopathic skeletal hyperostosis (DISH). This is a disease of the joints that today is found mainly in men over 50. The presence of exotic items, including pine resin and frankincense, was also detected (Brettell et al 2013). These were probably added to the bone after cremation, and suggest an elaborate funerary ritual.

CAT carried out watching briefs at Mersea Barrow in 2014 and 2016 during works to improve visitor access and amenities. No significant archaeological deposits were uncovered, although a small quantity of Roman roof tile fragments was recovered from the modern topsoil on the eastern side of the barrow (CAT Report 992).

There is an unconfirmed report that two Roman rings and fragments of a tessellated pavement were found fairly close to the Mersea Barrow in nearby Bower Hall Lane (unpublished letter to D.T-D Clarke dated 28.8.1980 from Mrs J W M Read; Howlett 2012, 66 & 76).

A programme of fieldwalking, metal-detecting and geophysical survey, along with a trail-trenched evaluation, was carried out on farmland 480m to the north-west of the site in 2019 in advance of a residential development (CAT Report 1499). The trial-trenching exposed five post-medieval/modern field boundary ditches and six drainage gullies, along with a medieval/post-medieval pit, a possible Roman pit, a possible prehistoric ditch and 15 undated features (seven tree-throws, four pits, two gullies and two ditches).

Another programme of fieldwalking, metal-detecting, geophysical survey and trial-trenching was carried out at Brierley Paddocks, 330m to the south-west of the site in 2019 and 2020 (ECC 4325, Archaeological Solutions Ltd 2020). The evaluation uncovered 127 archaeological features, including ditches, pits and hollows. Many of the features contained dating evidence, with the prehistoric, Roman, and post-medieval periods all being represented. Several trampled/metalled surfaces were uncovered during the evaluation, as well as a Roman kiln/oven.

Project background

A planning application was made to Colchester Borough Council in November 2020 (application No. 201467) for a *residential development of 56 dwellings including landscaping and access from East Road following demolition of existing dwelling*.

As the site lies within an area highlighted by the CHER as having a high potential for archaeological deposits, an archaeological condition was recommended by the Colchester Borough Council Archaeological Advisor (CBCAA). The recommended archaeological condition is based on the guidance given in the *National Planning Policy Framework* (MHCLG 2019).

Requirement for work (Fig 1)

The required archaeological work is for a geophysical survey followed by an archaeological trial-trenching evaluation. Details are given in a Project Brief written by CBCAA (CBC 2020).

The geophysical survey (Magnitude Surveys 2020; attached to this WSI) detected little of archaeological interest, and defined no clear archaeological features. As a result, the proposed trench plan for the evaluation (see below) is not targeted onto any specific geophysical anomalies, and is laid in a grid pattern across the site.

The brief requires the excavation of 11 linear trial-trenches measuring 30m in length and 1.8m in width, positioned across the site (Fig 1).

The evaluation is required to enable the archaeological resource, both in quality and extent, to be accurately quantified. It is also required to:

- Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation.
- Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.
- Establish the potential for the survival, condition and significance of environmental evidence.
- Establish an archaeological deposit model for below-ground archaeological remains across the site.
- Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

Further archaeological investigation could be required if unusual deposits or other archaeological finds of significance are recovered, this decision will be made by the CBCAA and will be the subject of an additional brief and WSI.

General methodology

All work carried out by CAT will be in accordance with:

- professional standards of the Chartered Institute for Archaeologists, including its *Code of Conduct* (CIfA 2014a, b)
- Standards and Frameworks published by East Anglian Archaeology (Gurney 2003, Medlycott 2011)
- relevant Health & Safety guidelines and requirements (CAT 2019)
- the Project Brief issued by the CBCAA (CBC 2020).

Professional CAT field archaeologists will undertake all specified archaeological work, for which they will be suitably experienced and qualified.

Notification of the supervisor/project manager's name and the start date for the project will be provided to CBCAA one week before start of work.

Unless it is the responsibility of other site contractors, CAT will study mains service locations and avoid damage to these.

At the start of work (immediately before fieldwork commences) an OASIS online record http://ads.ahds.ac.uk/project/oasis/ will be initiated and key fields completed on Details, Location and Creators forms. At the end of the project all parts of the OASIS online form will be completed for submission to CHER. This will include an uploaded .PDF version of the entire report.

A unique HER event number will be obtained from the CBCAA prior to the commencement of fieldwork. The curating museum will be notified of the details of the project and the event code, which will be used to identify the project archive when depositing at the end of the project.

Staffing

The number of field staff for this project is estimated as follows: One supervisor plus four archaeologists for four days.
In charge of day-to-day site work: Nigel Rayner

Evaluation methodology

Where appropriate, modern overburden and any topsoil stripping/levelling will be performed using a mechanical excavator equipped with a toothless ditching bucket under the supervision and to the satisfaction of a professional archaeologist. If no archaeologically significant deposits are exposed, machine excavation will continue until natural subsoil is reached.

Where necessary, areas will be cleaned by hand to ensure the visibility of archaeological deposits.

If archaeological features or deposits are uncovered time will be allowed for these to be excavated, planned and recorded.

All features or deposits will be excavated by hand. This includes a 50% sample of discrete features (pits, etc), 10% of linear features (ditches, etc) in 1m wide sections, and 100% of complex structures/features. Complex archaeological structures such as walls, kilns, ovens or burials will be carefully cleaned, planned and fully recorded, but where possible left *in situ*. Only if it can be demonstrated that the complex structure/feature is likely to be destroyed by groundworks will it be removed, or on the rare occasion where full excavation (or exhumation in the case of burials) is necessary to achieve the objectives of the evaluation.

Burials, if encountered, will be left *in situ* at this evaluation stage with an on site human bone specialist available to record as much information as possible (see human remains section below).

Fast hand-excavation techniques involving (for instance) picks, forks and mattocks will not be used on complex stratigraphy.

A sondage will be excavated in each trench to test the stratigraphy of the site. This will occur in every trench unless it can be demonstrated that a feature excavated within a particular trench has clearly penetrated into natural.

A representative section will be drawn of each trench, to include ground level, the depth of machining within the trench and the depth of any sondages.

A metal detector will be used to examine the trench, contexts and spoil heaps, and the finds recovered.

Individual records of excavated contexts, layers, features or deposits will be entered on proforma record sheets. Registers will be compiled of finds, small finds and soil samples.

Site surveying

The evaluation trench and any features will be surveyed by Total Station or GPS, unless the particulars of the features indicate that manual planning techniques should be employed. Normal scale for archaeological site plans and sections is 1:20 and 1:10 respectively, unless circumstances indicate that other scales would be more appropriate.

The site grid will be tied into the National Grid. Corners of evaluation trenches will be located by NGR coordinates.

Environmental sampling policy

The number and range of samples collected will be adequate to determine the potential of the site, with particular focus on palaeoenvironmental remains including both biological remains (e.g. plants, small vertebrates) and small sized artefacts (e.g. smithing debris), and to provide information for sampling strategies on any future excavation. Samples will be collected for potential micromorphical and other pedological sedimentological analysis. Environmental bulk samples will be 40 litres in size (assuming context is large enough).

Sampling strategies will address questions of:

- the range of preservation types (charred, mineral-replaced, waterlogged), and their quality
- concentrations of macro-remains
- and differences in remains from undated and dated features
- variation between different feature types and areas of site

CAT has an arrangement with Val Fryer / Lisa Gray whereby any potentially rich environmental layers or features will be appropriately sampled as a matter of course. Trained CAT staff will process the samples and the flots will be sent to Val Fryer or Lisa Gray for analysis and reporting.

Should any complex, or otherwise outstanding deposits be encountered, VF or LG will be asked onto site to advise. Waterlogged ‘organic’ features will always be sampled. In all cases, the advice of VF/LG and/or the Historic England Regional Advisor in Archaeological Science (East of England) on sampling strategies for complex or waterlogged deposits will be followed, including the taking of monolith samples.

A contingency will be made in the budget for scientific assessment/analysis if suitable deposits are identified. This can include soil micromorphological and geochemical analysis of floors and dark earth deposits and/or absolute dating (such as archaeomagnetic and radiocarbon). The Historic England Regional Science Advisor will be consulted for advice.

Human remains

CBCAA will be notified immediately if any human remains are encountered during the evaluation.

Burials, if encountered, will be left *in situ* at this evaluation stage. Following HE guidance (HE 2018) if the human remains are not to be lifted, the project osteologist will be available to record the human remains *in situ* (i.e. a site visit).

If circumstances indicated it were prudent or necessary to remove remains from the site, the following criteria would be applied; if it is clear from their position, context, depth, or other factors that the remains are ancient, then normal procedure is to apply to the Department of Justice for a licence to remove them. Conditions laid down by the DoJ license will be followed. If it seems that the remains are not ancient, then the coroner, the client, and the CBCAA will be informed, and any advice and/or instruction from the coroner will be followed.

Human remains removed from site for analysis may be sent for radiocarbon dating.

Photographic record

Will include both general and feature-specific photographs, the latter with scale and north arrow. A photo register giving context number, details, and direction of shot will be prepared on site, and included in site archive. Digital site photographs will be taken and archived as per Historic England guidelines (HE 2015a).

Finds

All significant finds will be retained.

All finds, where appropriate, will be washed and marked with site code and context number. CAT may use local volunteers to assist the CAT Finds Officer with this task.

Most of our finds reports are written internally by CAT Staff under the supervision and direction of Philip Crummy (Director) and Howard Brooks (Deputy Director). This includes specialist subjects such as:

ceramic finds (pottery and ceramic building material): Matthew Loughton
animal bones: Alec Wade (or Adam Wightman, small groups only)
small finds, metalwork, coins, etc: Laura Pooley
non-ceramic bulk finds: Laura Pooley
flints: Adam Wightman
environmental processing: Bronagh Quinn
project osteologist (human remains): Meghan Seehra

or to outside specialists:

animal and human bone: Julie Curl (*Sylvanus*)
environmental assessment and analysis: Val Fryer / Lisa Gray
radiocarbon dating: SUERC Radiocarbon Dating Laboratory, Glasgow
conservation/x-ray: Laura Ratcliffe (LR Conservation) / Norfolk Museums Service, Conservation and Design Services

Other specialists whose opinion can be sought on large or complex groups include:

flint: Hazel Martingell
prehistoric pottery: Stephen Benfield / Nigel Brown / Paul Sealey
Roman pottery: Stephen Benfield / Paul Sealey / Jo Mills / Val Rigby / Gwladys Monteil
Roman brick/tile: Ernest Black / Ian Betts (MOLA)

Roman glass: Hilary Cool
small finds: Nina Crummy
other: EH Regional Adviser in Archaeological Science (East of England).

All finds of potential treasure will be removed to a safe place, and the coroner informed immediately, in accordance with the rules of the Treasure Act 1996. The definition of treasure is given in pages 3-5 of the Code of Practice of the above act. This refers primarily to gold or silver objects.

Requirements for conservation and storage of finds will be agreed with the appropriate museum prior to the start of work, and confirmed to CBCAA.

A contingency will be made in the budget for scientific assessment/analysis if suitable deposits are identified. This can include soil micromorphological and geochemical analysis of floors and dark earth deposits and/or absolute dating (such as archaeomagnetic and radiocarbon).The Historic England Regional Science Advisor will be consulted for advice.

Results

Notification will be given to the CBCAA when the fieldwork has been completed

An appropriate archive will be prepared to minimum acceptable standards outlined in *Management of Research Projects in the Historic Environment* (HE 2015b).

The report will be submitted within three months of the end of fieldwork, with a copy supplied to the CBCAA as a PDF.

The report will contain:

- Location plan of the evaluation trenches. At least two corners of which will be given 10 figure grid references.
- Section/s drawings showing depth of deposits from present ground level with Ordnance Datum, vertical and horizontal scale.
- Archaeological methodology and detailed results including a suitable conclusion and discussion and results referring to Regional Research Frameworks (Medlycott 2011).
- All specialist reports or assessments.
- A concise non-technical summary of the project results.

An EHER summary sheet will also be completed within four weeks and supplied to the CBCAA.

Results will be published, to at least a summary level (i.e. round-up in *Essex Archaeology & History*) in the year following the archaeological field work. An allowance will be made in the project costs for the report to be published in an adequately peer reviewed journal or monograph series.

Archive deposition

It is a policy of Colchester Borough Council that the integrity of the site archive be maintained (i.e. all finds and records should be properly curated by a single organisation), with the archive available for public consultation. To achieve this desired aim it is assumed that the full archive will be deposited in Colchester Museums *unless otherwise agreed in advance*. (A full *copy* of the archive shall in any case be deposited).

By accepting this WSI, the client agrees to deposit the archive, including all artefacts, at Colchester & Ipswich Museum.

The requirements for archive storage will be agreed with the curating museum. If the finds are to remain with the landowner, a full copy of the archive will be housed with the curating museum.

The archive will be deposited with Colchester & Ipswich Museum or an alternate repository (approved by COLEM and the CBCAA) within 3 months of the completion of the final publication report, with a summary of the contents of the archive supplied to the CBCAA. Digital archives will be curated with the Archaeology Data Service, or similar accredited digital archive repository, that safeguard the long-term curation of digital records. Prior to deposition CAT's data management plan (based on the official guidelines from the Digital Curation Centre [DCC 2013]) will ensure the integrity of the digital archive.

The CBCAA will be notified of the archiving timetable throughout the project and once deposition has occurred.

A digital / vector drawing of the site be given to the CBCAA for integration into the HER.

Monitoring

The CBCAA will be responsible for monitoring progress and standards throughout the project, and will be kept regularly informed during fieldwork, post-excavation and publication stages.

Notification of the start of work will be given to the CBCAA one week in advance of its commencement.

Any variations in this WSI will be agreed with the CBCAA prior to them being carried out.

The CBCAA will be notified when the fieldwork is complete.

The involvement of the CBCAA shall be acknowledged in any report or publication generated by this project.

References

Note: CAT reports, except for DBAs, are available online in PDF format at http://cat.essex.ac.uk

Archaeological Solutions Ltd	2020	*Brierley Paddocks, West Mersea, Essex: An Archaeological Evaluation*
Benfield, S & Black, E	2013	'The West Mersea Roman Barrow (Mersea Mount)', in *Essex Archaeology and History* **4** (2013), 59-73
Brettell, R C, Stern, B & Heron, C P	2013	'Mersea Island Barrow: molecular evidence for frankincense', in *Essex Archaeology and History* **4** (2013), 81-7
Brown, D	2011	*Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation.* 2nd Edition
CAT	2019	*Health & Safety Policy*
CAT Report 1499	2019	*Archaeological fieldwalking, metal-detecting and geophysical surveys plus a trial-trenching evaluation on land to the west of Dawes Lane, West Mersea, Essex, CO5 8GJ: October-November 2019* By L Pooley
CAT Report 992	2016	*Archaeological watching briefs at Mersea Barrow, Barrow Hill Farm, East Mersea Road, West Mersea, Essex, CO5 8SL July & September 2014 & July 2016* by D Shimmin
CBCAA	2020	*Brief for Archaeological Evaluation at Land at 102 East Road, West Mersea, Colchester, CO5 8SA* By R Hoggett
CIfA	2014a	*Standard and Guidance for archaeological evaluation*
CIfA	2014b	*Standard and guidance for the collection, documentation, conservation and research of archaeological materials*
Digital Curation Centre (DCC)	2013	Checklist for Data Management Plan v. 4.0
Gurney, D	2003	*Standards for field archaeology in the East of England.* East Anglian Archaeology Occasional Papers 14 (EAA **14**).
Historic England (HE)	2015a	*Digital Image capture and File Storage: Guidelines for best practice.*

By S Cole & P Backhouse

Historic England (HE)	2015b	*Management of Research Projects in the Historic Environment (MoRPHE)*
Historic England (HE)	2018	*The Role of the Human Osteologist in an Archaeological Fieldwork Project*. By S Mays, M Brickley and J Sidell
Howlett, S	2012	*The Secrets of the Mound: Mersea Barrow, 1912-2012*
Magnitude Surveys	2020	*Geophysical Survey Report of Land at 102 East Road, West Mersea, Essex*
McKinley, J I	2013	'Mersea Island Barrow: the cremated bone and aspects of the mortuary rite', in *Essex Archaeology and History* **4**, 74-80
Medlycott, M	2011	*Research and archaeology revisited: A revised framework for the East of England*. East Anglian Archaeology Occasional Papers 24 (EAA **24)**
MHCLG	2019	*National Planning Policy Framework*. Ministry of Housing, Communities and Local Government.
VCHE **3**	1963	*A history of the County of Essex, 3: Roman Essex*, ed. WR Powell, *The Victoria History of the Counties of England*
Warren, S H	1913	'The Opening of the Romano-British Barrow on Mersea Island, Essex' in *Transactions of the Essex Archaeological Society* **13**, 116-40

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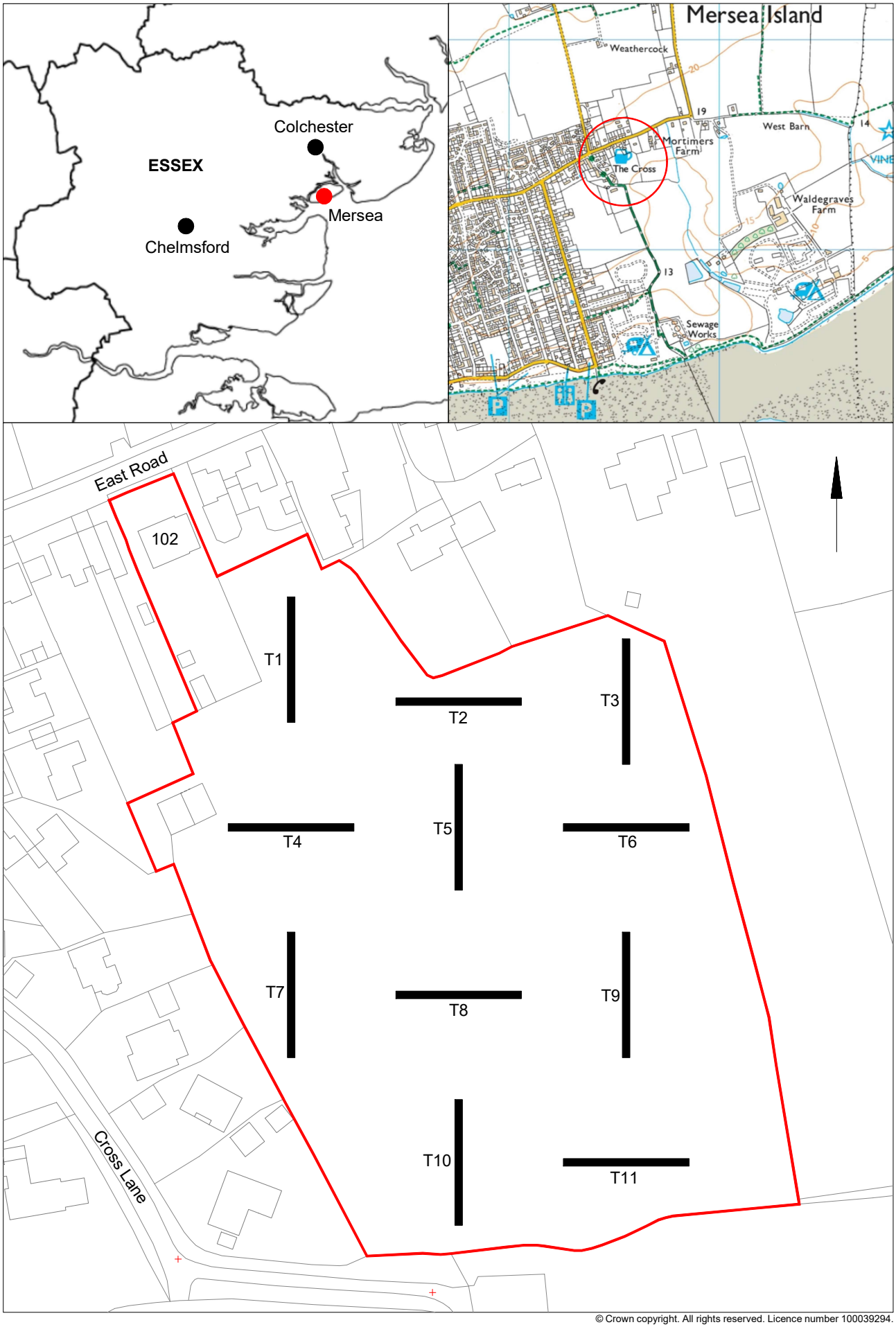

Fig 1 Site location, showing proposed trench locations.

magnitude surveys

Geophysical Survey Report

of

Land at 102 East Road,

West Mersea, Essex

For

Colchester Archaeological Trust

On Behalf Of

Blue Square Homes (New Build Developments)

Magnitude Surveys Ref: MSTM824

HER Event Number: ECC4579

December 2020

Unit 17, Commerce Court

Challenge Way

Bradford

BD4 8NW

01274 926020

info@magnitudesurveys.co.uk

Report By:

Robert Legg BSc(Hons) MSc

Report Approved By:

Dr Paul S. Johnson BA MA PhD

Issue Date:

23 December 2020

Abstract

Magnitude Surveys was commissioned to assess the subsurface potential of c. 1.76ha of land at 102 East Road, West Mersea, Essex. A fluxgate gradiometer survey was completed across the survey area. No anomalies indicative of possible archaeology have been identified within the survey data. Strong modern interference was identified close to residential properties in the north of the survey area, along the perimeter of the survey area, and to around metallic objects, such as goal posts, which were extant during the survey. Natural variations within the local superficial deposits, possible agricultural cultivation and field drains were interpreted from the survey data. Possible historic cultivation and the possible backfill of a former pond or extraction pit were also identified; however, there is little further supporting evidence for such interpretations.

Contents

List of Figures

1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by Colchester Archaeological Trust on behalf of Blue Square Homes (New Build Developments) to undertake a geophysical survey over a c. 1.76ha area of land at 102 East Road, West Mersea, Mersea Island, Essex (TM 02530 13430).

1.2. The geophysical survey comprised hand-pulled, cart-mounted GNSS-positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al*., 2008).

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al*., 2008), the Chartered Institute for Archaeologists (CIfA, 2014) and the European Archaeological Council (Schmidt *et al.,* 2015).

1.4. It was conducted in line with a WSI produced by MS (Swinbank 2020).

1.5. The survey commenced on 17/12/2020 and took one day to complete.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society of Archaeological Prospection).

2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and is the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Kayt Armstrong has a PhD in archaeological geophysics from Bournemouth University, is a Member of CIfA, the Editor of ISAP News, and is the UK Management Committee representative for the COST Action SAGA; Dr Paul Johnson has a PhD in archaeology from the University of Southampton, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.

2.3. All MS managers have degree qualifications relevant to archaeology or geophysics. All MS field and office staff have relevant archaeology or geophysics degrees and/or field experience.

2.4. Data collection for one traverse was repeated to demonstrate the consistency and reliability of the geophysical survey. Data for these traverses are presented below:

Traverse 79: Traverse 83:

3. Objectives

3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The survey area was located to the east of West Mersea, Mersea Island, Essex (Figure 1). Gradiometer survey was undertaken across one field of undifferentiated grassland. The survey area was bounded by residential properties along East Road to the north, Cross Lane to the west, arable fields to the south, and undifferentiated grassland to the east (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The area consisted of undifferentiated grassland, with short mown grass. The ground gently sloped downhill north-northwest to south-southeast	The area was bounded by fencing to the northwest and west, and hedges to northeast, east and south. Goal posts were located in the northwest of the survey area, and two metal animal feeders were located in the northern half of the survey area. A tree and bird house, which prevented a small section of survey were located towards the west and southwest of the survey area respectively.

4.3. The underlying geology comprises clay, silt and sand of the Thames Group. No superficial deposits have been recorded for most of the survey area, though sand and gravel have been recorded in the northeast corner and immediately to the west of the survey area (British Geological Survey, 2020).

4.4. The soils consist of slightly acid loamy and clayey soils, with impeded drainage in the southern half of the survey area, soils in the north of the survey area are unclassified (Soilscapes, 2020).

5. Archaeological Background

5.1. Awaiting background Information (Desk Based Assessment or other) from Client.

6. Methodology

6.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.2. Data Collection

6.2.1. Geophysical prospection comprised the magnetic method as described in the following table.

6.2.2. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
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6.4.1.This report presents the gradient of the sensors' total field data as greyscale images. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figure 6). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.

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7.2.2. Fluxgate magnetometer survey has been affected in the north of the survey area by modern interference, likely resulting from the proximity of residential properties (see Section 4.1 and Figure 3). Further interference in the form of magnetic disturbance is also identified along the perimeter of the survey area and around metallic features such as the goalposts and the animal feeders (see Section 4.2). Towards the centre of the survey area, away from the magnetic disturbance, anomalies of agricultural and natural origins have been identified (Figure 4).

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7.2.4. Anomalies interpreted as being of natural origin are present across the centre and south of the survey area (Figures 3 and 4). The anomalies could relate to possible sands and gravel deposits, though they could also reflect differential soil drainage across the survey area (see Section 4.3).

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7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

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7.3.1.3. **Ferrous/Debris (Spread)** – A ferrous/debris spread refers to a concentration of multiple discrete, dipolar anomalies usually resulting from highly magnetic material such as rubble containing ceramic building materials and ferrous rubbish.

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7.3.2.1. **Agricultural (Trend)** – Located across the centre and northeast of the survey area are weak slightly curving striations with separations typically of c. 5-10m [**1a**] (Figures 3 and 4). The slightly curving form of the anomalies is possibly consistent with a historical form of cultivation. However, given the ephemeral nature of these anomalies a confident interpretation such as ridge and furrow cannot be given, as drainage or a more recent origin cannot be ruled out.

7.3.2.2. **Drainage Features** – Located across the survey area are several linear anomalies, which appear to adjoin with each other and predominantly follow directions heading to field boundaries (Figures 3 and 4). The morphology of the anomalies are consistent with field drains and the occurrence of some anomalies with linear alignment of dipoles suggests the presence of ceramic land-drains.

7.3.2.3. **Debris** – Located towards the southeast of the survey area is a concentrated area of strong dipolar anomalies consistent with ferrous debris [**1b**] (Figures 3, 4 and 6). This type of concentration of debris material is often associated with the backfill of former extraction pits and ponds, though the possibility of made ground or deposition of waste material cannot be ruled out (Figure 7).

8. Conclusions

8.1. A fluxgate magnetometer survey was successfully completed across the commissioned survey area. Significant magnetic disturbance from modern interference has been identified in the north of the survey area close in proximity to residential properties and along the survey perimeter. Though this modern interference may have masked weaker anomalies in its immediate vicinity, it was still possible to identify anomalies reflecting natural variations, possible cultivation and the presence of field drains in other areas.

8.2. Some of the anomalies associated with cultivation have a slightly curved form, which could be indicative of historical cultivation practices. Debris in the southeast corner is suggestive of the infilling of a former pond or extraction pit, though this interpretation is speculative as neither have been identified on historical OS maps in this location.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

British Geological Survey, 2020. Geology of Britain. West Mersea, Essex. [http://mapapps.bgs.ac.uk/geologyofbritain/home.html/]. Accessed 11/12/2020.

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Swinbank, L., 2020. Written Scheme of Investigation for a Geophysical Survey of East Road, West Mersea. Magnitude Surveys: Ref. MSTM824

12. Project Metadata

MS Job Code	MSTM824
Project Name	Land at 102 East Road, West Mersea, Essex
Client	Colchester Archaeological Trust
Grid Reference	TM 02530 13430
Survey Techniques	Magnetometry
Survey Size (ha)	1.76ha (Magnetometry)
Survey Dates	2020-12-17 to 2020-12-17
Project Lead	Leanne Swinbank, BA ACIfA
HER Event No	ECC4579
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.2

13. Document History

Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	RL	LS	22 December 2020
0.2	Draft after Project Lead corrections. Sent for director approval.	RL	LS/ PSJ	23 December 2020

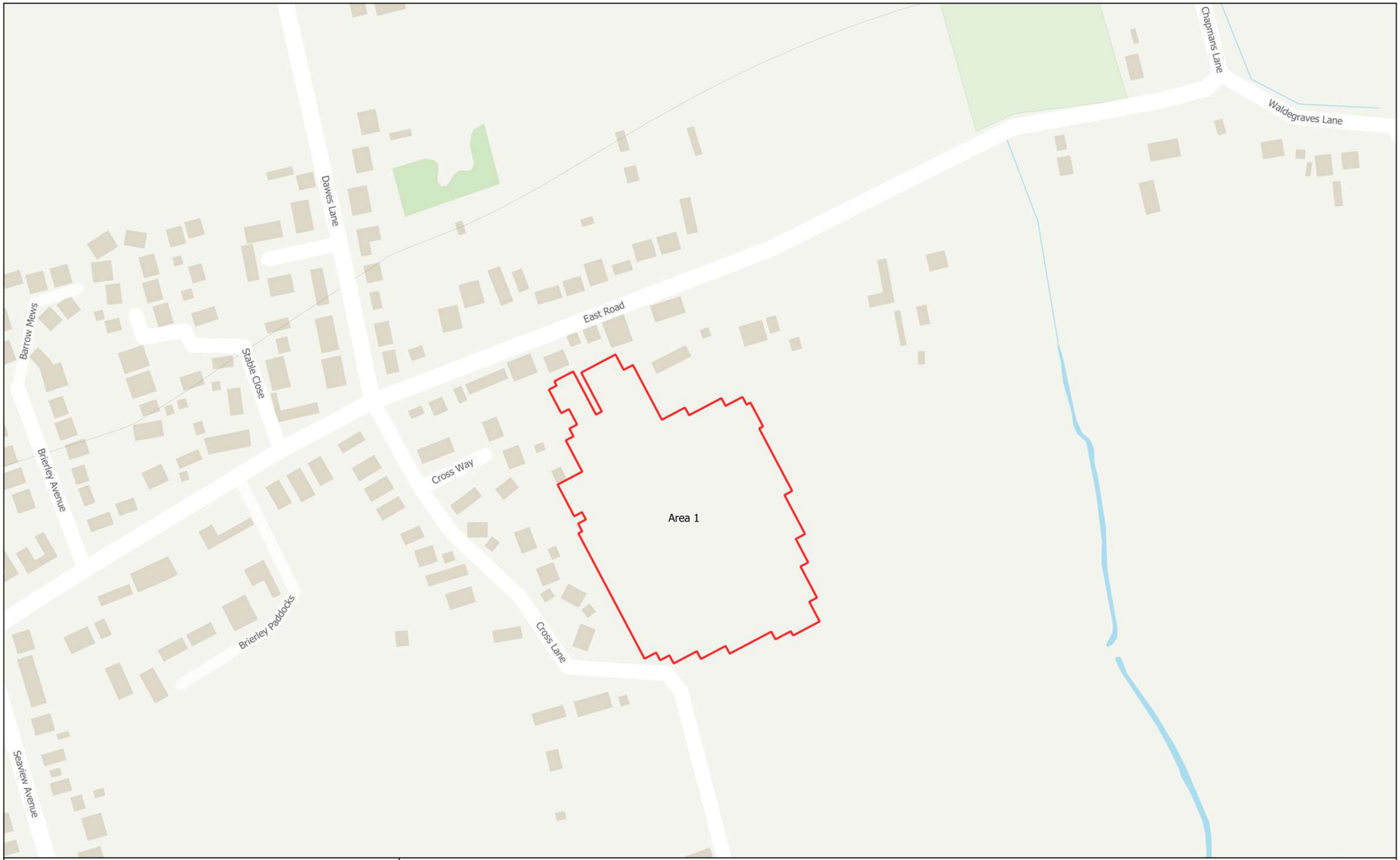
MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 1 - Site Location
1:25,000 @ A4

Site Boundary

N

0 0.5 1 km

magnitude surveys



MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 2 - Location of Survey Area
1:2,000 @ A3

Survey Extent

N

0 50 100 150 m

magnitude surveys

602400

602600

213500

213500

213400

213400

Area 1

213300

213300

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 3 - Magnetic Gradient
1:1,000 @ A3

Background mapping provided by the client

-1 nT 2

N

0 25 50 75 m

magnitude surveys

602400

602600

213500

213500

213400

213400

213300

213300

1a

1b

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 4 - Magnetic Interpretation
1:1,000 @ A3

Background mapping provided by the client

Natural (Strong)
Natural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Agricultural (Trend)
Drainage Feature
Service
Ferrous (Spike)

N

0 25 50 75 m

magnitude surveys

602200 602300 602400 602500 602600 602700 602800 602900

213600 213500 213400 213300 213200

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 5 - Magnetic Interpretation Over Historical Maps and Satellite Imagery
1:2,000 @ A3

Natural (Strong)
Natural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Agricultural (Trend)
Drainage Feature
Service
Ferrous (Spike)

N

0 50 100 150 m

magnitude surveys

602400

602600

213500

213500

213400

213400

Area 1

213300

213300

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 6 - XY Trace Plot
20nT/cm at 1:1,000 @ A3

Background mapping provided by the client

N

0 25 50 75 m

magnitude surveys

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: colchest3-411627

Project details

Project name	Archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex, CO5 8SA
Short description of the project	An archaeological evaluation (eleven trial-trenches) was carried out on land at 102 East Road, West Mersea, Colchester, Essex in advance of the construction of fifty-six new dwellings and a new access road with associated landscaping. The development site lies to the south of the Mersea Barrow, and near to numerous cropmarks, including a possible ring-ditch. Twelve features - five pits, four ditches, a ditch/gully, a pit/ditch terminus and a natural feature - were excavated. A Bronze Age pit and a Roman ditch or gully were revealed. These remains possibly represent an extension of prehistoric and Roman activity recorded during an evaluation carried out to the southwest in 2019. Evidence of medieval and post-medieval activity was also uncovered.
Project dates	Start: 11-01-2021 End: 15-01-2021
Previous/future work	No / Not known
Any associated project reference codes	201467 - Planning Application No.
Any associated project reference codes	ECC4589 - Sitecode
Any associated project reference codes	2020/11g - Contracting Unit No.
Type of project	Field evaluation
Site status	None
Current Land use	Vacant Land 2 - Vacant land not previously developed
Monument type	PIT Bronze Age
Monument type	DITCH Roman
Monument type	GULLY Roman
Monument type	DITCH Medieval
Monument type	PIT Medieval
Monument type	DITCH Post Medieval
Monument type	PIT Post Medieval
Monument type	PIT Modern
Monument type	PIT Uncertain
Monument type	DITCH Uncertain
Monument type	NATURAL FEATURE Uncertain

Significant Finds	POTTERY Bronze Age
Significant Finds	POTTERY Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	POTTERY Modern
Significant Finds	BAKED CLAY Uncertain
Significant Finds	DAUB Uncertain
Significant Finds	CBM Roman
Significant Finds	FLINT Mesolithic
Significant Finds	FLINT Neolithic
Significant Finds	GLASS Post Medieval
Significant Finds	GLASS Modern
Significant Finds	METAL-WORKING DEBRIS Uncertain
Methods & techniques	"'Geophysical Survey'","'Sample Trenches'"
Development type	Housing estate
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	After outline determination (eg. As a reserved matter)

Project location

Country	England
Site location	ESSEX COLCHESTER WEST MERSEA Land at 102 East Road
Postcode	CO5 8SA
Study area	1.9 Hectares
Site coordinates	TM 0253 1343 51.782279964437 0.936527655099 51 46 56 N 000 56 11 E Point
Height OD / Depth	Min: 16.04m Max: 18.28m

Project creators

Name of Organisation	Colchester Archaeological Trust
Project brief originator	CBC Archaeological Officer
Project design originator	Mark Baister
Project director/manager	Chris Lister
Project supervisor	Nigel Rayner
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Colchester Museum
Physical Archive ID	ECC4589
Physical Contents	"Worked stone/lithics","Ceramics"
Digital Archive recipient	Colchester Museum

Digital Archive ID	ECC4589
Digital Media available	"Images raster / digital photography","Survey","Text"
Paper Archive recipient	Colchester Museum
Paper Archive ID	ECC4589
Paper Media available	"Miscellaneous Material","Photograph","Report","Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Archaeological evaluation on land at 102 East Road, West Mersea, Colchester, Essex, CO5 8SA: January 2021
Author(s)/Editor(s)	Hicks, E.
Other bibliographic details	CAT Report 1626
Date	2021
Issuer or publisher	Colchester Archaeological Trust
Place of issue or publication	Colchester
Description	A4 loose-leaf brass-stapled
URL	http://cat.essex.ac.uk

Entered by	Dr Elliott Hicks (eh2@catuk.org)
Entered on	26 January 2021

OASIS:

magnitude surveys

Geophysical Survey Report

of

Land at 102 East Road,

West Mersea, Essex

For

Colchester Archaeological Trust

On Behalf Of

Blue Square Homes (New Build Developments)

Magnitude Surveys Ref: MSTM824

HER Event Number: ECC4579

December 2020

Unit 17, Commerce Court

Challenge Way

Bradford

BD4 8NW

01274 926020

info@magnitudesurveys.co.uk

Report By:

Robert Legg BSc(Hons) MSc

Report Approved By:

Dr Paul S. Johnson BA MA PhD

Issue Date:

23 December 2020

Abstract

Magnitude Surveys was commissioned to assess the subsurface potential of c. 1.76ha of land at 102 East Road, West Mersea, Essex. A fluxgate gradiometer survey was completed across the survey area. No anomalies indicative of possible archaeology have been identified within the survey data. Strong modern interference was identified close to residential properties in the north of the survey area, along the perimeter of the survey area, and to around metallic objects, such as goal posts, which were extant during the survey. Natural variations within the local superficial deposits, possible agricultural cultivation and field drains were interpreted from the survey data. Possible historic cultivation and the possible backfill of a former pond or extraction pit were also identified; however, there is little further supporting evidence for such interpretations.

Contents

List of Figures

1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by Colchester Archaeological Trust on behalf of Blue Square Homes (New Build Developments) to undertake a geophysical survey over a c. 1.76ha area of land at 102 East Road, West Mersea, Mersea Island, Essex (TM 02530 13430).

1.2. The geophysical survey comprised hand-pulled, cart-mounted GNSS-positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al*., 2008).

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al*., 2008), the Chartered Institute for Archaeologists (CIfA, 2014) and the European Archaeological Council (Schmidt *et al.,* 2015).

1.4. It was conducted in line with a WSI produced by MS (Swinbank 2020).

1.5. The survey commenced on 17/12/2020 and took one day to complete.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society of Archaeological Prospection).

2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and is the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Kayt Armstrong has a PhD in archaeological geophysics from Bournemouth University, is a Member of CIfA, the Editor of ISAP News, and is the UK Management Committee representative for the COST Action SAGA; Dr Paul Johnson has a PhD in archaeology from the University of Southampton, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.

2.3. All MS managers have degree qualifications relevant to archaeology or geophysics. All MS field and office staff have relevant archaeology or geophysics degrees and/or field experience.

2.4. Data collection for one traverse was repeated to demonstrate the consistency and reliability of the geophysical survey. Data for these traverses are presented below:

Traverse 79: Traverse 83:

3. Objectives

3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The survey area was located to the east of West Mersea, Mersea Island, Essex (Figure 1). Gradiometer survey was undertaken across one field of undifferentiated grassland. The survey area was bounded by residential properties along East Road to the north, Cross Lane to the west, arable fields to the south, and undifferentiated grassland to the east (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The area consisted of undifferentiated grassland, with short mown grass. The ground gently sloped downhill north-northwest to south-southeast	The area was bounded by fencing to the northwest and west, and hedges to northeast, east and south. Goal posts were located in the northwest of the survey area, and two metal animal feeders were located in the northern half of the survey area. A tree and bird house, which prevented a small section of survey were located towards the west and southwest of the survey area respectively.

4.3. The underlying geology comprises clay, silt and sand of the Thames Group. No superficial deposits have been recorded for most of the survey area, though sand and gravel have been recorded in the northeast corner and immediately to the west of the survey area (British Geological Survey, 2020).

4.4. The soils consist of slightly acid loamy and clayey soils, with impeded drainage in the southern half of the survey area, soils in the north of the survey area are unclassified (Soilscapes, 2020).

5. Archaeological Background

5.1. Awaiting background Information (Desk Based Assessment or other) from Client.

6. Methodology

6.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.2. Data Collection

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7.3.2.1. **Agricultural (Trend)** – Located across the centre and northeast of the survey area are weak slightly curving striations with separations typically of c. 5-10m [**1a**] (Figures 3 and 4). The slightly curving form of the anomalies is possibly consistent with a historical form of cultivation. However, given the ephemeral nature of these anomalies a confident interpretation such as ridge and furrow cannot be given, as drainage or a more recent origin cannot be ruled out.

7.3.2.2. **Drainage Features** – Located across the survey area are several linear anomalies, which appear to adjoin with each other and predominantly follow directions heading to field boundaries (Figures 3 and 4). The morphology of the anomalies are consistent with field drains and the occurrence of some anomalies with linear alignment of dipoles suggests the presence of ceramic land-drains.

7.3.2.3. **Debris** – Located towards the southeast of the survey area is a concentrated area of strong dipolar anomalies consistent with ferrous debris [**1b**] (Figures 3, 4 and 6). This type of concentration of debris material is often associated with the backfill of former extraction pits and ponds, though the possibility of made ground or deposition of waste material cannot be ruled out (Figure 7).

8. Conclusions

8.1. A fluxgate magnetometer survey was successfully completed across the commissioned survey area. Significant magnetic disturbance from modern interference has been identified in the north of the survey area close in proximity to residential properties and along the survey perimeter. Though this modern interference may have masked weaker anomalies in its immediate vicinity, it was still possible to identify anomalies reflecting natural variations, possible cultivation and the presence of field drains in other areas.

8.2. Some of the anomalies associated with cultivation have a slightly curved form, which could be indicative of historical cultivation practices. Debris in the southeast corner is suggestive of the infilling of a former pond or extraction pit, though this interpretation is speculative as neither have been identified on historical OS maps in this location.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

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12. Project Metadata

MS Job Code	MSTM824
Project Name	Land at 102 East Road, West Mersea, Essex
Client	Colchester Archaeological Trust
Grid Reference	TM 02530 13430
Survey Techniques	Magnetometry
Survey Size (ha)	1.76ha (Magnetometry)
Survey Dates	2020-12-17 to 2020-12-17
Project Lead	Leanne Swinbank, BA ACIfA
HER Event No	ECC4579
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.2

13. Document History

Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	RL	LS	22 December 2020
0.2	Draft after Project Lead corrections. Sent for director approval.	RL	LS/ PSJ	23 December 2020

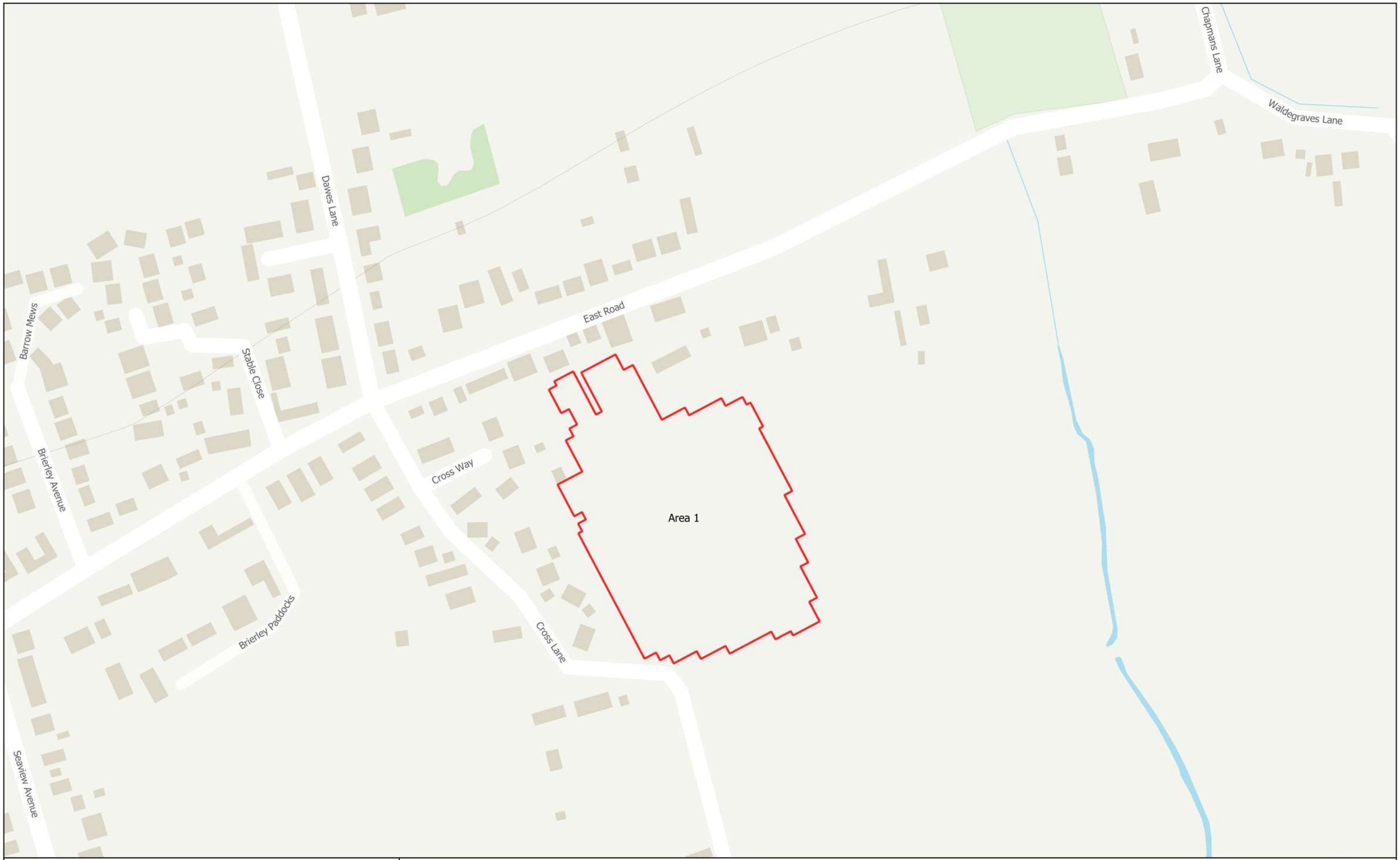
MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 1 - Site Location
1:25,000 @ A4

Site Boundary

N

0 0.5 1 km

magnitude surveys



MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 2 - Location of Survey Area
1:2,000 @ A3

Survey Extent

N

0 50 100 150 m

magnitude surveys

602400

602600

213500

213500

213400

213400

Area 1

213300

213300

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 3 - Magnetic Gradient
1:1,000 @ A3

Background mapping provided by the client

-1 nT 2

N

0 25 50 75 m

magnitude surveys

602400

602600

213500

213500

213400

213400

213300

213300

1a

1b

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 4 - Magnetic Interpretation
1:1,000 @ A3

Background mapping provided by the client

Natural (Strong)
Natural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Agricultural (Trend)
Drainage Feature
Service
Ferrous (Spike)

N

0 25 50 75 m

magnitude surveys

602200 602300 602400 602500 602600 602700 602800 602900

213600 213500 213400 213300 213200

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 5 - Magnetic Interpretation Over Historical Maps and Satellite Imagery
1:2,000 @ A3

Natural (Strong)
Natural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Agricultural (Trend)
Drainage Feature
Service
Ferrous (Spike)

N

0 50 100 150 m

magnitude surveys

602400

602600

213500

213500

213400

213400

Area 1

213300

213300

MSTM824 - Land at 102 East Road, West Mersea, Essex
Figure 6 - XY Trace Plot
20nT/cm at 1:1,000 @ A3

Background mapping provided by the client

N

0 25 50 75 m

magnitude surveys