HARLOW MARSH

BURNTMILL LANE, HARLOW

ARCHAEOLOGICAL WALKOVER

AND HAND AUGER SURVEY

ISSUE 1

Essex County Council

Field Archaeology Unit

JANUARY 2013

HARLOW MARSH

BURNTMILL LANE, HARLOW

ARCHAEOLOGICAL WALKOVER

AND HAND AUGER SURVEY

Prepared By : Ellen Heppell Position: Project Officer Date:
Approved By: Adrian Scruby Position: Project Manager Date:

Document Ref.	2623aug_rep[1]
Report Issue Date	11 January 2013
Circulation	Essex Wildlife Trust

As part of our desire to provide a quality service, we would welcome any comments you may have on the content or the presentation of this report.

Please contact the Archaeological Unit Manager, at the
Field Archaeology Unit,
Fairfield Court, Fairfield Road, Braintree, Essex CM7 3YQ
Tel: 01376 331470
Fax: 01376 331428

BLANK

CONTENTS

FIGURES

PLATES

BLANK

HARLOW MARSH, BURNTMILL LANE, HARLOW

ARCHAEOLOGICAL WALKOVER AND HAND AUGER SURVEY

Client: Essex Wildlife Trust (Essex Biodiversity Project)
FAU Project No: 2623
NGR: TL 45203 11591
Local Authority: Harlow
Planning Ref. HLW00106/12
Site Code: HAHM12
OASIS Ref: essexcou1-140488
Date of work: December 2012

SUMMARY

Archaeological hand auger survey and walkover was carried out at Harlow Marshes, Burntmill Lane, Harlow. The purpose of the survey was to better understand the underlying stratigraphy of the site, establish the presence or absence of significant archaeological horizons and utilise the results to consider the archaeological potential of the site in order to inform the development of an appropriate programme of archaeological monitoring. The proposed works at Harlow Marsh comprise the excavation of shallow scrapes (up to a maximum of 1.1m below the present surface level) to create reedbeds, pools and an area of open water.

The results of the archaeological investigations at Harlow Marshes have identified the key stratigraphic units on the site as follows:

- *Turf and fibrous topsoil.*
- *Brownish grey clays.*
- *Grey clays (sometimes with a yellowish cast)*
- *Slightly bluish grey clays*

Peat layers, similar to those found elsewhere in the Stort valley, were only identified in a single auger point at 1.16m below the present surface level. As groundworks in this area comprise excavation to a depth of c. 0.4m these deposits will not be impacted by the proposed works.

As the archaeological investigations have identified no significant peat-like deposits, archaeological finds or features, it is therefore considered unlikely that the groundworks at Harlow Marsh will have an impact on below ground historic environment assets.

1.0 INTRODUCTION

1.1 Project Background

1.1.1 This report describes the results of an archaeological hand auger survey carried out at the Essex Wildlife Trust Harlow Marsh Nature Reserve (Fig. 1). The reserve is situated on the south bank of the Stort Naviagtion, a canalised section of the River Stort which forms the boundary between Essex and Hertfordshire. The current habitat improvement project aims to encourage increased biodiversity on the site. Groundworks will involve the excavation of 'scrapes' for areas of reedbed and open water (Fig. 2 and 3).

1.1.2 The Essex County Council Historic Environment team identified that the site lay within an area of high palaeoenvironmental and historic landscape potential and thus had high potential for buried archaeological deposits to be present which may be impacted by the groundworks associated with the habitat improvement works. As such ECC Historic Environment recommended to the Local Planning Authority that an archaeological condition should be placed on the works in order to confirm the presence or absence of any archaeological remains and, if necessary, mitigate the impacts of the project.

1.1.3 The current phase of archaeological works comprises walkover and hand auger survey in advance of groundworks, followed by the assessment of the results. Further works may comprise archaeological monitoring during groundworks, the extents of which are to be agreed with ECC HEM based on the results of the hand auger/test-pit survey.

1.1.4 This assessment has been carried out in accordance with a brief of works prepared by ECC Historic Environment Management (Medlycott 2012) and a Written Scheme of Investigation prepared by ECC FAU (2012). Appropriate regional standards were also adhered to, for example the ALGAO *Standards for Archaeological Fieldwork in the East of England* (Gurney 2003).

1.2 Report layout

1.2.1 This report is organised in the following way:

- Non-technical summary
- Background information (Introduction, Location and Description)
- Aims and Objectives
- Methodology

- Results
- Conclusions

Illustrations can be found at the rear of the report.

2.0 BACKGROUND

2.1 Location (Fig 1-3)

2.1.1 Harlow Marshes are situated on the northwest edge of Harlow in the valley of the River Stort. They comprise three main areas along the valley, including Parndon Moat Marsh, Town Park Marsh/Maymeads Marsh and Marshgate Springs (Fig 1). The current proposals relate to works in the central area, variously referred to in documentation as Town Park Marsh, Maymeads Marsh, Honeymead Marsh and Stort Valley Meadows. For the purposes of this report the site will be referred to as Harlow Marshes for consistency with the planning application relating to the works (HLW00106/12).

2.1.2 The project area at Harlow Marshes comprises seven fields, situated to the south of the Stort Navigation and to the north of the Railway line. The fields are currently under grass and are a Local Wildlife Site/Conservation area. The field boundaries comprise deep drainage ditches. They are also a local amenity site and are crossed by a number of footpaths, which have been improved in recent years as part of an access for all project. In 1980s, at the east end of the site, a large pond with associated reedbeds was excavated and a bird hide constructed. The latter has been extended in recent years.

2.2 Background

Geology and Topography

2.2.1 The geology of the area is mapped by the British Geological Survey as alluvium within the valley floor (Fig.4). The valley sides comprise earlier Head deposits, glacio-fluvial deposits (Middle Pleistocene) and the Lowestoft Formation. Reference to available borehole logs (BGS Borehole Viewer – accessed December 2012) show that in some locations the alluvial deposits incorporate layers of peat or peat like material in some locations, approximately 1m and 2.5m below the surface level. (http://mapapps.bgs.ac.uk/boreholescans/boreholescans.html).

2.2.2 Four boreholes have previously been excavated within the site, along the boundary between Field 1 and Field 2 (Fig. 2) in advance of the construction of a sewer. Boreholes TL41SW 356 and 360 were located at the north end of this boundary, roughly in the position of an extant tank visible today. Peat layers were noted at 1.4m and 2.74m below

the surface in the former and 1.6m and 3.2m in the latter. At the southern end of the same boundary, in Borehole TL41SW 357 a single peat deposit was noted at 0.91m below the present surface level and 'ballast', probably the glacio-fulvial depists, at 2.97m down. In borehole TL41SW 355, by the railway line, two peat deposits were identified at 0.76m and 2.57 down. Direct correlation of the respective peat deposits in these boreholes is difficult as the relative heights to OD at the surface at the time of excavation, in the early 1950s, are unknown. Overall the known deposit sequence represents that of a meandering river channel where there are a multitude of micro-environments such as point bars, mid-channel bars, pools and backwaters. Part of this meandering channel survives in the modern landscape as a sinuous boundary between Field 5 and Field 6 (Fig. 3 and 5), which is marked as the county boundary on historic Ordnance Survey mapping.

2.2.3 The present course of the river, and the modern county boundary, is a largely artificial channel, the Stort Navigation. This was constructed in the late 1760s, officially opening in 1769, and provided a link between Bishops Stortford and the River Lea, and from their the major markets in London. The navigation straightened and deepened sections of the river to facilitate access for barges. The postulated former route of the river has been illustrated on Fig. 5, using the route of the historic county boundary. This extended through the northern part of Field 4, although no features associated with this are visible on the ground at the present time.

2.2.4 The fields which make up Harlow Marsh are generally flat but there are differences in height between the respective fields:

- Field 1 – c. 37.6mOD
- Field 2 – c. 38.82m OD
- Field 3 – c. 38.5OD
- Field 4 – c. 38.5mOD
- Field 5 – c. 38.2m OD
- Field 6 and 7 – c. 38.2 – 38.3mOD

Local volunteers have indicated that the variation in height, particularly between Field 1 and 2, is the result of the raising of the ground levels in the adjacent fields. The material for this ground raising may have been obtained during the creation of the marina from what was a boating lake in the late 20th century, which involved the excavation of a cut in the southern side of the channel to allow space for the narrow boats to manoeuvre. However it would also seem likely that the material from this cut forms at least part of the large earth mound at the western end of Field 1. The construction of a sewer, and associated

infrastructure along the eastern boundary of Field 1, as depicted on 1960s Ordnance Survey mapping, may also have resulted in some changes in ground level. Overall the field pattern would suggest that Field 5 and 6 are the most unaltered.

Archaeological and Historical Background

2.3.1 The most significant part of the historic environment of the site comprises the former route of the River Stort discussed above (e.g. HHER 17751). Other than this there are no specific references to archaeological remains within the site itself. It has however been noted that the Stort valley has produced evidence for exploitation of the area close to the river during the Mesolithic period. At Broxbourne, to the southwest of Harlow, Mesolithic material was found within organic sediments (e.g. Jacobi 1996, 13) and peat deposits have also been identified (e.g. Bates and Heppell 2007). Later remains in the valley include the Harlow Roman temple and the scheduled moated site at Parndon.

3.0 SCHEME PROPOSALS

3.1 This phase of the Harlow Marshes scheme aims to improve the biodiversity of the marsh by creating additional areas of reedbed habitat, re-profiling some wetland margins to extend marginal habitats and the excavation of 'scrapes' to create shallow pools and areas of open water. The indicative locations of the main elements of the scheme are illustrated on figures 2 and 3 and summarised below.

3.2 New reedbeds will be created along the western and southern boundaries of Field 3, these will involve the excavation of material to a depth of 0/9m and 1.1m below the present surface level. A new area of open water will be created in Field 3 and will be excavated to a depth of 0.15m-0.75m. In Field 6 three pools will be excavated in the vicinity of boardwalks along the footpath, these will be approximately 0.3m deep and 6m-8m across.

4.0 AIMS AND OBJECTIVES

4.1 The aim of the archaeological hand auger survey was to assess the potential impacts of the proposed works on the historic environment of the Harlow Marshes

4.2 The specific objectives of the investigation were to:

- Identify earthwork or other topographical features, including field boundaries and former channels of the River Stort, related to the land use and settlement in the valley.

- Establish the stratigraphy in the areas of proposed ground disturbance (e.g. reedbeds) to better understand the likely impacts of the scheme on heritage assets, including palaeoenvironmental remains.
- Create a preliminary interpretation of the vegetational and aquatic conditions, specifically identifying the depth of surviving peat or peat-like soils.

2 Establish the potential for survival of archaeological remains within the areas of proposed disturbance

4.3 The results of this work will contribute to the development of an appropriate mitigation strategy in conjunction with the appropriate authorities.

5.0 METHOD

5.1 The archaeological hand auger points/test pits were positioned within or in close proximity to the main areas of likely disturbance. The positions of the auger/test pits were located using GPS (to the National Grid).

5.2 In order to allow comparison of data from each of the auger points, and for future use, the present ground level at each point was recorded. For this purpose a temporary bench mark was created, related to a OS spot height in the vicinity of the bridge over the river at Burntmill Lane, to allow an approximate Ordnance Datum (OD) height to be obtained for each auger point.

5.3 Hand augerings were taken using a gouge auger. They were excavated to a depth of 1 m to 1.4m below the existing ground surface level. The results of each borehole were recorded; the record including a numerical identifier, location (NGR), approximate OD at present surface level and a description of deposits. It should be noted that no environmental samples for specialist assessment have been taken as part of these works as they have focussed on establishing the deposit sequence and considering impacts/potential only.

5.4 Walkover survey was carried out in advance of the auger survey, where relevant the results of this survey have been incorporated into the results below.

6.0 RESULTS

6.1 The following section reports on the result of the survey. These are divided by field number for easy reference. Illustrations can be found to the rear of the report. The location of the points and relevant field numbers can be found on Fig. 2-3.

Field 1 (Plate 1 and 2)

6.2 This field is immediately opposite the Moorhen Public House and the marina and is likely to have suffered some disturbance during its construction, as discussed in section 4 above. No features, other than the modern mound of earth at its west end and the sewage chamber to the east, were noted. The field is currently under rough grass, with some areas of ?sedge beds. No works are proposed in this field.

Field 2 (Plate 3)

6.3 This field is also currently under grass and is flatter and less waterlogged than Field 1 to the west, which it is c. 1.2m higher than. No historic features were noted in this field and no works are proposed.

Field 3 (Plate 4)

6.4 This field is currently under grass with sedge beds along the southern and western boundaries. No historic features were noted.

6.5 Two auger points were excavated in this field in the location of a proposed reedbed, AP7 and AP 8. The results are summarised below:

AP 7

NGR: 544935 211425

Surface Level (m.OD): c.38.48m

Strata:

0-0.10m	Turf and Topsoil
0.1-0.5m	Brownish grey clays, occasional stones
0.5m-0.9m	Orangish grey clays with some sand and chalk flecks
0.9m - >1.2m	Dark brownish grey clays with some occasional grit and sand

Stopped at 1.2m

AP 8

NGR: 544914 211425

Surface Level (m.OD): c.38.46m

Strata:

0-0.10m Topsoil and turf

0.1-0.75m Brownish yellowish grey clays, gritty to touch with frequent chalk flecks

0.75m-1.2m Dark brownish grey clays with some occasional iron staining

1.2m - >1.38m Slightly bluish grey silty clay with occasional dark chemical staining

Stopped at 1.2m

6.6 The results in this field are suggestive of the presence of made or disturbed ground at the top of the sequence, the upper strata with a noticeably gritty/ stony component to them. The remaining are typical alluvial flood plain deposits. Although dark staining was present in some of the strata this is likely to relate to chemical changes rather than the remains of organic material.

Field 4 (Plate 5)

6.7 This field is currently under grass with a pond and foot bridge in the southwest corner. boundaries. Although the historic river channel is thought to have run through this field there was no trace of it on the ground or when viewed from the footbridge. No works are proposed in this field.

Field 5 (Plate 6)

6.8 This flat field is under grass with sedge banks along part of the southern and western boundaries. The northern boundary comprises a sinuous ditch, probably running on the former course of the river (Plate 7).

6.9 Two auger points were excavated in this field, AP5 and AP6, on the northern edge of the proposed open water area. It was not possible for these to be excavated closer to the railway line due to substantial waterlogging and high vegetation. The results are summarised below:

AP 5

NGR: 545203 211591

Surface Level (m.OD): c.38.15m

Strata:

0-0.15m Topsoil and turf
0.15-0.4m Brownish grey clays, gritty
0.4m->1.38m Slightly bluish grey silty clay
Stopped at 1.38m

AP 6
NGR: 545163 211566
Surface Level (m.OD): c.38.21m
Strata:
0-0.15m Topsoil and turf
0.15-0.9m Brownish grey clays, gritty and fibrous at the top
0.9m->1.38m Brownish grey clays; becoming smoother and cleaner in appearance
Stopped at 1.38m

6.10 As with Field 3 results in this field are suggestive of the presence of made or disturbed ground at the top of the sequence, the upper strata with a noticeably gritty/stony component to them. The remaining are typical alluvial flood plain deposits.

Field 6 (Plate 8)

6.11 This field is under rough grass and is crossed by a footpath. The presence of boardwalks along the footpaths and areas of waterlogging would suggest that there are dips and hollows in the field surface, presumably of natural origin as they do not appear to form any clear pattern.

6.12 Four auger points were excavated in this field in the general vicinity of the proposed locations of shallow pools, the possible positioning of the points was limited by the amount to surface water in the vicinity. The results are summarised below:

AP 1
NGR: 545308 211709
Surface Level (m.OD): c.38.27m
Strata:
0-0.07m Topsoil and turf
0.07-0.27m Brownish grey clays

0.27-0. 73m Pale slightly browning grey clays

0.73-1.16m Pale grey silty clay
1.16-1.6m Mid brown fibrous peat
1.6-1.7m Mid brown peat deposit in a silty clay matrix
1.7-1.8m Mid brown fibrous peat
1.18-2.0m Pale grey silty clay
2.0 c. 2.2m Brown peat
>2.2m Grey clays
Stopped at c.2.25m

AP 2

NGR: 545298 211702
Surface Level (m.OD): c.38.25m
Strata:
0-0.10m Topsoil and turf
0.10-1.0m Brownish grey clays
1.0->1.4m Pale yellowish grey silty clay
Stopped at 1.4m

AP 3

NGR: 545287 211730
Surface Level (m.OD): c.38.28m
Strata:
0-0.15m Topsoil and turf
0.15-0.78m Brownish grey clays
0.78->1.38m Paler grey silty clay
Stopped at 1.38m

AP 4

NGR: 545281 211731
Surface Level (m.OD): c.38.34m
Strata:
0-0.10m Topsoil and turf
0.10-1.07m Brownish grey clays; slightly gritty at the top
1.07-1.4m Pale yellowish grey silty clay
Stopped at 1.4m

The peat deposits located in AP1 would appear consistent with those located in the earlier borehole survey results in Field 1.

7.0 ASSESSMENT OF RESULTS

7.1 The results of the archaeological investigations have established that the general strata in the upper 1m – 1.4m of Harlow Marshes comprise alluvial clays and possible made/disturbed ground. These deposits are typical of a floodplain and are not considered to be significant in terms of their palaeoenvironmental component.

7.2 Peat deposits were located in a single auger point, AP 1, in Field 6, at the western end of the site. The absence of this deposit in any other points, particularly as it has been found elsewhere in the valley, may be explained in a number of different ways. It is likely that, within a meandering river valley, with a number of differing environments (e.g. channels, sidebars, pools) such deposits are unlikely to be contiguous, which is reflected in the auger survey results. It should also be noted that there may also be some difference in the height of the upper surfaces of the peat thus, in some areas, particularly where the field surfaces are higher, the peat deposits may be below the level that was augured to. Overall, given the complex nature of valley floodplains it is likely to be a combination of factors which has led to the absence of peat deposits in the auger points; principally that it is a non contiguous deposit with variations in height. The peat deposits, where present are significant palaeoenvironmental assets but reference to the scheme proposals shows that the works are unlikely to impact them as they lay below the depths of excavation; for example at AP1 the confirmed depth of the peat is at 1.16m down but the pools in that area will only be 0.3m deep.

7.3 The proposed works at Harlow Marsh comprise the excavation of shallow scrapes and pools (up to a maximum of 1.1m BPSL). The archaeological investigations have established that, where present, the significant archaeological horizons lay below the proposed depths of excavations. It is therefore considered that the groundworks at Harlow Marsh will have no impact on below ground historic environment assets.

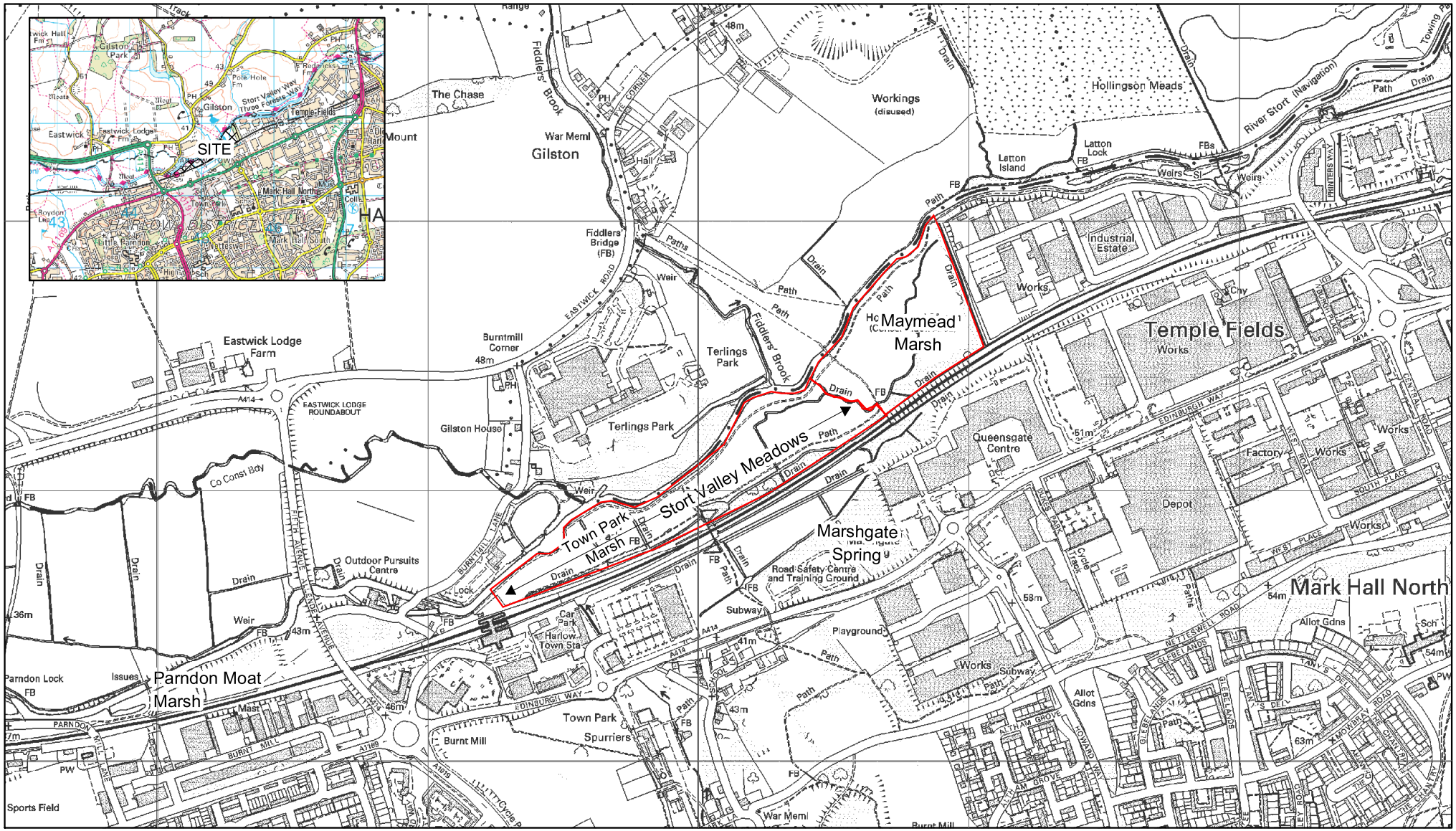
ACKNOWLEDGEMENTS

This assessment has been carried out by Essex County Council Field Archaeology Unit on the behalf of the Essex Wildlife Trust. Thanks are due to Rebecca Banks of the EWT Biodiversity Project and Colin Lincoln.

Fieldwork was carried out by the author with the assistance of Paul Braham and Thomas Rugg. The project was monitored by Maria Medlycott of ECC HEM.

BIBLIOGRAPHY

ECC FAU	2012	*Written Scheme of Investigation for Archaeological Hand Augering and Walkover Assessment on Reedbed Creation and Other Landscaping Work at Harlow Marshes, Burntmill Lane, Harlow* ECC FAU Proj. 2623
Gurney, D.	2003	*Standards for Archaeological Fieldwork in the East of England* ALGAO
Medlycott, M.	2012	*Archaeological Hand Augering and Walkover Assessment on Reedbed Creation and Other Landscaping Work at Harlow Marshes, Burntmill Lane, Harlow* ECC Historic Environment, Place Services

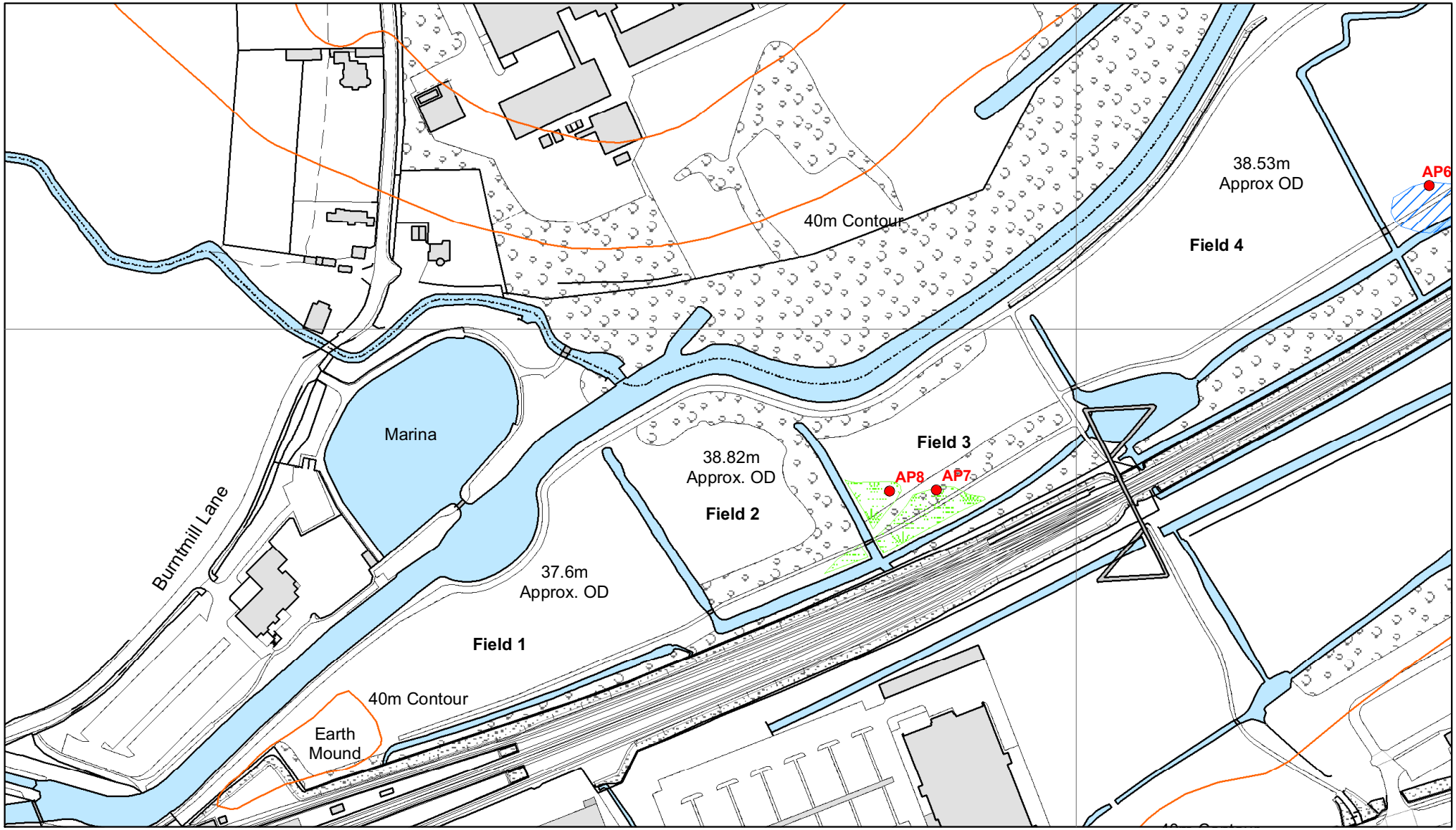


Stort Valley Meadows and Maymead Marsh

N

0 500 m

Fig. 1 Location



Reedbed / Scrape (indicative location)

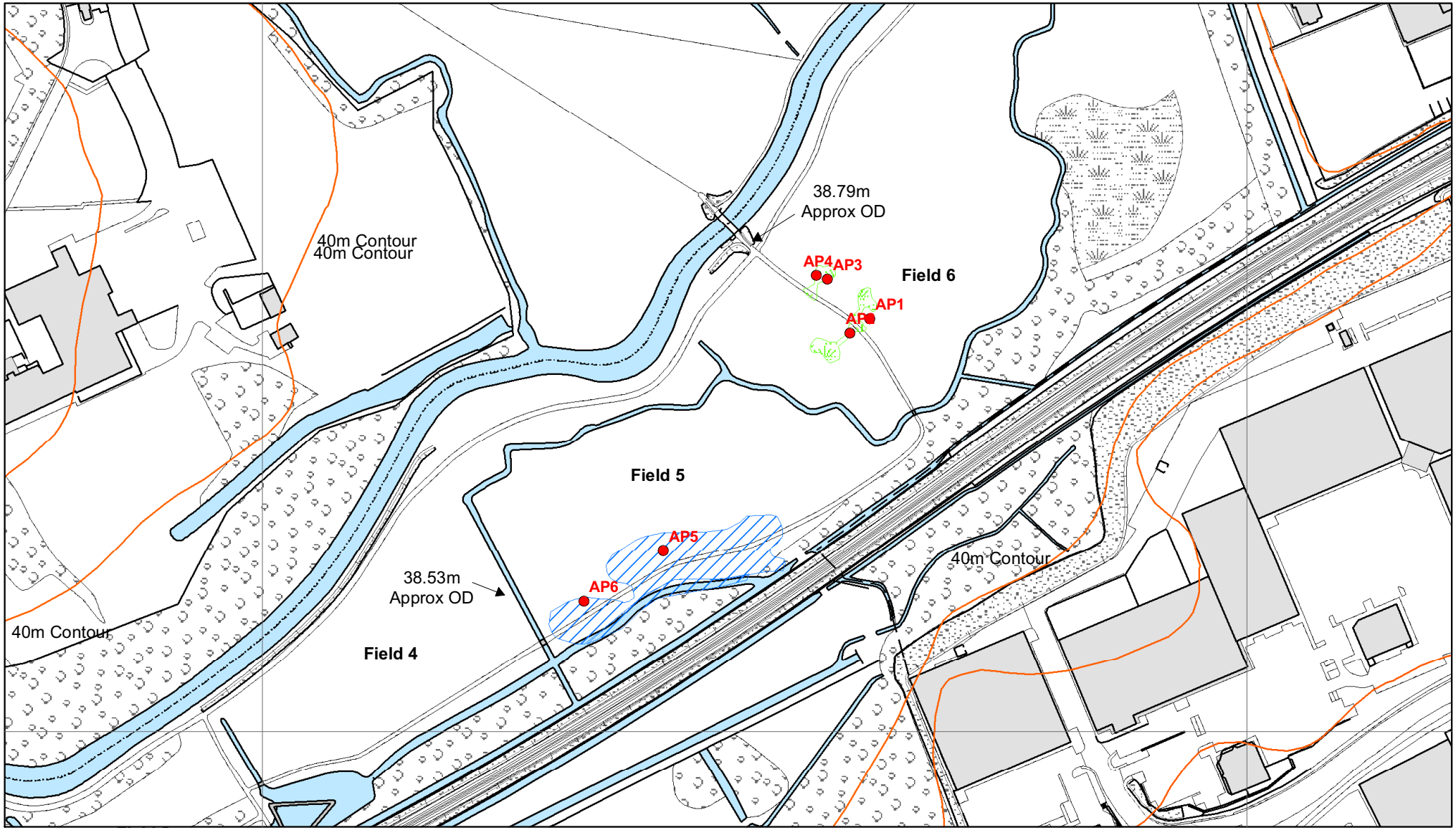
Auger Point

Open water (indicative location)

N

0 100 m

Fig. 2 Western part of Harlow Marshes



Reedbed / Scrape (indicative location)

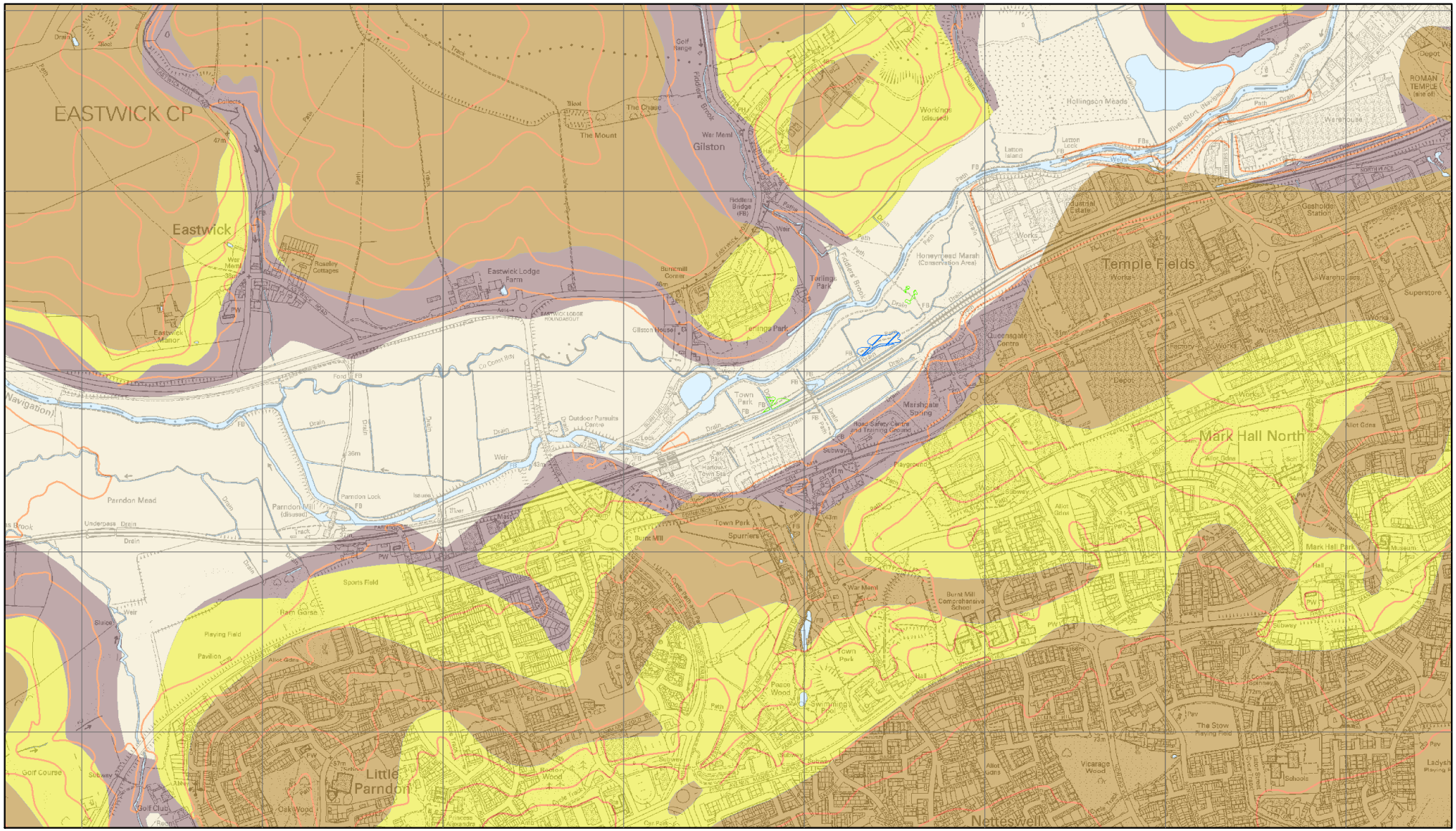
Auger Point

Open water (indicative location)

N

0 m 100

Fig. 3 Eastern part of Harlow Marshes



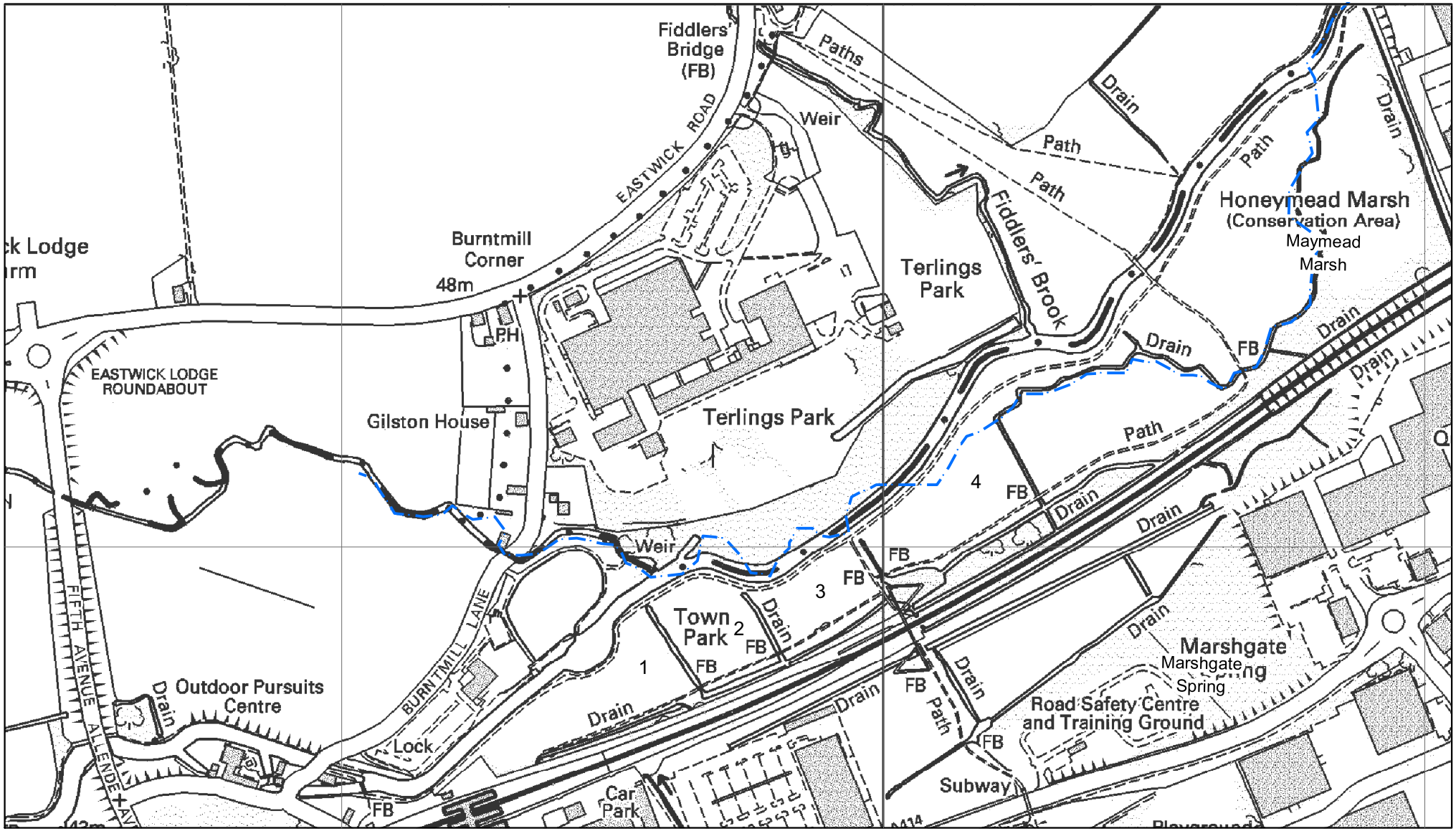
Essex Superficial Geology

- Alluvium
- Glaciofluvial deposits (Mid Pleistocene)
- Head
- Lowestoft Fomation
- Reedbed / Scrape (indicative location)
- Open water (indicative location)

N

0 700 m

Fig.4 Geology



Stort Valley Meadows and Maymead Marsh

County boundry (derived from historic Ordnance Survey mapping)

N

0 250 m

Fig. 5 Former position of county boundary, presumed to be the earlier course of the river

Plate 1: Field 1, looking east from the earthen mound

Plate 2: Field 1, looking north towards The Moorhen PH. The earthen mound is to the left.

Plate 3: Field 2, looking northeast

Plate 4: Field 3, looking east from the footbridge

Plate 5: Field 4, looking west

Plate 6: Southern boundary of field 5, looking west

Plate 7: The boundary between Field 5 and 6, a former river channel

Plate 8: Field 6, footpath to the footbridge over the Stort Navigation, looking northwest

Plate 9: Augering in Field 3

Plate 10: Bluish grey clays at base of AP5

Plate 11: Working shot; levelling in Field 6