

RSPB WEST CANVEY

ARCHAEOLOGICAL MONITORING

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RSPB WEST CANVEY

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RSPB WEST CANVEY

ARCHAEOLOGICAL HAND AUGER SURVEY

Client: RSPB

FAU Project No: 2025 (previous project 1972)

NGR: TQ772849

Site Code: WCM 08

Local Authority: Castle Point

Date of work: 2009

Oasis Ref: essescou1-59170

SUMMARY

A programme of archaeological monitoring took place at West Canvey Marshes during the development of a nature reserve. This involved the excavation of a series of 'scrapes', a large ditch and dams. Previous desk-based and walkover survey in 2006, along with other studies, indicated the area was one with the potential for multi-period archaeological remains, and as such a programme of archaeological works was required.

A first phase consisted of an archaeological hand auger survey, which confirmed that the key stratigraphic units at West Canvey are consistent with those mapped by the BGS: clays, and silt deposits of marine origin. Deposits comprised clays; an upper blocky horizon and softer clays below. The clays were generally 2.1-2.4m thick, and overlay blue-grey sands and silts.

The second phase of works, the results of which are summarised here, comprised archaeological monitoring during groundworks. This did not identify any archaeological remains, which may result from a number of factors:

Scheme design; as a result of the previous studies the scheme was designed to minimise the risk of damaging known features, such as the putative redhill. The edges of the main fleet were considered to be an area of potential, but these too were left largely undisturbed by construction.

Previous land use; this has been largely agricultural, primarily pastoral, since embankment and some remains of this are visible in the landscape (e.g. stretch). Earlier remains are also likely to be associated with agriculture or the exploitation of natural resources, and may have left few traces.

Visibility: this was variable through the stripping and excavation. It is however considered that there was sufficient clarity for below ground features (such as ditches , organic deposits and saltern remains) to be visible. Their absence is therefore considered to be genuine. Features associated with the anti glider ditches were not visible as below ground remains, suggesting the level of disturbance caused by them is not as great as previously thought.

1.0 INTRODUCTION

1.1 Project Background

- 1.1.1 This report describes the results of a programme of archaeological monitoring carried out at West Canvey Marsh, for the Royal Society for the Protection of Birds (RSPB). The RSPB has purchased some 256 hectares of land to develop a nature reserve, one of a series planned along the Thames in south Essex (Fig. 1). As part of the strategic development of the South Essex Reserves the RSPB commissioned an archaeological desk-based assessment and walkover survey (Medlycott and Gascoyne 2006) in order to investigate their historic environment, to inform the development the scheme. Given the known archaeological potential of Canvey a planning condition was recommended by ECC HEM in line with guidance presented in PPG 16 (Planning and Archaeology),
- 'No development or preliminary groundworks of any kind shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the planning authority'.*
- 1.1.2 The creation of this nature reserve involved the excavation of 'scrapes' to attract water-birds (and provide materials for earthwork dams) – as set out in planning application CPT/429/08/FUL.
- 1.1.3 A first phase of work comprised an archaeological hand-auger survey, which was primarily targeted on the proposed locations of scrapes. The hand auger survey confirmed the key stratigraphic units at West Canvey were consistent with those mapped by the BGS: clays, and silt deposits of marine origin. Deposits comprised clays; an upper blocky horizon which may be a result of soil ripening following 17th century embankment and softer clays below, probably resulting from the accretion of deposits in developing salt marsh. The clays were generally 2.1-2.4m thick, and overlay blue-grey sands and silts. No identifiable archaeological horizons, or peat / peat-like deposits were located in any of the trial holes.
- 1.1.4 A second phase of archaeological works comprised archaeological monitoring survey during the excavation of the scrapes, dams and a very large ditch. This report describes the results of the fieldwork.
- 1.1.3 This assessment has been carried out in accordance with a brief of works prepared by ECC Historic Environment Management (Connell 2008) and 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.

1.3 Abbreviations used in the report

1.3.1 **BGS** (British Geological Survey), **BP** (before present – 1950), **DGPS** (Differential Global Positioning System), **DOE** (Department of Environment), **ECC** (Essex County Council), **EHER** (Essex Historic Environment Record), **ERO** (Essex Record Office), **FAU** (Field Archaeology Unit), **HLM** (Historic Landscape Management), **IFA** (Institute of Field Archaeologists), **KCC** (Kent County Council), **NGR** (National Grid Reference), **MVP** (Mardyke Valley Project), **OS** (Ordnance Survey), **OD** (Ordnance datum), **PSL** (present surface level), **VCH** (Victoria County History).

2.0 BACKGROUND

2.1 Location (Fig 1)

2.1.1 Canvey Island is a low-lying island, the majority below sea level (generally c. 2m OD), around 4 miles long and two miles wide. It is separated from the mainland by a series of creeks and rivers, all of which are tidal; Holehaven and East Haven Creeks to the west, Benfleet Creek and Hadleigh Ray to the north and the River Thames itself to the south. The modern landscape is to some degree dominated by the massive sea walls that protect the island, and the industrial area along the south west frontage which takes advantage of the proximity of a deep water channel. To the east of the A130 (Canvey Way) much of the island is now built up. In contrast the western side of the island is rural in character, comprising grazing land crossed by sinuous fleets and ditches, little changed through the centuries. It is this area which is proposed as a nature reserve.

2.2 Geological, Historical and Archaeological Background

Geology

- 2.2.1 Canvey Island comprises coastal marshland which has built up through millennia, in effect a series of islands divided by fleets, subsequently enclosed by sea walls to protect against flooding. The known geology of the island, as mapped by the BGS, reflects this topography, and comprises clay sand and silt deposits of Marine origin that are up to 30-50m thick (BGS 'Britain Beneath Our Feet'; <http://www.bgs.ac.uk/britainbeneath/guide.html>), overlying London Clay.

Archaeological and Historical Background

- 2.2.2 The following archaeological and historical background has been taken from the hand-auger survey report (Heppell 2008).

The archaeology and history of Canvey Island has been collated in a number of studies (e.g. Cracknell 1959, Yearsley 2000, Medlycott 2000 and Medlycott and Gascoyne 2006). The following is summarised from these sources to place the work at West Canvey in its wider context.

There has been little evidence of remains pre-dating the Late Iron Age/ Roman periods on Canvey Island; some middle Iron Age pottery has been found on the island (Crowe, Southend Museum, per comm.) along with other chance finds of prehistoric date. Up to the Roman period Canvey may well have been linked to the mainland, separating as sea-levels rose to become a group of marshland islands separated by creeks.

The Late Iron Age and Roman periods are well represented in the archaeological record on Canvey, particularly at Leigh Beck on the eastern tip of the island, where archaeological investigations identified a fish-processing sites, shell middens, a probable settlement/wharf site and cremations. In addition, a salt-working complex, known as a 'red-hill', was also identified. It is these monuments that dominate the archaeological record on Canvey, several are located along the southern shore of the island. A scheduled example is located close to Great Russell Farm, alongside a former fleet (National Monument No 32424). In addition to salt manufacture and exploitation of the natural resources of the coastal zone the island was probably also used as pasture, with sheep/goat been recovered from the faunal assemblages of excavated sites.

As with the Roman period, the most intensive activity on the island in the Saxon period would appear to be at Leigh Beck and Thorney Bay, on the southern shoreline. By the end of this period Canvey was sub-divided between several mainland parishes, sharing out the valuable marshland grazing, a use which continued through to the medieval and post-medieval periods.

Unlike other extensive tracts of grazing marsh in south Essex, for example Rainham marsh (now an RSPB reserve), Canvey marshes were not extensively embanked in the medieval period, perhaps reflecting the complexity of land ownership which may have made embankment uneconomic as well as impractical. There are however references to attempts to embank those portions of the marshes within Southchurch parish in the mid 15th century. Essentially what is now an island surrounded by a single wall would have been a series of islands separated by channels /fleets, described in 1577 as “ ... Canwaie lles, which some call marshes’ dissected by ‘...salt rilles’ (William Harrison, quoted in Smith 1970, 27). These are illustrated by a number of geographers, for example Norden (1594) and Saxton (Fig. 3). The islands were regularly inundated, ‘... Often it is all overflown, except for the higher hillocks, on which there is safe retreat for sheep’ (Camden 1607, quoted in Smith 1970, 27). These sheep would have been grazed on the marshland, with their milk utilised in dairy , products, particularly cheese. Human habitation was probably limited to shepherds and perhaps fishermen.

The early 17th century saw dramatic changes to the landscape, with the construction of a sea wall around much of the island. This was instigated by a 1622 agreement between Sir Henry Appleton and Joas Croppenburg, a Dutchman, to build and maintain a sea wall, in return for a third of the lands enclosed (eg. Chapman and Andre 1777, Fig 3). Following this first phase of embankment additional areas were enclosed through to the 19th century.

By the 19th century the tithe award indicated that there was a more mixed economy, with both arable and pasture. The increased plough up in this period reflects technological and economic drivers; the development of drainage technology and raising grain prices (e.g. Heppell 2004, 107). Some of the arable may have reverted to pasture in the late 19th and early 20th century agricultural depression.

The development of Canvey took off in the early part of the 20th century, initially as a seaside resort for Londoners. Despite the failure of this plan the population continued to increase, with development focussed on the eastern half of the island. Industrial

development was focussed in the area around Holehaven, particularly oil and gas from the 1950s onwards.

The 'Great Tide', the 1953 floods, had a devastating effect on the island resulting in the loss of 58 lives and extensive flooding. Following this sea walls were raised and improved, with those constructed in 1970s and 80s made of concrete and steel. Access to the island has also been improved with the construction of a bridge to South Benfleet and, later, the A130 to Sadlers Farm which crosses the West Canvey reserve.

Historic Environment Baseline

2.2.3 In 2006 the RSPB commissioned a desk and field based assessment of the historic environment of the proposed South Essex Reserves, including West Canvey. This survey comprised a desk-based survey of the known resource, utilising the EHER and historic mapping. This was supported by a walkover survey, which considered the presence and condition of the known resource and aimed to identify previously unrecorded features.

2.2.4 The desk-based assessment identified the following historic environment features in those fields where the excavation of scrapes was proposed (as identified on Fig 5, Medlycott and Gascoyne 2006):

- EHER 18283 (WCM 32): World War II anti-landing ditches
- EHER 45793 (WCM 32): Cattle pen of 1st Edition Ordnance Survey
- EHER 14732 (WCM 30 –31): World War II anti-landing ditches

[WCM 31 etc. are the unique plot numbers assigned to each field during the 2006 survey – see Fig 1.]

2.2.5 The walkover survey identified the following features (Fig 81, Medlycott and Gascoyne 2006):

- 36 (WCM 32): Stetch
- 37 (WCM 32): Possible saltern
- 32 (WCM 30): Stetch
- 33 (WCM 30): Anti- landing ditch
- 34 (WCM 31): Saltern
- 35 (WCM 31): Stetch

3.0 SCHEME PROPOSALS

3.1 The following information on the scheme proposals is summarised from the *West Canvey Marsh; Planning Statement* (July 2008), prepared by the RSPB for submission to Castle Point Borough Council.

The existing network of man-made and natural creeks and ditches will be retained as they are an integral part of the historic and natural environment. Higher areas of land will also be retained. Works will include the excavation of 'scrapes' to attract water birds and provide material for earthwork construction elsewhere, for example bunding/damming parts of the main fleet to create a reservoir.

3.2 There was a significant risk of unexploded ordnance being present over the West Canvey marshes and as such the area was subject to non-intrusive UXO survey and clearance of some of the anomalies identified. As the threat from UXO was deemed to be significant in some areas the location of the scrapes was shifted from that originally proposed (as illustrated on Fig. 1). In addition a very large ditch was excavated.

4.0 AIMS AND OBJECTIVES

4.1 The purpose of the archaeological monitoring was to identify and record any features of interest that were exposed during ground reduction for the proposed scheme. Should archaeological sites/features be identified during the monitoring process they would be excavated or where possible, preserved *in situ*.

5.0 METHOD

5.1 Prior to the commencement of works the RSPB ensured that those areas where no groundworks to take place were marked out. These included those areas with potential UXOs and known/potential archaeological monuments that may pre-date the post-medieval period. In contrast to the original plans the groundworks were limited to two fields, WCM 30 & 31 and WCM 32. Both of these fields had extensive traces of stetch cultivation along with more sinuous earthworks, particularly along the main fleet and drainage ditch margins. In order to preserve as much of this extant historic landscape as possible plant movement was limited to specific routes.

5.2 The excavation of each of the scrapes was carried out in two stages; the removal of turf and thin topsoil using a toothless ditching bucket and excavation of underlying clay using a toothed bucket (the toothless bucket couldn't get through it) to encourage vegetation re-growth. Similarly turf and topsoil were removed from the footprints of the dams and the

length of the large ditch prior to excavation/construction. A suitably qualified archaeologist inspected each of the areas cleared.

6.0 RESULTS

The following section reports on the result of the archaeological monitoring.

WCM 32

- 6.1 This field is currently under grass, bounded by the main fleet to the south, a dry creek to the north and straight boundaries to the west and east. The surface of the field is undulating and traces of the relict marsh creeks are visible, as is stetch. The furrows of the latter are roughly 3.5-4m apart, orientated roughly north-south. No regular deep drainage is visible on aerial photographs or LiDAR. The hand auger points excavated in this field identified the following sequence of deposits; grass and topsoil, overlying brownish grey clay, onto blue grey sandy silts, with the blue-grey sandy silts occurring at between 2.05 to 2.39m below Present Surface Level (PSL), -0.54 to -0.73m OD. Adjacent to the main fleet ditch thin vegetation and topsoil directly overlaid the soft grey silty clays and fine blue grey silts and sands.
- 6.2 Three complete scrapes (0.3 ha, 0.24ha and 0.13ha respectively, from west to east) and part of a fourth were excavated in this field, two linked by the large ditch. The anti-glider ditches marked on cropmark plots were not identified as below ground remains. This could be a result of poor visibility as the removal of the topsoil leaves 'stripes' of subsoil in the furrows of the stetch, creating a similar pattern to the remains of the anti-glider ditches.
- 6.3 In general sources refer to the ditches as 'shallow', although with very little indication of actual dimensions. The absence of any identifiable below ground remains at Canvey would perhaps suggest that the examples there were not significantly deeper than the furrows of the stetch, with the up-cast and poles acting as the main obstacle rather than the ditch itself. The following is an eyewitness account of the creation of anti glider ditches around Sutton Hoo:
- "There were anti-glider ditches criss-crossing the area, which several excavators dug. The machines used buckets on cable lines and they threw up even sized mounds of earth either side of the ditch in an alternating pattern."

<http://www.bbc.co.uk/ww2peopleswar/stories/94/a3300094.shtml>

WCM 30 and 31

- 6.4 These two fields are under grass, bounded to the south by the main fleet, and the north by a former creek, the west by a straight field ditch and the east by the A130 Canvey Road (Fig. 9). Like WCM 32, the field surface is undulating, with traces of former marsh creeks, stetch and other irregular earthworks. No regular deep drainage is visible on aerial photographs or LiDAR. The most extensive historic environment features in this field comprise numerous anti-landing ditches. The stratigraphic sequence logged comprised of brownish grey clays, becoming softer towards their base and overlying blue-grey silty sands, encountered at c. 2.10 – 2.20 m below PSL, -0.55m to – 0.66mOD.
- 6.5 Two scrapes were excavated in this area, the larger (0.8ha) just to the north of the putative red hill and the second (0.02ha) in the north east corner. No archaeological remains were identified in either scrape.

Dams and Ditch

- 6.6 The two dams straddle the main fleet (Fig 1 and 2). As with the scrapes, the turf and topsoil was stripped from the fleet sides prior to construction, no archaeological remains were identifiable. No excavation was carried out across the marshy creek bed, this was covered with geotextile material prior to construction. The excavation of the very large ditch was subject to monitoring; again there were no identifiable archaeological remains.

7.0 ASSESSMENT OF RESULTS

- 7.1 The archaeological monitoring at West Canvey did not identify any archaeological remains during the construction of scrapes, dams and a ditch. This result may reflect a number of factors which are discussed below.

Previous Archaeological Work and Scheme Design

- 7.2 The desk based and walkover surveys were utilised in scheme design to minimise the risk of damaging known features. This approach was further supported by the hand-auger survey. Despite the necessity of moving the scrapes due to UXO risks, and hence the placement of scrapes outside those areas evaluated by the hand auger survey, they still avoided known remains.

Previous land use

- 7.3 Land use since the embankment of Canvey has been largely agricultural, primarily pastoral, and remains associated with this are visible in the present landscape as stretch. Earlier remains are similarly likely to be associated with agriculture and the exploitation of natural resources (e.g. salt making) most of which may have left few physical traces. Additionally the likelihood is that pre-embankment remains are most likely to be present in the vicinity of the main fleet, as such a feature would have been one of the main forms of communication prior to embankment, an area that was left largely undisturbed by construction.

Visibility

- 7.4 Visibility during the stripping and excavation was variable, being particularly poor on wet days. It is however considered that it was sufficient for below-ground features such as ditches, organic deposits and saltern remains to be identifiable if present. As such the apparent absence of these remains is considered to be genuine. The absence of identifiable remains of the anti-glider ditches may also suggest that the level of disturbance caused by these is not as great as previously thought.

ACKNOWLEDGEMENTS

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Fieldwork was carried out by the author with the assistance of Mark Germany. The project was monitored by Adrian Gascoyne of ECC HEM.

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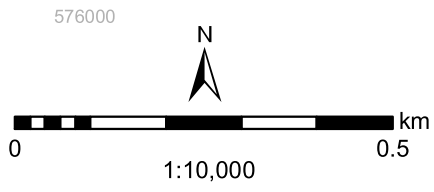
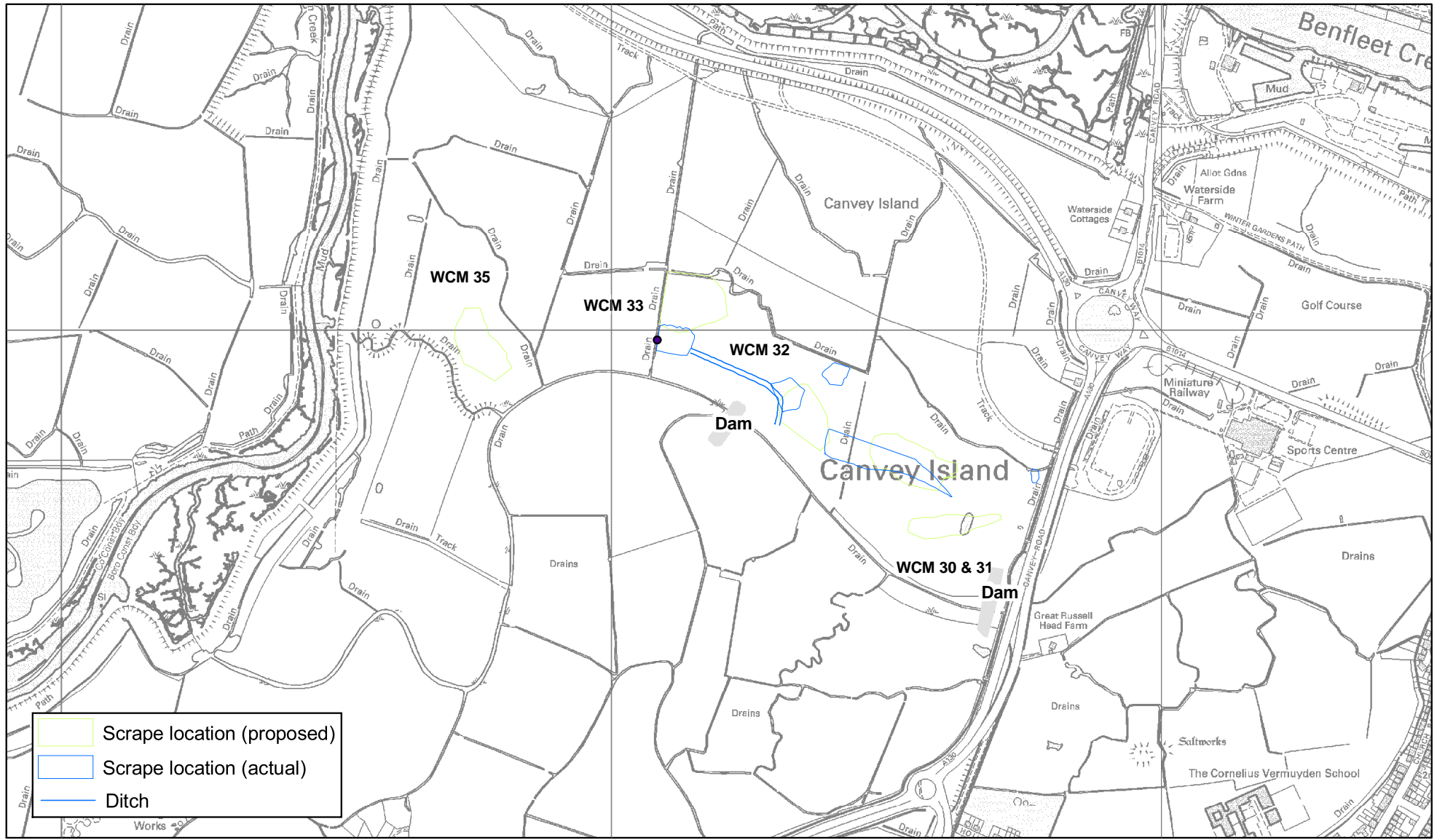


Fig 1 West Canvey Marsh; showing scrape locations

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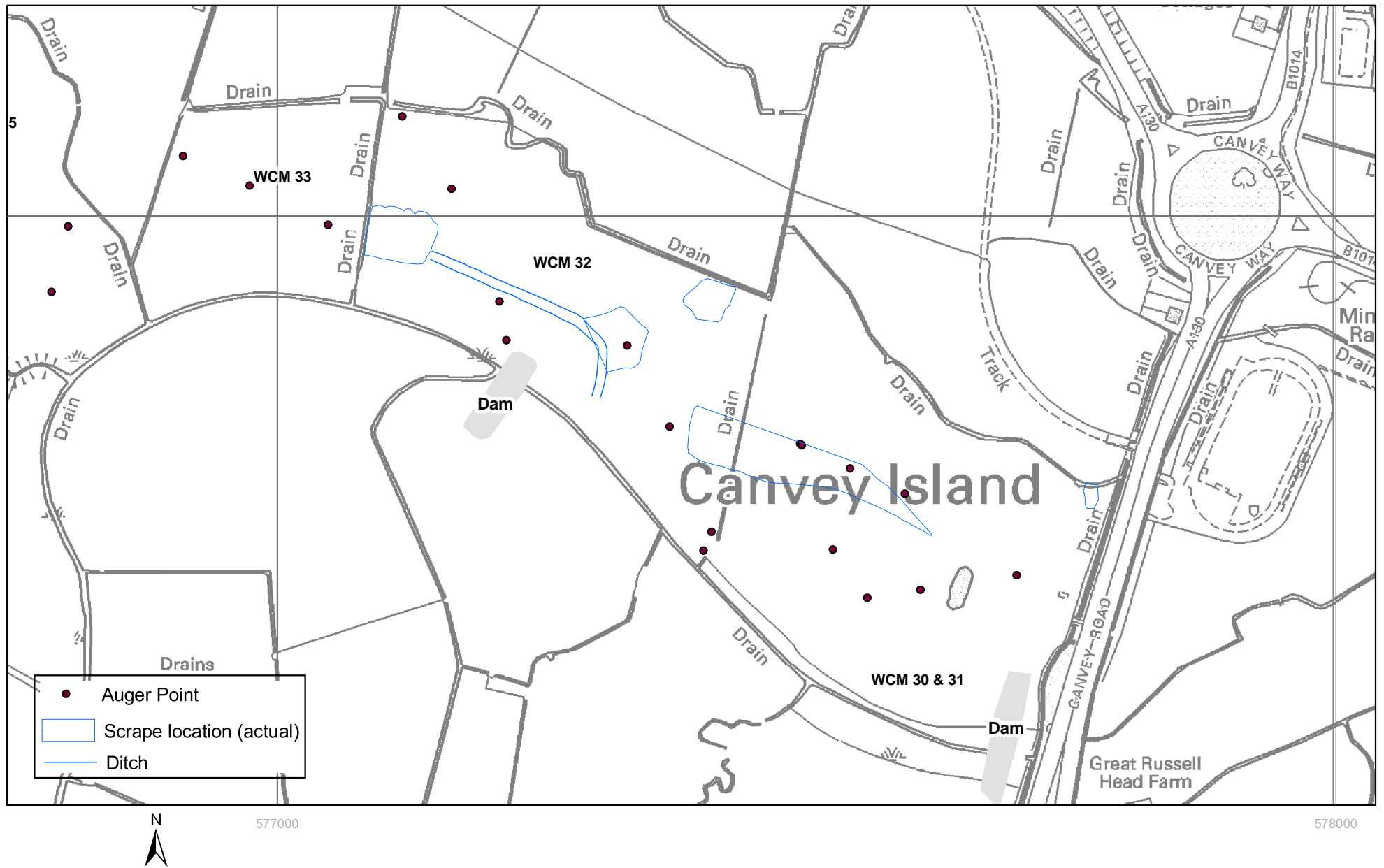


Fig 2 West Canvey Marsh; showing location of hand auger points and scrape locations