

# PEMBREY REGIONAL ADVANCED ENGINEERING CENTRE

## ARCHAEOLOGICAL DESK-BASED ASSESSMENT



Report No. 2001/34

Report prepared for:  
RPS CHAPMAN WARREN



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By

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## **ARCHAEOLOGICAL DESK-BASED ASSESSMENT PEMBREY REGIONAL ADVANCED ENGINEERING CENTRE**

<b>CONTENTS</b>	<b>PAGE</b>
SUMMARY	1
INTRODUCTION	2
Project Proposals and Commission	
Scope of the Project	
Report Outline	
Abbreviations used in this Report	
THE STUDY AREA	3
The Study Area: Physical Background	
Wetland Landscapes and Archaeology	
THE HISTORIC LANDSCAPE	5
Early Embankment and Agricultural Expansion	
Industry	
Military Activity	
Leisure	
CONCLUSIONS	9
BIBLIOGRAPHY	10
APPENDIX 1. Gazetteer of Archaeological Sites	11
APPENDIX 2. Extracts from the Taf and Tywi Estuary Historic Landscape Characterisation Report (Murphy and Ludlow 2000)	
Map showing Location of Archaeological Sites	End of Report

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## SUMMARY

*Proposals by the British Automobile Racing Club, supported by the Welsh Development Agency and Carmarthenshire County Council, to develop a centre of advanced engineering at the Pembrey motor racing circuit required an assessment of the likely impact of the proposed centre on the archaeological resource. The proposed centre will be on part of the WWII Pembrey Airfield, in an area that has been partly redeveloped in the past as the Welsh Motor Sports Centre (centred on NGR SN 402034).*

*The proposed development site has a long history. Archaeological remains of the prehistoric and later periods and palaeoenvironmental evidence may lie buried in water-logged deposits beneath the present land surface. In the medieval and early post-medieval period, the embankment and drainage of marshes lead to the establishment of several farms on newly reclaimed land. Several phases of embankment have been recorded. The latest, Bank-y-Lord constructed in 1818, still forms the sea defences for the northern part of Pembrey Marsh. Numerous structures related to the WWII defence of Britain are located within or adjacent to the proposed development site.*

## **INTRODUCTION**

### **PROJECT PROPOSALS AND COMMISSION**

Proposals to establish a Regional Advanced Engineering Centre at Pembrey are currently being developed and examined. RPS Chapman Warren, acting on behalf of the Welsh Development Agency, Carmarthenshire County Council and the British Automobile Racing Club, have been asked to prepare an outline planning application and Environmental Statement for the centre. Cambria Archaeology was commissioned by RPS Chapman Warren to prepare an archaeological desk-based assessment as part of the planning application and Environmental Statement.

### **SCOPE OF THE PROJECT**

This project was intended to provide baseline data on the extent and character of the archaeological and historic resource within the proposed development site. Recommendations for the preservation of the archaeology and/or mitigation strategies were not required at this stage.

### **REPORT OUTLINE**

This report describes the physical environment of the study area before summarising the archaeological and historical resource.

### **ABBREVIATIONS USED IN THIS REPORT**

All sites recorded on the county Sites and Monuments Record will be identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR).

## **THE STUDY AREA**

### **THE STUDY AREA: PHYSICAL BACKGROUND**

The area designated for the proposed development covers c.167ha of land currently occupied by the former Pembrey Airfield (centred on NGR SN 402034). Present landuse within the site consists of the Pembrey motor racing circuit and agricultural land. Some of the structures associated with Pembrey Airfield survive, although, the main group of surviving airfield buildings is outside the study area. For the proposals to proceed, alterations would also be required on the unclassified road linking the airfield to the A484 to the east. A new roundabout would also be necessary on the A484 itself. The physical boundaries of the site are defined by the present sea bank, Bank-y-Lord, on the north side, the main complex of surviving airfield buildings on the east and existing field and forestry boundaries on the south and west.

The study area forms the northern extent of Pembrey Marsh, an area of low-lying reclaimed coastal wetland and extensive blown sand dunes. Borehole data from the late 1960s and 1970s (Kahn 1968 and Jones 1977, both cited in James 1991) revealed deep deposits of blown sand, up to 30m in places, overlying pre-glacial layers, bedrock or Pleistocene clays (James 1991, 144; Page 1996, 4). The blown sand has, over time, formed the vast dune systems of Towyn Burrows and Pembrey Burrows, now largely afforested, which form the seaward protection for Pembrey Marsh. Inland the dunes give way to the alluvial deposits which underlie the study area. These superficial, drift, deposits overlie a solid geology of the undivided Lower and Middle Coal Measures.

### **WETLAND LANDSCAPES AND ARCHAEOLOGY**

The study area is essentially a wetland landscape. The potential of wetland areas for producing high quality archaeological information is well attested. The preservation qualities which exist in buried wetland conditions provide a unique opportunity to study a wide range of organic archaeological evidence such as artefacts made from wood, leather and textiles which do not normally survive on 'dry' sites. As well as the survival of organic objects, the matrix in which they are found is itself of intrinsic value as it contains contemporary palaeoenvironmental evidence, in the form of pollen, plant remains, diatoms, foraminifera and insect remains, of past environments and landscape change (Coles 1995, 1; Page 1996, 1). There is an added dimension to the evidence in that often an artefact can provide both archaeological and palaeoenvironmental evidence. For example, a wooden bowl is both archaeological (the size, form, decoration and use of bowl) and palaeoenvironmental (the wood) evidence (Coles 1995, 1). It is this direct association between the different forms of evidence that makes wetlands so important for archaeological study. The diversity and direct associations of the various strands of evidence means that a much more broad-based approach can be adopted for the study of wetland sites allowing a more complete interpretation of past activity than is generally possible for dry sites.

All development, whether on dry or wetland sites, has potential archaeological implications, but developments within wetlands also have a number of problems that

are peculiar to this type of landscape. As well as the direct impacts of surface works such as site clearance, wetland deposits are vulnerable to changes in ground conditions which can seriously affect the fragile organic and palaeoenvironmental evidence. Slight alterations to the groundwater levels or the introduction of oxygen into the anaerobic deposits can lead to the rapid deterioration and loss of significant evidence. Because these changes take place below ground and they can affect archaeological deposits over a wide area, not just in the immediate site of the development, management of wetland sites is difficult. Therefore, a clear idea of the final design plan is required in order to formulate an effective management strategy.

## THE HISTORIC LANDSCAPE

The present, or historic, landscape is the result of a complex and on-going interaction between natural processes and human actions. It is not merely the backdrop against which society has organized itself socially, economically, religiously or politically, on the contrary, the landscape has been, and continues to be, a fundamental factor in shaping society itself. Physically it provides opportunities for exploitation whilst at the same time imposing constraints. Added to the physical attributes are a series of social choices, connected with such wide ranging issues as land ownership, economic viability, religion, belief systems, perception and experience, which also provide specific contexts for opportunities and constraints within the landscape. It is the opportunities that societies have chosen to exploit, and how they have gone about exploiting them, as well as the measures they have taken to mitigate against the constraints that has determined the development of the historic landscape.

Perhaps nowhere are those choices more visible, or immediate than in coastal or tidal riparian environments where the effective control over the movement of water is vital to sustainable land management. This is manifest in the study area in the sea defence banks and drainage systems that today protect the area from inundation; the system includes the remains of Ashburnham's Canal (one of the earliest canals in Wales). Other choices are evinced by the remains of Pembrey Airfield and the creation of Pembrey motor racing circuit. These show clear and significant changes in the landuse of the study area which were linked to changes in the economic, political and social situations at local, national and global levels.

Since embankment started in the area during the late medieval period, the landuse of the area changed from agriculture, to a more industrial use during the 18<sup>th</sup> and 19<sup>th</sup> centuries. Military activity dominated during the mid 20<sup>th</sup> century when Pembrey Airfield and the many defensive installations in the area were erected. Post-WWII planting by the Forestry Commission has created the massive Pembrey Forest which skirts the southwest boundary of the study area. A chicken farm was established on the airfield during the 1960s. More recently leisure has become the dominant factor with the creation of the Pembrey Country Park and the Pembrey motor racing circuit.

The entire study area lies within the Taf and Tywi Estuary landscape on the *Register of Landscapes, Parks and Gardens of Historic Interest in Wales, Part 2.1 Landscapes of Outstanding Historic Interest in Wales* (Cadw/ICOMOS 1998). The Taf and Tywi Estuary Register landscape has been the subject of a recent historic landscape characterisation project (Murphy and Ludlow 2000). In landscape characterisation the landscape is divided into character areas, each area containing identifiable historic landscape components which are described. The study area comprises two historic landscape character areas: 157 Pembrey Airfield (which covers most of the study area), and 156 Pinged Marsh which includes the northeast corner of the study area. The descriptions of these two areas are included in Appendix 2. Draft advice notes for assessing the impact of large developments on historic landscapes have recently been issued by Cadw, the Countryside Council for Wales and the Welsh Archaeological Trusts.



## EARLY EMBANKMENT AND AGRICULTURAL EXPANSION

It has been seen above that the present, or historic, landscape is a consequence of natural and human actions. The natural development of the coastal environment at Pembrey is cyclical with alternating episodes of accretion and erosion, although there is a long-term northward trend of sediment movement in the area. Human intervention stopped the cycle and allowed permanent use and settlement of the former marshes. Early intervention was probably confined to the south and west sides of the study area where late medieval embankment enclosed the marshland close to the rear edge (west side) of the Pembrey and Towyn Burrows sand dune systems. The first documentary and cartographic references to embankment dates from the 17<sup>th</sup> century (Page 1996, 8). A map of Caldicot in c.1681<sup>1</sup> shows a bank called 'The Bulwarke' which runs from northwest of the airfield southeast to a point just north of Pen-y-Bedd. It crossed the centre of the study area and for part of its length it was on the same alignment as the northwest-southeast runway of the airfield.

There is a hint of a possible earlier sea bank on the c.1681 map which shows a boundary on a generally north-south alignment, c.0.8km landward of The Bulwarke, between areas marked as 'Caldicot Out Ground' and 'Caldicot Inclosed Grounds'. This boundary runs along the back edge of the Towyn Burrows sand dunes and was possibly associated with the Caldicot Farm located in the 'Out Ground' which was one of three farms with the same name in existence in the later 17<sup>th</sup> century. It is possible that the Caldicot Farm in the 'Out Ground' was that held by one John Butler in 1443-4 (Page 1996, 8). The other two Caldicot farms probably date from the 17<sup>th</sup> century, following the construction of The Bulwarke. However, it is interesting to note that The Bulwarke loops around the northernmost farm, possibly suggesting that it was in existence when the bank was constructed.

This northernmost farm later became known as Towyn Mawr (PRN 31419). It was incorporated into Towyn Camp (PRN 31411) which was constructed as temporary accommodation for airfield personnel. Towyn Mawr survived until it was demolished and its buildings cleared to make way for the chicken farm in the 1960s. How much of the buildings survive below ground is unclear, but there may be fairly extensive remains of this important post-medieval farmstead on the site. The exact sites of the other two Caldicot farms is unknown, but their approximate locations can be estimated, and whilst it is not expected that any structural remains survive, development in those areas should have regard for the possibility of surviving evidence.

Two further sea banks were constructed to the northeast of The Bulwarke. The first was constructed sometime during the early 18<sup>th</sup> century. A map of Pembrey Marsh dating from 1762<sup>2</sup> shows many fields with 'bank' as an element in their names close to the line of the sea bank indicating that it was in existence by the mid 18<sup>th</sup> century (Page

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<sup>1</sup> (National Library of Wales reference: Ashburnham 2122) This is the earliest cartographic evidence for sea defence banks in Carmarthenshire.

<sup>2</sup> (National Library of Wales reference: PG2096 RM A188) Map of Pembrey Marsh showing several farms close to the study area.

1996, 8). The second sea bank was Bank-y-Lord (PRN 29994), constructed by Lord Ashburnham in 1817-18, which still forms the sea defence for this area. Originally it was 4km long, c.3.5m high and 26m across at its base and it enclosed approximately 500 acres of saltmarsh.

Successful land reclamation relied not only on the construction of the sea banks, but also on a sophisticated drainage system to control the water levels across the newly reclaimed land. The present drainage system is an amalgam of drains, some of which date from the later medieval and early post-medieval period others are associated with the 18<sup>th</sup> century embankment and industry, whilst some were part of the construction of the airfield in the 1940s. The principal drain is Swan Pool Drain, which is classified as a major river, which during the later medieval and post-medieval periods drained from two ponds, the 'Swan Pool', located in the area now occupied by the Ashburnham Golf Course to the south. The original line of Swan Pool Drain took it across the airfield roughly northeast-southwest, but its northern end was modified in 1769 when Lord Ashburnham's Canal (PRN 5337) was constructed.

## INDUSTRY

The Kidwelly-Pembrey-Llanelli area was, from the early post-medieval period, increasingly influenced by the coal industry and the metal processing industries it spawned. Prior to this the woollen industry was possibly the chief industry in the area with the extensive marshes used for sheep grazing. In the 14<sup>th</sup> century one John ap Owen was grazing his flocks on the Kidwelly Marsh and was shipping 50 sacks of wool annually (Morris 1990, 14; Page 1996, 16). During the early 16<sup>th</sup> century Leland observed that the Kidwelly area was producing the 'best wool in hye Wallys' (cited in Morris 1990 and James 1991). However, by the end of the century mineral extraction appears to have replaced the wool industry as the largest industry of the region (Page 1996, 16), and by 1585 Pembrey was the chief Carmarthenshire port for the export of coal (Sambrook and James 1995, 7).

By the 18<sup>th</sup> century the region was well on the way to establishing itself as one of the most important coal and metal producing centres in Wales with a rapid increase in the number of sites associated with these industries. A sophisticated infrastructure was required to maintain and service this industrial expansion, which included tramroads, railways and canals. That infrastructure included Ashburnham's Canal (PRN 5337) which crosses the study area from the southeast and exits through a sluice in Bank-y-Lord. Ashburnham's Canal ran from Ffrwd (NGR 42280261) to Bank-y-Lord (NGR c.SN 40000464) and serviced Ashburnham's Quay (PRN 17329) which was located at c.SN 39970464. There is no visible evidence of the quay, but remains may survive buried in the alluvial deposits and account of this possibility should be considered when finalising development plans for this area of the site.

## MILITARY ACTIVITY

Military activity, or the associated munitions industry, has been the dominant factor in the region from the 19<sup>th</sup> century when the Nobel Company began to manufacture explosives in a factory located in the sand dunes at Pembrey (Page 1996, 15). The

Nobel works were taken over by the Royal Ordnance factory which operated on the site until the 1960s. The Royal Ordnance Factory site is now the site of Pembrey Country Park; there are many surviving structures from the factory in the sand dunes and Pembrey forest.

Pembrey Airfield (PRN 31405) became operational in 1940 as a fighter station, but by June of the following year it had become home to 1 Air Gunnery School (Action Stations, vol 3). The airfield was typical of the early war years, consisting of grass runways, which were replaced during 1941 with three hard runways of standard interlocking layout. Pembrey's location is slightly unusual as airfields were not generally constructed on land below 50ft, c.15m (Smith 1989, 12). Because of its low-lying position the grass runways were on occasions too wet for operations.

Most of the airfield buildings have been demolished and those that survive lie outside the proposed development area. However, some of the dispersal sites for the aircraft survive as concrete bases and run-offs on the southwestern side and northern side of the airfield but are inside the proposed development area. These are minor sites and have not been included in Appendix 1, gazetteer of archaeological sites or shown on the accompanying map. The Battle Headquarters (PRN 31,226), a remote command centre from where operations would be directed in the event of an attack on the airfield, is located just south of the southeast edge of the racing circuit in a small area of wooded dunes. The Battle HQ is a standard type. It lies outside the proposed development area, but it is a significant structure in the history of the airfield.

An Astrodome gunnery trainer (PRN 24707) lies just outside the proposed development boundary. The trainer is one of only a few surviving examples of this type of structure and is now a Scheduled Ancient Monument (SAM Cm248). Also outside the proposed study area, but of significant local interest as a reminder of the airfield and its history, is the site of a Wellington Bomber which crashed in the saltmarsh in 1945.

There are many other military sites within and close to the study area. There are several pillboxes (PRNs 31386, 31388, 31389) on Bank-y-Lord which formed the northern protection for the airfield. Another pillbox (PRN 31358) is positioned alongside the unclassified road that leads from the A484 to the airfield. Also, there are rows of anti-tank cubes located alongside the railway line, running south from Bank-y-Lord (PRN 31390), and a row (PRN 31359) extending either side of the road leading to the airfield.

Pillbox PRN 31358 and anti-tank cubes PRN 31359 were part of a Command Stop Line which ran from Pembrey Burrows in the south to New Quay, Cardigan Bay, in the north (Saunders 1989, 216; Glover 1990, 82-3). During WWII Britain was divided into strategic zones separated by a series of defensive lines: General Headquarters Stop Line; Command Stop Line; Corps Stop Line; Divisional Stop Line. These lines determined the level of military response to incursion into these zones. The Pembrey Command Stop Line would have been the second line of defence after the beach defences on Cefn Sidan Sands (Page 1996, 20).

Military activity continues in the area today with the live air weapons range, RAF Pembrey Sands, to the north of the study area.

#### **LEISURE**

Since the post-war abandonment of the airfield and the closure of the Royal Ordnance factory the area has seen an increase in leisure oriented pursuits, of which the Pembrey Motor Sports Centre has become a leading component.

#### **CONCLUSIONS**

The proposed development site has a long history with most of the visible archaeological evidence relating to land reclamation, agriculture and industry of the late medieval period and post medieval period or to installations and structures dating to the WWII defence of Britain. Buried wetland deposits may contain the remains of earlier archaeological sites and palaeoenvironmental evidence.

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## APPENDIX 1. Gazetteer of Archaeological Sites.

Note: Minor sites such as the location of buildings associated with Pembrey Airfield and for which there is no or little surface evidence are not included in this gazetteer.

PRN	5337
NAME	ASHBURNHAM'S CANAL
GRID REF.	Linear feature
SITE TYPE	Canal
PERIOD	Post Medieval
DESCRIPTION	Survives as a wide open channel with flowing water. The canal passes under Pembrey Airfield runway in a culvert.
PRN	17,329
NAME	ASHBURNHAM'S QUAY
GRID REF.	SN 39970464
SITE TYPE	Quay
PERIOD	Post Medieval
DESCRIPTION	Site of quay. Known of only through documents. No surface evidence survives.
PRN	23,601
NAME	TAI-UCHAF
GRID REF.	SN39800325
SITE TYPE	COTTAGE
PERIOD	Post Medieval
DESCRIPTION	Site only known through documents. No surface evidence survives.
PRN	23,712
NAME	BANK COTTAGE
GRID REF.	SN40220440
SITE TYPE	COTTAGE
PERIOD	Post Medieval
DESCRIPTION	Site only known through documents. No surface evidence survives.
PRN	24,707
NAME	DOME GUNNERY TRAINER PEMBREY AIRFIELD
GRID REF.	SN407037
SITE TYPE	GUNNERY TRAINER
PERIOD	Modern
DESCRIPTION	A World War Two aircraft gun training dome on Pembrey airfield. Scheduled Ancient Monument: SAM-CM248(CAM). Located outside of study area.

PRN	29,994
NAME	BANK Y LORD
GRID REF.	Linear feature
SITE TYPE	FLOOD DEFENCES
PERIOD	Post Medieval
DESCRIPTION	A flood defence bank built in 1818. A bank running roughly west - east and forming the boundary at high water mark of ordinary tides.
PRN	31,226
NAME	PEMBREY AIRFIELD BATTLE HEADQUARTERS
GRID REF.	SN40120283
SITE TYPE	BATTLE HEADQUARTERS
PERIOD	Modern
DESCRIPTION	Underground structure in good condition located outside the study area.
PRN	31,358
NAME	
GRID REF.	SN41140365
SITE TYPE	PILLBOX
PERIOD	Modern
DESCRIPTION	Type 24 brick-faced, alongside road from Pembrey Airfield.
PRN	31,359
NAME	
GRID REF.	SN41200396
SITE TYPE	TANK TRAP
PERIOD	Modern
DESCRIPTION	A row of anti-tank cubes placed along the side of the main railway line stretching for a total of over 0.75km either side of the road from Pembrey airfield.
PRN	31,386
NAME	
GRID REF.	SN39960464
SITE TYPE	PILLBOX
PERIOD	Modern
DESCRIPTION	Rectangular, brick-faced, type 23 pill-box positioned on top of Bank-y-Lord just east of a concrete and ceramic chute. The pill-box is part of a defensive system along the S edge of the Gwendraeth Estuary.

PRN 31,388  
NAME  
GRID REF. SN40700490  
SITE TYPE PILLBOX  
PERIOD Modern  
DESCRIPTION One of a defensive line along the South edge of the Gwendraeth estuary.

PRN 31,389  
NAME  
GRID REF. SN41060500  
SITE TYPE PILLBOX  
PERIOD Modern  
DESCRIPTION A type 24 pill box on Bank-y-Lord, located at the point where the railway crosses the bank.

PRN 31,390  
NAME  
GRID REF. Linear feature SN41100494  
SITE TYPE TANK TRAP  
PERIOD Modern  
DESCRIPTION Line of anti-tank cubes alongside railway line at junction of Bank-y-Lord and railway line.

PRN 31,405  
NAME PEMBREY AIRFIELD  
GRID REF. SN40300350  
SITE TYPE AIRFIELD  
PERIOD Modern  
DESCRIPTION

PRN 31,411  
NAME TOWYN CAMP  
GRID REF. SN39730374  
SITE TYPE MILITARY CAMP  
PERIOD Modern  
DESCRIPTION Not shown on map, but at same location as 31,419. Immediately outside study area.

PRN 31,419  
NAME TOWYN MAWR  
GRID REF. SN39730374  
SITE TYPE FARMSTEAD  
PERIOD Post Medieval  
DESCRIPTION Farmstead known through documents. No surface evidence survives. Immediately outside study area.



## **APPENDIX 2. Extracts from the Taf and Twyi Historic Landscape Characterisation Report (Murphy and Ludlow 2000)**

## CARMARTHENSHIRE: TAF & TYWI ESTUARY

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### HISTORIC LANDSCAPE CHARACTER AREA: 156 PINGED MARSH

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GRID REFERENCE: SN 424043

AREA IN HECTARES: 555.30

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#### Historic Background

Pinged Marsh is a coastal lowland area of comparatively recent origin. It developed at the mouth of the River Gwendraeth Fawr behind and to the east of the great dune complex of Pembrey Burrows (see Areas 157, 161-163, 167-168 and 178), over a period of time but mainly during the Post-Medieval period. The dunes acted as a sea-wall and also impeded drainage of the land behind them, which in time, because of sedimentation, could be reclaimed. The development of a marshland landscape had begun by 1609 when the area was allocated to the foreignry of Kidwelly Lordship. A contemporary survey noted 'the marsh on both sides the bridge called Pont y Spowder' (Rees, 1953, 209) ie. Spudder's Bridge, the late Medieval masonry structure that still crosses the Gwendraeth Fawr towards the east of the area. Contemporary land-use was common pasture; part of the area is depicted on an Estate Map of c.1681 where it is labelled 'Common' (James, 1991, 153) bounded by an inlet to the south-west called Salthouse Pill. 160 acres of the common had been enclosed by 1638, under the local landowner Sir Richard Vaughan and the Mayor and Burgesses of Kidwelly (James 1991, 152). The north side of the area had been drained by 1766 when the industrialist Thomas Kymer constructed his canal from Pont-yets to Kidwelly, an earthwork which still forms the northern limit of the character area. Meanwhile, Penybedd Farm at the far southern end of the area had been established between 1681 and 1841 (Pembrey tithe map). However, it is clear that much of the area was still marshland and subject to regular inundation into the early 19th-century, and much of Kidwelly's contemporary maritime trade was carried out from Frankland Quay which formerly lay on the Gwendraeth Fawr 800 m south-west of Spudder's Bridge. At least two stretches of sea defence were constructed within the area, both of them bounding drier land to the south and south-west against the Gwendraeth Fawr estuary to the north. The first is shown on the Ordnance Survey first edition and is at least 18th century in date, but it can no longer be traced. It did, however, permit the construction of a canal from coal-pits on the high ground to the south of the area, to a shipping place on the estuary, by the Lord of the Manor of Pembrey, the Earl of Ashburnham, in 1796-1801 (James 1991, 155). A short canal was established by George Bowser in 1806 from Pinged Village to a tramroad which crossed the marsh to a shipping place on the Gwendraeth Fawr. A third canal was excavated by Pinkerton and Allen in 1814-24, on behalf of the Kidwelly & Llanelly Co., between a junction with Ashburnham's Canal through Pinged Marsh to Frankland Quay. It received Bowser's Canal and had a spur leading west to Trimsaran over an aqueduct, but was replaced by a railway line in 1865 (Ludlow 1999, 30). Work on the canal was interrupted by regular inundation and as a result a further sea-wall, Banc-y-Lord, was constructed by Pinkerton and Allen in 1817-18. This is a substantial earthwork lying towards the west of the landscape area (James 1991, 156). In 1830 and 1842 private Acts of Parliament were passed to enclose parts of Pinged Marsh over which the Earl of Ashburnham's tenants had previously had right of pasture (Jones 1983, 31). However, it was not until the completion, in 1850, of the embanked A484, accompanied by the canalisation of the Gwendraeth Fawr beneath a new bridge ('Commissioners Bridge'), the construction of a further embankment along roughly the same line to carry the Great Western Railway's main South Wales line in 1852 (Ludlow 1991, 84), and an extensive Enclosure Award in 1854 (CRO AE3), that the area was finally won from the sea, but it still remains very wet and marginal.

#### Description and essential historic landscape components

This area of reclaimed marsh consists of flat, low-lying land barely a few metres above sea level. The essential landscape components are a mixture of 18th- to 20th-century infrastructure, with post-1854 settlements and field systems. Pre-Parliamentary Enclosure features are still extant and testify to land use prior to the establishment of the present-day field- and settlement-pattern. These include the various phases of sea walls, Kymer's and Bowser's Canals, and the Pembrey & Kidwelly Canal, the latter two landscape components still evident though now derelict. Penybedd Farm is the only major pre-1854 settlement. The Parliamentary Enclosure field system of 1854 consists of small- and medium-sized regular fields, with the smaller, very regular fields to the eastern side of the area and medium-sized

slightly less regular fields to the west. Ditches are the most common boundary type. These are sometimes accompanied by scrubby hedges and/or wire fences. Towards Pinged on the eastern side of the area hedges are more substantial, but generally overgrown and rarely stock-proof. Pasture is the main land use. The quality of pasture varies considerably from improved land close to Penybedd to rough, rushy ground over most of the area, through to wet ground with standing water at Pant-teg. There is no woodland. The main South Wales railway line is a prominent component of the historic landscape, as are Second World War defences, including anti-tank blocks alongside the railway.

Most archaeological features are Post-Medieval; the canals, aqueduct, sea-walls, quays and railways noted above all survive as physical evidence to varying degrees.

The masonry Spudder's Bridge is 14th- or 15th-century and a Grade II\* listed building. Penybedd Farm, the only major pre 1854 settlement, consists of a stone-built farmhouse with a range of substantial stone-built outbuildings, now in poor condition. Other buildings comprise dwellings of later 19th- and 20th-century date, dispersed across the landscape; none are distinctive. Of particular note are terraces of 20th century housing built in Mansard style. In recent years a small industrial unit has been constructed.

Pinged Marsh is a distinct and well defined historic landscape character area. To the north and east it is bounded by rising ground with long-established farms and field systems (Areas 165, 170, 174). To the west lies an area of industry and leisure facilities (Area 157), and salt marsh to the northwest (Area 178).

## CARMARTHENSHIRE: TAF & TYWI ESTUARY

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### HISTORIC LANDSCAPE CHARACTER AREA: 157 PEMBREY AIRFIELD

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GRID REFERENCE: SN 399037

AREA IN HECTARES: 250.30

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#### Historic Background

A small and discrete area of dune slacks behind Pembrey Burrows and occupied by the former Pembrey Airfield (Page 1996, 15). The burrows themselves are a system of sand dunes which has built up largely during the historic period, and the slacks are the result of various phases of reclamation. The landscape area is almost coterminous with the Manor of Caldicot which was first mentioned in the 13th century (Page 1996, 13), and was extended as the result of reclamation in c.1629 with the construction of a sea-defence called 'The Bulwarke'. The northern half of the area was still subject to regular inundation until a further sea-wall, Banc-y-Lord, was constructed by Pinkerton and Allen in 1817-18 (James 1991, 156). The area was later incorporated within the Manor of Pembrey, under the Ashburnham family, and is shown divided into medium-sized irregular fields on the Pembrey tithe map of 1841. Of the two farms shown on this map, one - Towyn Mawr Farm - appears to occupy the site of one of the three farms shown on an Estate Map of c.1681 (James, 1991, 153). Part of the extreme north-east section was subject to parliamentary enclosure in 1854 (Carns R O, AE3). A 19th century brick-kiln was formerly situated in the southern part of the area, presumably utilising pockets of alluvial clay (Ordnance Survey 6" first edition, Sheet LIII SW). The area was also crossed from north-west to south-east by the man-made Swan Pool Drain, which had probably been established by 1762 to empty a pond formerly lying in Area 163, to the south east, into a former creek beyond The Bulwarke. The airfield was initially a series of grassed runways established as a fighter station, but the present layout dates from 1941-44 after it had become home to 1 Air Gunnery School (Page 1996, 15, 20). It is now a motor-racing circuit and, since 1996, a light aircraft aerodrome.

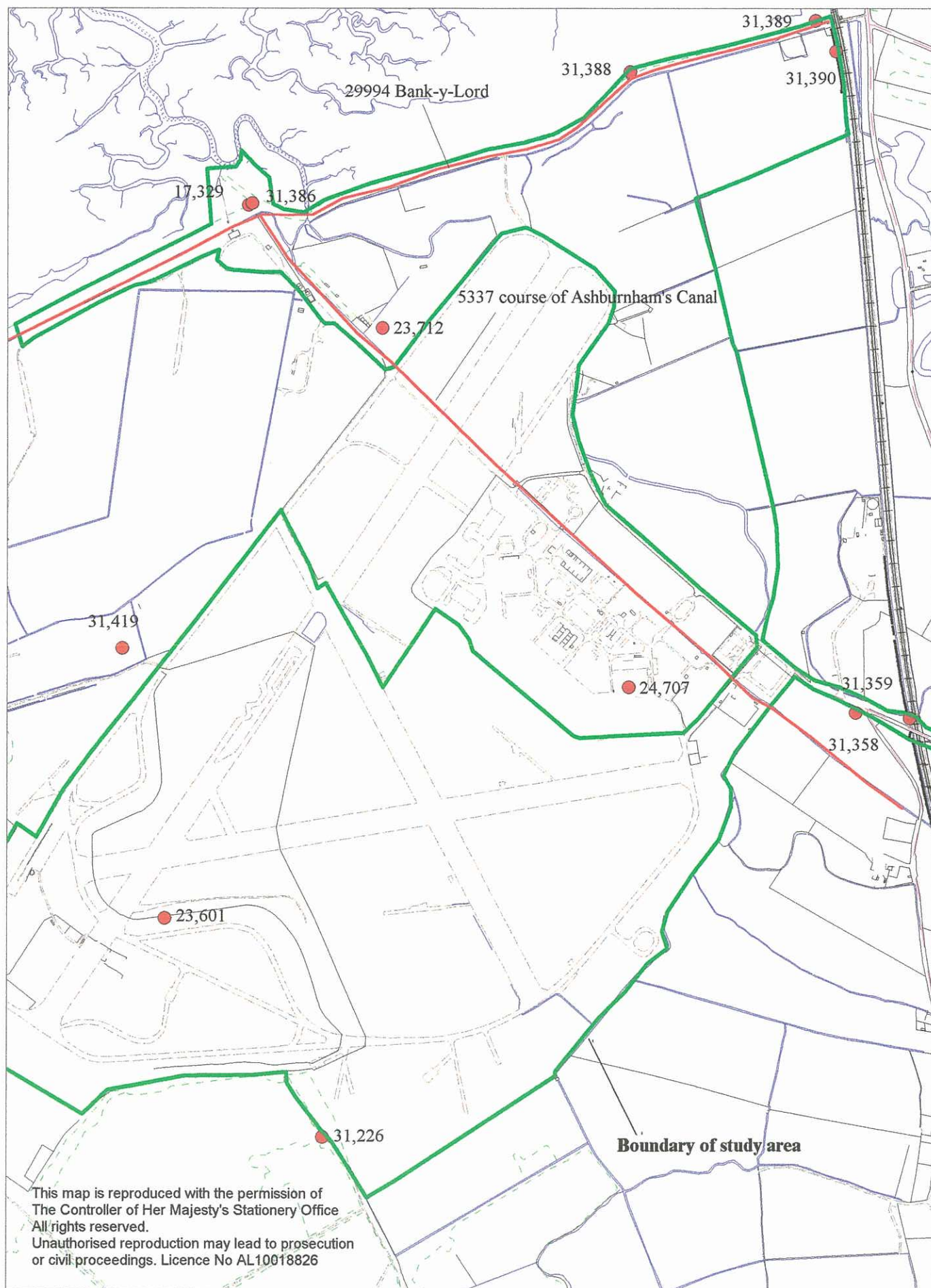
#### Description and essential historic landscape components

Pembrey Airfield lies on reclaimed marsh at/or close to sea level, protected from the sea by an earth-built sea wall. It is now essentially a 20th century landscape, as all earlier landscape elements were lost when the airfield was established in 1940, with two exceptions - a stretch of Ashburnham's Canal which was constructed in 1796-1801 that crosses the north-eastern corner, and Banc-y-Lord which is a substantial earthwork forming the north edge of the area. The farms and their fields recorded in 1841 and the Parliamentary Field system established in 1854, were swept away by the construction of Pembrey Airfield prior to the Second World War. Some of the major buildings from the airfield survive, mostly in a derelict state, including an 'F'-type synthetic trainer shed, but a Gunnery Training Dome survives in good condition. Parts of the runways of the airfield have been incorporated into a motor racing circuit, and other parts are used by Pembrey Airfield for light aircraft. New buildings have been constructed to serve both these functions. The area also contains a small, modern RAF headquarters/installation.

Recorded archaeology is limited to the distinctive Post-Medieval features.

The 20th century buildings are distinctive.

Pembrey Airfield is well defined to the north where a sea wall separates it from salt marsh (Area 178), and to the west where it borders forestry (Area 162). On other sides it is the modern components of this historic landscape character area which differentiate it from its neighbours.



**PEMBREY REGIONAL ADVANCED ENGINEERING CENTRE  
ARCHAEOLOGICAL DESK-BASED ASSESSMENT**

**REPORT NUMBER 2001/34**

**JUNE 2001**


This report has been prepared by N Page & K Murphy

Position K Murphy - Principal Archaeological Officer

Signature  Date 20/06/01

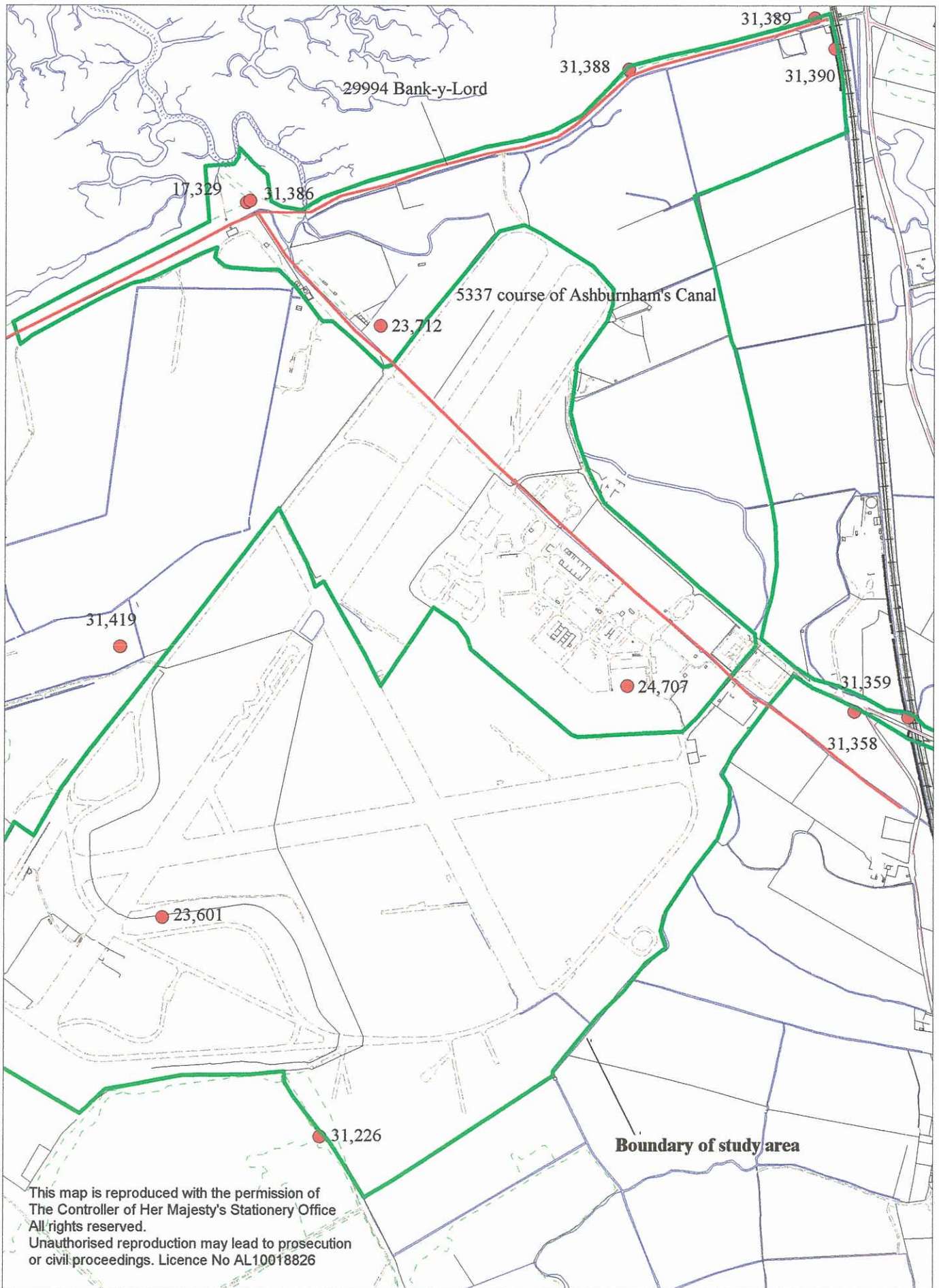
This report has been checked and approved by G Hughes on behalf of Cambria Archaeology,  
Dyfed Archaeological Trust Ltd.

Position Director

Signature  Date 20/6/01

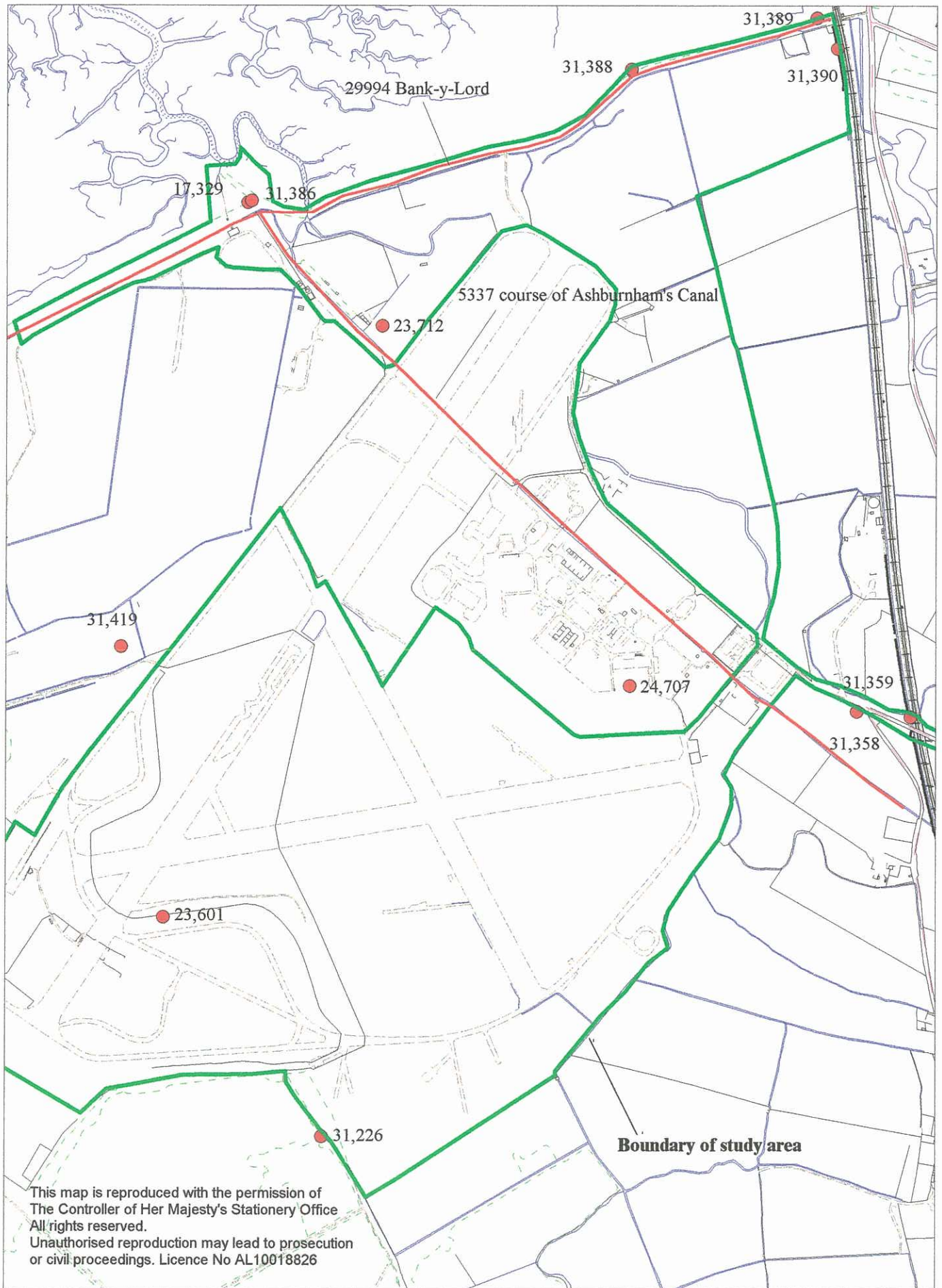
As part of our desire to provide a quality service we would welcome any comments you may have  
on the content or presentation of this report





## PEMBREY REGIONAL ADVANCED ENGINEERING CENTRE

Location of Archaeological Sites 1:10,000



## PEMBREY REGIONAL ADVANCED ENGINEERING CENTRE

Location of Archaeological Sites

1:10,000