

PROPOSED RESIDENTIAL DEVELOPMENT AT MACHYNYS EAST, LLANELLI ARCHAEOLOGICAL DESK-BASED ASSESSMENT



Prepared
by
Cambria Archaeology
for
LLANELLI COAST JOINT VENTURE



A R C H A E O L O G
CAMBRIA
A R C H A E O L O G Y

ARCHAEOLEG CAMBRIA ARCHAEOLOGY

REPORT NO. 2006/44
PROJECT RECORD NO.56476

March 2006

**PROPOSED RESIDENTIAL DEVELOPMENT AT
MACHYNYS EAST, LLANELLI
ARCHAEOLOGICAL DESK-BASED ASSESSMENT**

By

Cambria Archaeology Field Services

*Archaeoleg Cambria yw enw marchnata Ymddiriedolaeth Archaeolegol Dyfed Cyfyngedig.
Cambria Archaeology is the marketing name of the Dyfed Archaeological Trust Limited.*

*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth
Archaeolegol Dyfed am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y
gwybodaeth y mae'n ei gynnwys*

*The report has been prepared for the specific use of the client. The Dyfed Archaeological Trust Ltd can accept no
responsibility for its use by any other person or persons who may read it or rely on the information it contains.*

ARCHAEOLEG CAMBRIA
Ymddiriedolaeth Archaeolegol Dyfed Cyf
Neuadd y Sir, Stryd Caerfyrddin, Llandeilo, Sir
Gaerfyrddin SA19 6AF
Ffon: Ymholiadau Cyffredinol 01558 823121
Adran Rheoli Treftadaeth 01558 823131
Ffacs: 01558 823133
Ebost: cambria@cambria.org.uk
Gwefan: www.cambria.org.uk

CAMBRIA ARCHAEOLOGY
Dyfed Archaeological Trust Limited
The Shire Hall, Carmarthen Street, Llandeilo,
Carmarthenshire SA19 6AF
Tel: General Enquiries 01558 823121
Heritage Management Section 01558 823131
Fax: 01558 823133
Email: cambria@cambria.org.uk
Website: www.cambria.org.uk

Cwmni cyfyngedig (1198990) ynghyd ag elusen gofrestredig (504616) yw'r Ymddiriedolaeth. The Trust is both a Limited Company (No. 1198990) and a
Registered Charity (No. 504616)

CADEIRYDD CHAIRMAN: C R MUSSON MBE B Arch FSA MIFA. CYFARWYDDWR DIRECTOR: E G HUGHES BA FSA MIFA

PROPOSED RESIDENTIAL DEVELOPMENT AT MACHYNYS EAST, LLANELLI ARCHAEOLOGICAL DESK-BASED ASSESSMENT

Report No.2006/44

March 2006

This report has been prepared by Nigel Page

Position: Project Manager

Signature Date

This report has been checked and approved by Ken Murphy

Position: Principal Archaeological Officer Field Services

Signature Date

on behalf of Cambria Archaeology, Dyfed Archaeological Trust Ltd.

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

PROPOSED RESIDENTIAL DEVELOPMENT AT MACHYNYS EAST, LLANELLI ARCHAEOLOGICAL DESK-BASED ASSESSMENT

SUMMARY

Proposals being put forward by Llanelli Coast Joint Venture to develop two areas of housing (Machynys West and Machynys East) on the northern fringe of Machynys, Llanelli (centred on NGR SS50739831) required an archaeological assessment. The proposals form part of a long-term, wide-ranging development project that has remodelled the coastal areas around Llanelli. Machynys and the surrounding area has been central to that redevelopment and the construction of the proposed housing at Machynys West and the adjacent Machynys East site is seen as an important component of the development. Carmarthenshire County Council commissioned Cambria Archaeology to undertake an archaeological desk-based assessment of the proposed development sites during February and March 2006.

This assessment, which considers the Machynys East development area, has revealed the long history of natural development and human exploitation of Machynys, finally resulting in the industrial landscapes of the 19th and early 20th centuries. The history of Machynys, like that of Llanelli itself, is dominated by the industrial growth of the 19th and early 20th centuries, but it was also the site of one of the oldest houses in Llanelli, Machynys House. There are surviving above and below remains of Machynys House that fall within the proposed Machynys East development area.

At the height of the industrial boom of Llanelli there were several factories, worker terraced housing, a school and a chapel all within the proposed Machynys development area. Most of these fall within the Machynys East area.

Machynys East

This area covers the site of Machynys House as well as the sites of two former brickworks, several terraces of worker housing, a chapel, a school and a mission hall. It is not certain how much, if anything, of any of these buildings survive below ground. Therefore, before the full impact of the Machynys East development can be assessed further information is required and an archaeological field evaluation has been suggested.

It is also recommended that any proposed ground investigation works are monitored.

INTRODUCTION

Llanelli Coast Joint Venture is proposing to develop three areas of housing on the northern fringe of Machynys, Llanelli, centred on NGR SS50739831. The proposals are part of a long-term, wide-ranging development programme aimed at regenerating the coastal areas around Llanelli. Machynys has been central to that programme and the construction of the proposed housing at Machynys West and Machynys East is seen as an important part of the development.

Llanelli Coast Joint Venture commissioned Cambria Archaeology to undertake an archaeological desk-based assessment of the proposed development sites during February and March 2006.

The scope and aims of the assessment

This assessment is designed to review existing information on the Machynys area in order to determine the likely impacts of the developments on the rich and varied archaeological resource and to develop a mitigation strategy to minimise those impacts.

Report outline

This report describes the physical environment of the study area before summarising the archaeological resource of both development areas as they are inextricably linked. Indeed, in some cases archaeological sites span both development areas. However, only the likely impacts of the proposed scheme on the Machynys East development area are considered in this report. Recommendations for further archaeological works based on the results of the assessment are also given.

Abbreviations used in this report

All sites recorded on the county Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

THE STUDY AREA

The historic landscape is the result of natural processes and human actions interacting and influencing each other since the end of the last ice age, c.10,000 – 12,000 years ago (Rackham 1994, 6). Those interactions and influences are particularly evident in the coastal areas around Llanelli where they have resulted in the construction of sea defences, reclamation of marshes, shifting settlement patterns, shipwrecks, construction of harbours and drowned landscapes (Page 1997, 2).

The history and development of Machynys is intrinsically bound up with that of Llanelli town and its environs and as such it cannot and should not be studied in isolation. Therefore, for this assessment the study area, although focused on Machynys, is the coastal fringe of Llanelli (Fig. 1).



Figure 1: Location plan of proposed development area. Reproduced from Landranger® 1:50000 scale by permission of Ordnance Survey® on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright 1999. All rights reserved. Licence number AL 100020930

Natural development: the physical background

Machynys is situated on the southeast edge of Llanelli and it forms the western limit of Llanelli Marsh, an area of largely reclaimed coastal marsh that stretches to the Penclacwydd Wildfowl and Wetland Centre. Llanelli Marsh is part of an extensive system of coastal wetlands that extends 4km up the Loughor Estuary and Burry Inlet as far as Llangennech. This area is backed by a discontinuous crescent of high ground from Pembrey to Bynea that is the remnants of former sea cliffs and raised beach deposits of the last interglacial period (Page 1997, 6; Page 2000a, 4; Page 2000b, 3). The cliffs are composed of rocks of the Pennant shales, with coal and sandstones of the Upper Carboniferous Period. They are dissected by numerous small river valleys that drain the high ground to the north into the Loughor (James 1993, 8). The accumulation of sediments from these rivers, in particular the Dafen, Lleidi, Lliw and the Loughor itself has led to the formation of the extensive saltmarshes throughout the Burry Inlet and the lower reaches of the Loughor Estuary. The Burry Inlet and Loughor Estuary has the second largest area of saltmarsh in Britain and the largest estuarine saltmarsh in Wales (Burd 1989, 151; Smith and Yonow 1995, 38).

The present ground surface lies between 3m and 5m above Ordnance datum (OD), with a number of small islands of higher ground at c.8mOD and a high point of 15mOD on the site of Machynys House (Page 2000b, 3). These higher points are moraines of glacial till deposited by the retreating ice sheet at the end of the last glaciation, 10,000 – 12,000 years ago. The Machynys moraine is the largest and forms a ridge that formerly extended across the estuary to Penclawdd on the north Gower coast. Traces of its former extent were shown on an 18th century (1775) navigation *Chart of Carmarthen Bay on the South Wales Coast* by Murdock Mackenzie that showed three small gravel islands running south from Machynys (Fig. 2).



Figure 2: Extract from the *Chart of Carmarthen Bay on the South Wales Coast* by Murdock Mackenzie, 1775, showing the remnants of the Machynys moraine.

The post-glacial, Holocene, sedimentary record shows an overall trend of sea level rise with periodic slowing or lowering of sea levels indicated by layers of peat. Radiocarbon dates obtained from peat cores taken from just outside the proposed development area show that drier conditions probably began in the early to mid Neolithic period, c.4500 – 3500BC, with bog and grassland developing during the later Neolithic and the Bronze Age (Lillie *et al* 2003, 46). A radiocarbon date obtained from peat associated with a submerged forest at Morfa

Bacas to the east of Machynys returned a calibrated date of 2941-2475BC (Page 1997, 8), which relates it to the drier period recorded in the Machynys samples.

A fairly rapid inundation signalled the onset of sea level rise, which appears to have been part of a widespread episode of rising sea levels that was recorded in other locations along the South Wales coast (Lillie et al 2003, 56).

These post-glacial processes have (and continue to) produced a dynamic and until relatively recently ever-changing environment as the various factors constantly worked and reworked the coastline. This was halted by deliberate human intervention.

Land use: reclamation and exploitation

Estuarine wetlands are amongst the most fertile and productive ecosystems in the world (Davidson 1991,2). Because they are influenced by both fresh and saltwater and constantly renourished by water-borne nutrients, carried in the silts from higher up the river, they are particularly rich in natural resources (Page 1997, 1). This mix provides a range of ecozones, each with its own flora and fauna. As the saltmarshes grow and extend to seaward and the salinity decreases at the landward edge the halophytic plants are replaced by a more species-rich flora that in turn attracts more diverse fauna, thereby increasing the available resources.

Food collection

The richness and variety of resources available in the Llanelli wetlands has attracted people from prehistory onwards. Early use of the wetlands would have been by hunter-gatherer groups taking advantage of the seasonally available resources such as new plant growth, shellfish, fish and wild fowl. A shell midden exposed by erosion of the saltmarsh at Morfa Bacas, a short distance to the east of Machynys, contained cockle and mussel shells and the skull of a roe deer. The midden was sitting on one of the glacial islands of higher ground and was at the base of the saltmarsh and is thought to be prehistoric (Page 1997, 14).

The remains of a large number of fishtraps, dating from the last two or three centuries, have been recorded along the Llanelli coastline (Page 1997, 14), which provide evidence of the continued exploitation of fish.

Food production

As agriculture became established the coastal marshes acquired a new range of uses, principally grazing of livestock. Originally, during the Neolithic and early Bronze Age, this would probably have been on a periodic basis and formed part of a round of movement. Whether that movement was annual or not is uncertain, but it is likely that the use of the marshes for grazing was seasonal, with spring and summer favoured. Before agriculture became sedentary and virtually self-sufficient natural resources would still have made up a significant part of the diet, so the visit to the estuary would have been an important event in the lives of the early agriculturists.

As agriculture became more sedentary and farming more intensive the rather unstable nature of the coastal marshes meant that full economic exploitation was difficult. To fully exploit the potential of the marsh human intervention was required to halt the cyclical nature of accretion and erosion and to stabilise the changing patterns of creeks and channels. That intervention took the form of sea defences that allowed the newly enclosed land to be drained and managed.

Reclamation of coastal marshes of Wales has a long history that in some areas dates from the Roman period. In the Llanelli area most of the embankment was carried out in the post-medieval period, although some areas, particularly around Maes-ar-dafen, Trostre and Dafen, a short distance to the northeast of the proposed development site, may have been embanked during the medieval period (James 1993, 13; Page 1997, 10).

At Machynys embankment had begun by at least the early 18th century. Two banks are shown surrounding the southern edge of Machynys in a set of 1761 maps of the estate of the prominent Stepney family (CRO ref: Stepney map book, 1761).

A survey of the agriculture of Carmarthenshire undertaken in 1794 recorded only piecemeal enclosure of the marshes, with the marshes around Kidwelly and Llangennech the only areas that had been substantially embanked and drained. The survey also expressed surprise that 'no attempt has been made to embank and drain the other marshes' (Hassall 1794,28). The other marshes included those around Machynys and Llanelli, which – despite some enclosure in the area around what is now the Penclacwydd Wildfowl and Wetlands Centre – were not fully embanked and drained until the construction of the Great Embankment in 1808-09 that ran from Machynys to join with an earlier sea defence bank at Maes-ar-Dafen, which is now beneath the Trostre Steelworks (Page 1997, 11).

Once enclosed the marshes were farmed fairly intensively until the ever-expanding metal industries began to put pressure on the local agricultural economy. By the early to mid 20th century most of the coastal farms had been abandoned and industry was in decline.

Industrial interests

Of all the abundant natural resources available in the Llanelli region coal has had the biggest impact. It was first exploited in the medieval period and by 1585 the 'port of Burry' was the main place of export from the Carmarthenshire coalfield (Symons 1979, 28). The quantities of coal exported at the time were small, although, as Symons (1979, 30) points out a number of acrimonious disputes in the early 17th century indicate that the potential value of the Llanelli coalfield had been recognised.

The development of the coal industry was slow and dictated by the available technology and the contemporary knowledge about the formation of the coalfields (Page 1997, 16). Sixteenth and 17th century mining was focused on exposed seams in well-drained locations, where any drainage could be achieved through gravity-fed adits or gutters. Export was by boat from small shipping places established along the north bank of the Loughor, with larger facilities developing at Pembrey, Burry Port and eventually Llanelli. By the 18th century the potential of the Llanelli region was attracting large-scale investment from wealthy industrialists drawn to the area by the potential of the area and its location.

Many of these industrialist were involved in the metal processing industries and the Llanelli area met many of the criteria they required. The chief criteria were flat land at low rent, raw materials, fuel, water and an established transport system (Jones 1995, 45-46). As with the coal industry the early metal processing industries were relatively small-scale. In the early 19th century the combined lead, silver and copper industries were employing 550 people between them, but by the mid 1850s one company alone was said to be employing 3,500 miners and raising 700 tons of coal per day for use in its copper works in Llanelli (Bowen 1856, 6).

This rapid expansion turned Llanelli from a village into one of the worlds leading iron and tinsplate suppliers in a few decades. The period covering the late 19th and early 20th centuries was the boom time for Llanelli. However, by the middle of the last century most of the industrial works had closed and the former industrial areas of the time, particularly around Machynys have been in fairly constant decline ever since.

Machynys: an 'island community'

The glacial origin of Machynys has been discussed above and its history and development have also been briefly mentioned, so this discussion will centre on its development during the 19th and early 20th centuries.

There has always been a feeling that Machynys was a place apart, a community on the edge, whether it was the edge of the sea or of the town.

The origin of the name Machynys is difficult to determine¹, although it appears to be very early, as an early 8th century grant of a parcel of land called *terra Machinis* is thought to refer to Machynys (Davies 1979, 112). In the early 14th century land rentals for 'the rent and farms of all the demesne lands, meadows and pastures of Maghenes' (James 1993, 14) shows that the name had survived in constant use for several centuries.

Early development: Machynys House, Mansion or farm?

Even though it is the rapid developments during the industrial heyday that tends to dominate the region it is important that the long history of occupation on Machynys is understood.

A house has stood on Machynys since at least the late 16th or early 17th century. It was not shown on Saxton's map of Carmarthenshire produced in 1578, although others in Llanelli were shown. The Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) have said that Machynys House was built in 1627 (RCAHMW 1817, 120), although Francis Jones has stated that the house was purchased in that year by Walter Vaughan of Llanelli House (Jones 1987, 124). This suggests that Machynys House was built sometime after 1578 and before 1627. Thomas Lloyd described the house as an early double-pile, a style that was becoming popular in Wales in the late 16th and early 17th centuries, supporting a construction date between 1578 and 1627 (Page 1999, 16).

It is possible that there was an even earlier building on the site. There are the known 14th century documentary references to a farm at 'Maghenes' (James 1993, 14) and Jones (1987, 124) relates a story of rafters in the house having AD 1450 carved into them. However, the story as related was anecdotal and the reuse of earlier building materials is not uncommon, so the rafters could have come from anywhere in the Llanelli area.

The presence of a medieval dwelling on the site could explain the choice of Machynys, a tidal island in an estuarine saltmarsh, which is not the typical location for the construction of a house according to the emerging picturesque philosophy. Furthermore, the fact that by the mid 18th century the house was called Machynys Farm suggests that it was perhaps built in contemporary style to replace or remodel an existing house (Page 1999, 16). The possibility of an

¹ For a discussion on the possible origins of the name see Page N 2000, *Llanelli Marsh, Llanelli, Carmarthenshire: archaeological and palaeoenvironmental investigation*. Cambria Archaeology report for Ove Arup & Partners. Report No. 41365.

earlier, possibly medieval farm on the site has significant implications for the chronology of the embankment of Machynys. A medieval embankment is likely to have followed the line of the Phase 1 bank shown in the Stepney Estate map book (1761) as this forms the natural line for a defence on the southern edge of the peninsular (Page 1999, 16). However, any discussion of medieval activity is premature and must wait for further evidence.

Until the industrial expansion of the 19th century Machynys was an agricultural district, but by the end of that century the focus had very definitely switched to industry, with virtually the whole of Machynys covered by factories and housing for the workers they employed.

Industry at Machynys

It has been seen above how the rapid expansion of the coal, metal processing and associated transport industries had increased the number of people living and working in the Llanelli area (see above, p7). The flat lands of Llanelli Marsh around Machynys and the areas around Seaside – to the west of the Machynys – were seen as ideal building land for both factories and worker housing and by the end of the 19th century factories and housing extended as far as Machynys House (Figs 3 and 4).

By the time the 2nd edition Ordnance Survey map was published in the early 20th century parts of several factories, terraces of worker housing, a school, a chapel and a mission room were all present within the proposed development boundary (Fig. 5). With the people living in the houses working in the factories at the end of the road, attending the local school and chapel it is easy to see how Machynys quickly became an almost self-sufficient community. It has been said that people living in Machynys and other similar tight-knit industrial communities in Llanelli seldom went far as they had everything they needed virtually on their doorstep (Rees 2002, 95).

The decline of Llanelli's industry was as dramatic as its rise. During the early years of the 20th century the Machynys landscape was dominated by the massive factories and the associated infrastructure of industry, but by the middle of the century the factories and the people had gone. The decline is resonant in the words of a former Machynys resident 'gone is our unique community, gone are the jobs' (McKibbin 1995, 128).

Over the last decade or so the former industrial landscape has been replaced by a more leisure-oriented space, which has little or no trace of the dynamic, full and busy landscapes of the recent past.

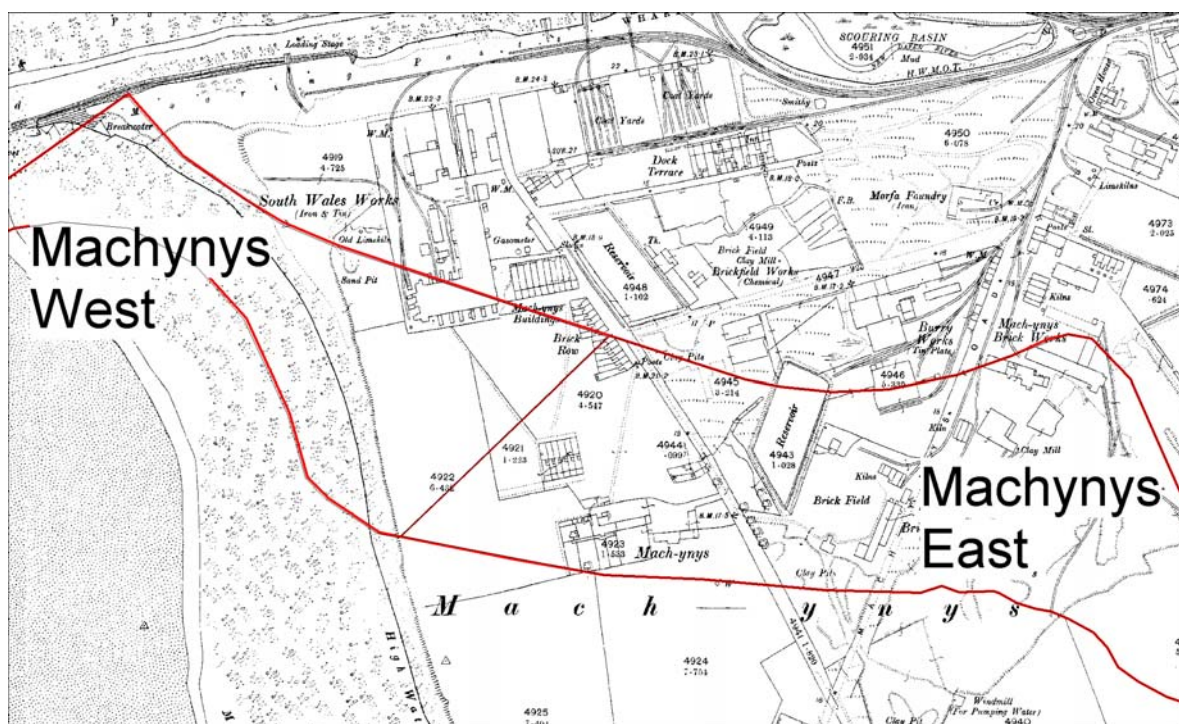


Figure 3: extract from the Ordnance Survey 1st edition map.

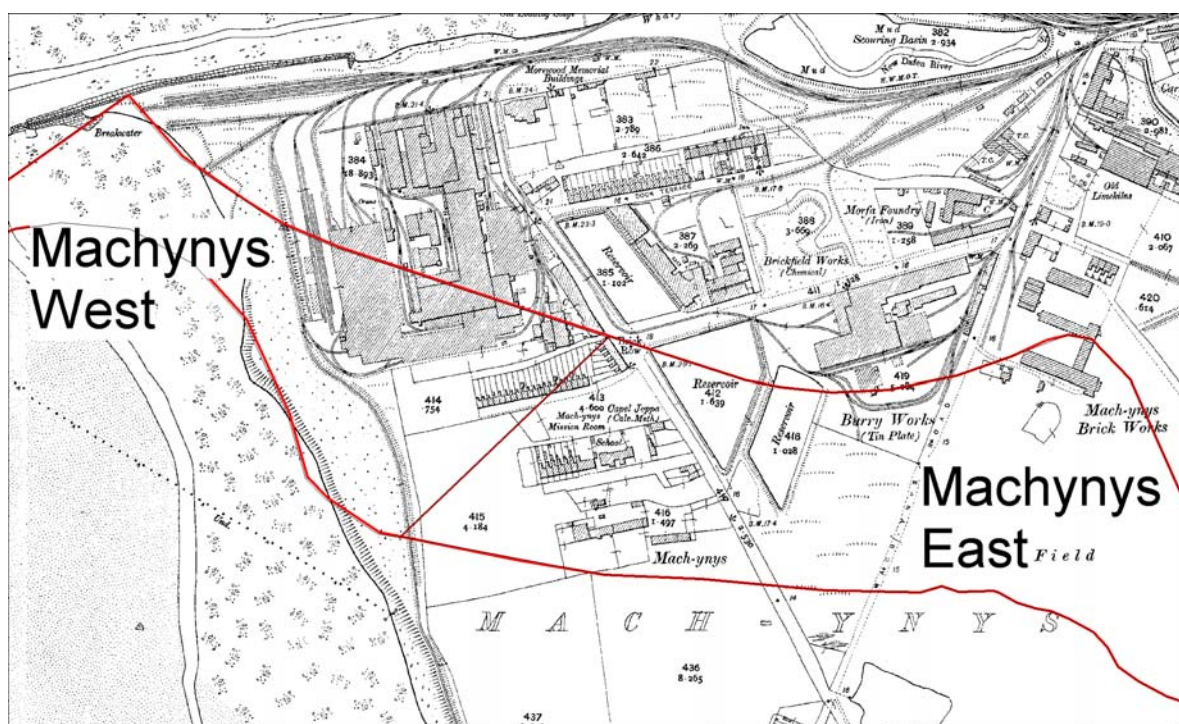


Figure 4: extract from the Ordnance Survey 2nd edition map.

THE ARCHAEOLOGICAL RESOURCE

Archaeological sites within the proposed development areas

There are a total of fifteen known archaeological sites recorded within the proposed development boundaries. They range in date from the late post-medieval period to the mid 20th century. Most of the sites are connected with the industrial and activity that dominated the Machynys area during the 19th and 20th centuries.

Table 1 (below) lists the known archaeological sites within the proposed development area and Figures 3 and 4 illustrates the extent of previous development at Machynys.

PRN	SITE NAME	SITE TYPE	NGR
6995/25373	Machynys House	House	SS50809822
9037	Machynys Brickworks	Brickworks	SS51209830
30709	Burry Tinplate Works	Tinplate works	SS50909830
31419		Clay mill	SS51179827
31423		Brickworks	SS51049824
31424	Machynys Mission Room	Mission hall	SS50789831
34013	Brick Row	Terraced housing	SS50819835
34014	Cliff Terrace?	Terraced housing	SS50769827
34015	Bay View Terrace?	Terraced housing	SS50769834
34016	Machynys School	School	SS50789828
34017	Capel Joppa	Chapel	SS50839830
34018		Reservoir	SS50909835
34025		Sand pit	SS50469852
34070		Clay pit	SS50889836

Table 1: archaeological sites within the proposed development area.

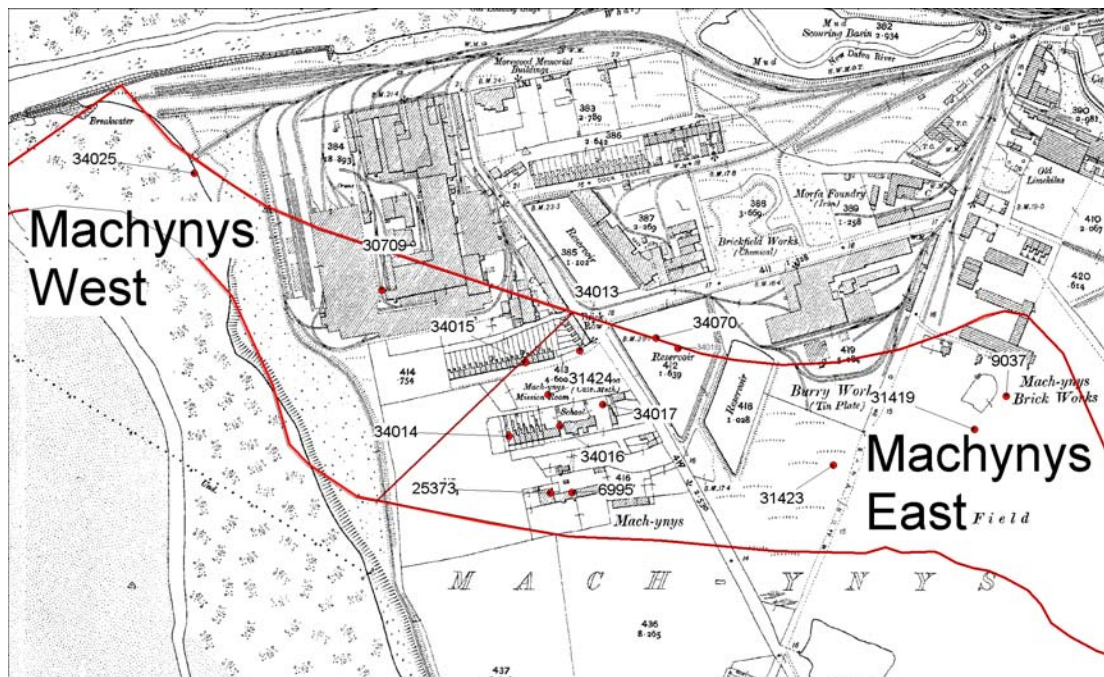


Figure 5: Known archaeological sites within the proposed development area.

Wetland archaeology

As well as the known sites wetland areas have enormous archaeological potential to provide forms of evidence not present on dryland sites. The preservation conditions that exist in wetland sites mean that objects made from organic materials survive, often in exceptional condition, whereas on dry sites they decay and leave no trace in the archaeological record. Wetland areas can also contain unique palaeoenvironmental evidence such as pollen, plant remains, insect remains, molluscs, diatoms and foraminifera, which provide contemporary evidence of past environmental conditions and landscapes.

Previous work to the east of the proposed development area has shown that there is a good surviving environmental record buried across the Llanelli Marsh. However, the past industrialisation and recent ground-moving operations in the east section of the proposed Machynys East development area has probably compromised the environmental record in this area.

Condition

The sites will be assessed using a classification system that assigns each site to one of five categories for their condition and value. The categories are:

- A** – Intact.
- B** – Substantially intact, but with some damage or loss.
- C** – Largely destroyed, but with some surviving elements.
- D** – Destroyed, no above ground remains.
- E** – Unknown potential, buried sites in particular.

Value

- A** - National importance: Scheduled Monuments; Listed Buildings or sites worthy of consideration for Scheduling or Listing.
- B** - Regional importance: sites not considered worthy of scheduling or listing, but which should be retained where possible.
- C** - Local importance: sites that are considered important to an understanding of the development of a local area, or are characteristic of that particular area.
- D** – Sites that are heavily damaged, or where too little remains for inclusion in a higher category.
- E** – Sites of unknown potential, including buried sites, which should be subject to further assessment and evaluation to determine whether or not they should be assigned to a higher category.

Using these categories it is possible to define the level of archaeological response for each individual site and for the proposed development site as a whole.

Condition of archaeological sites within the proposed development area

The former buildings and structures within the development areas have been demolished and now only Machynys House (PRNs 6995 and 25373) has any remaining above ground remains. The rest of the area was comprehensively cleared during the 1960s and 1970s. Recent archaeological monitoring of geotechnical test-pitting on the adjacent Delta Lakes sites, formerly the New Docks area, has shown that the industrial sites, including the Burry Tinplate Works (PRN 30709), were almost completely removed, although some remains do survive below ground. Where they survive they are covered by a significant depth

of made ground chiefly comprising the rubble and waste from the demolition carried out in the 1960s and 1970s (Page 2005, 9).

It is not certain how much remains below ground of the former terraces of workers' housing (PRNs 34013, 34014 and 34015), the chapel (PRN 34017), the mission hall (PRN 31424), the school (PRN 34016), the two brickworks (PRNs 9037 and 31423) or their associated features (PRNs 31419, 34018, 34025 and 24070).

The extensive ground-moving and landscaping works that have taken place on the eastern portion of the site may have impacted on any buried archaeological remains, including the palaeoenvironmental evidence contained in the buried peat, clay and silt. This work may also have affected the sites of Machynys Brickworks (PRN 9037), the unnamed brickworks (PRN 31423) and the clay mill (PRN 31419).

PRN	SITE NAME	NGR	CONDITION
6995/25373	Machynys House	SS50809822	D
9037	Machynys Brickworks	SS51209830	D
30709	Burry Tinsplate Works	SS50909830	D
31419	<i>Clay mill</i>	SS51179827	D
31423	<i>Brickworks</i>	SS51049824	D
31424	Machynys Mission Room	SS50789831	D
34013	Brick Row	SS50819835	D
34014	Cliff Terrace?	SS50769827	D
34015	Bay View Terrace?	SS50769834	D
34016	Machynys School	SS50789828	D
34017	Capel Joppa	SS50839830	D
34018	<i>Reservoir</i>	SS50909835	D
34025	<i>Sand pit</i>	SS50469852	D
34070	<i>Clay pit</i>	SS50889836	D

Table 2: Condition of the archaeological sites within the proposed development site. Sites in italics are unnamed, but the type has been included here for ease of reference.

Assessing the value of the archaeological sites within the proposed development area

Assessing the value of archaeological sites is not intended to identify sites of little or no archaeological value as all sites are, or have been, integral to the development of the historic landscape. Therefore, they are all considered important, but not all of them will require the same level of archaeological protection or mitigation. There are a number of factors that will affect and influence the levels of protection and mitigation for individual sites such as their condition, rarity and vulnerability. For instance the Burry Tinsplate Works (PRN 30709) has been virtually removed, therefore its 'value' is reduced and it is placed in the D Category for *sites that are heavily damaged, or where too little remains for inclusion in a higher category.*

The other sites, including Machynys House are in the E category for *sites of unknown potential, including buried sites, which should be subject to further assessment and evaluation to determine whether or not they should be assigned to a higher category.*

Even though the majority of the sites are in the E category they will not all require the same level of archaeological response and only selected sites require further archaeological investigation at this stage.

PRN	SITE NAME	NGR	ARCHAEOLOGICAL VALUE
6995/25373	Machynys House	SS50809822	E
9037	Machynys Brickworks	SS51209830	E/D
30709	Burry Tinplate Works	SS50909830	D
31419	<i>Clay mill</i>	SS51179827	E/D
31423	<i>Brickworks</i>	SS51049824	E/D
31424	Machynys Mission Room	SS50789831	E
34013	Brick Row	SS50819835	E
34014	Cliff Terrace?	SS50769827	E
34015	Bay View Terrace?	SS50769834	E
34016	Machynys School	SS50789828	E
34017	Capel Joppa	SS50839830	E
34018	<i>Reservoir</i>	SS50909835	E
34025	<i>Sand pit</i>	SS50469852	E
34070	<i>Clay pit</i>	SS50889836	E

Table 3: Archaeological value of the known archaeological sites within the proposed development area. Sites in italics are unnamed, but their type has been included here for ease of reference.

THE IMPACT OF THE PROPOSED DEVELOPMENT ON THE ARCHAEOLOGICAL RESOURCE

It is not known how much, if anything, of the sites – excepting the Burry Tinsplate Works (PRN 30709) in the Machynys West development area – survives below ground. Even though there are no above ground remains of any sites within the Machynys East development area, except at Machynys House (PRNs 6995/25373), substantial below ground remains of the terraces of worker housing and its associated structures may survive. However, the level of demolition and clearance recorded on the adjacent Delta Lakes site suggests that similar comprehensive clearance may have taken place within the Machynys East site.

The recent and on-going ground-moving operations within the east section of Machynys East will have impacted on any surviving remains there may have been of the brickworks (PRNs 9037 and 31423) and the clay mill (PRN 31419). It will also have compromised the integrity of the palaeoenvironmental record, which would have been heavily affected by 19th and 20th century clay extraction for the brickworks.

Machynys East

It is not possible to fully assess the likely impacts of the proposed development of Machynys East on the archaeological sites at present because it is not known how much, if anything, of these sites survives below ground.



Plate 1: A view east from Machynys House showing on-going landscaping works at the east end of the Machynys East development area.

SUGGESTED FURTHER ARCHAEOLOGICAL WORKS

The further works outlined below are suggestions only as the final decision on the scope and extent of work required will be made by the Local Planning Authority's archaeological advisor.

Machynys East

Further information is required to fully assess the likely impacts of the proposed development on the archaeological resource within the Machynys East development area. This can be gained through field evaluation, consisting of the excavation of a number of archaeological test trenches targeted at specific locations to determine the extent and condition of any surviving below ground remains.

It is understood that the area around the standing remains of Machynys House (PRNs 6995/25373) is to be excluded from the development. This area should also be avoided by all site machinery and traffic and it should not be used as a storage area during any construction works.

Archaeological field evaluation: methodology

The aims of the field evaluation would be to identify any below ground remains and to assess the extent, character, condition and vulnerability of those remains to the proposed development.

The evaluation would consist of five archaeological test trenches positioned where possible or appropriate, to investigate specific archaeological sites, such as the areas of former terraced housing, the school, chapel and the brickworks (Fig. 6).

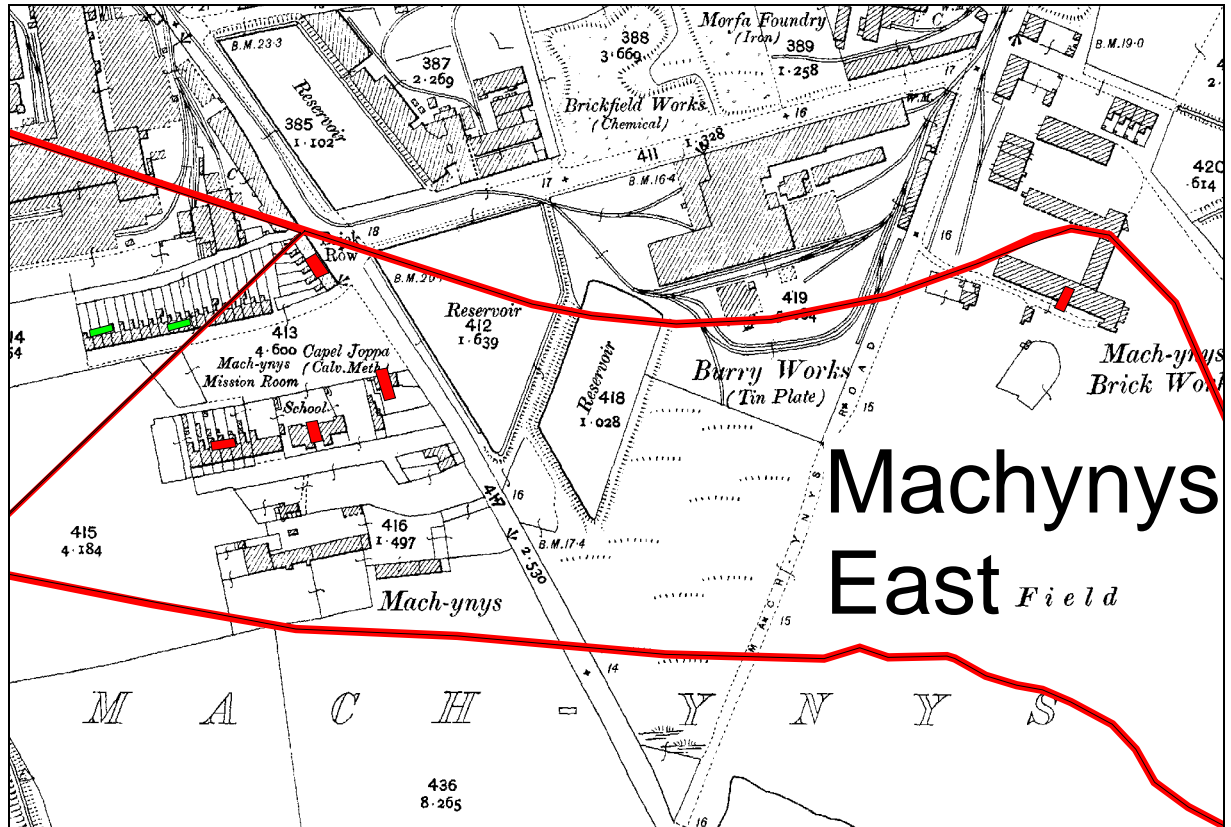


Figure 6: Suggested locations for archaeological trial trenches in the Machynys West (green rectangles) and Machynys East (red rectangles) development areas overlying the Ordnance Survey 2nd edition map of 1907.

Ground investigations

If any ground investigation works are proposed these should be monitored to assess the potential survival of below ground remains of structures, features or deposits containing important palaeoenvironmental evidence.

SOURCES

Unpublished sources

James H	1993	<i>Llanelli Sewage Treatment Works: archaeological assessment.</i> Llandeilo. Dyfed Archaeological Trust report.
Page N	1997	<i>Llanelli and Loughor Wetlands: archaeological assessment.</i> Llandeilo. Cambria Archaeology report for Cadw. Project No. 31347.
Page N	1999	<i>Land at Machynys, Llanelli: archaeological assessment.</i> Llandeilo. Cambria archaeology report for Ove Arup & Partners. Project No. 37418.
Page N	2000a	<i>Machynys Golf Course, Machynys, Llanelli: archaeological watching brief.</i> Llandeilo. Cambria Archaeology report for Ove Arup & Partners. Report No. 37422.
Page N	2000b	<i>Llanelli Marsh, Llanelli, Carmarthenshire: archaeological and palaeoenvironmental investigation.</i> Cambria Archaeology report for Ove Arup & Partners. Report No. 41365.
Page N	2005	<i>Delta Lakes, Coastal Link Road, Llanelli: archaeological Appraisal.</i> Llandeilo. Cambria Archaeology report for Carmarthenshire County Council. Report No.2005/97.

Published sources

Bowen D	1856	<i>The history of Llanelli.</i> Translated by J Griffiths. Privately published.
Burd F	1989	<i>Research and assessment in nature conservation No.17: the saltmarsh assessment of Great Britain; an inventory of British saltmarshes.</i> Peterborough. Nature Conservancy Council.
Davidson N	1991	<i>Estuaries, wildlife and man: a summary of nature conservation and estuaries in Great Britain.</i> Peterborough. Nature Conservancy Council.
Davies W	1979	<i>The Llandaff Charters.</i> Aberystwyth. The National Library of Wales.
Hassall C	1794	<i>General view of the agriculture of the county of Carmarthen with observations on the means of its improvement.</i> London. W Smith.
Jones F	1987	<i>Historic Carmarthenshire homes and their families.</i> Carmarthen. Carmarthen Antiquarian Society and Dyfed County Council.
Jones G	1995	A summary of Llanelli's tinsplate industry. In J Edwards (Ed.) <i>Tinopolis: aspects of Llanelli's tinsplate trade</i> , p44-54. Llanelli. Llanelli Borough Council.

- | | | |
|--|------|---|
| Lillie M,
Page N,
Kirby J &
Griffiths G | 2003 | 'Neolithic-Bronze Age landscape development at Machynys, Llanelli'. <i>Archaeology in Wales</i> vol.43, 45-57. |
| McKibbin E | 1995 | 'Machynys – a vanished village'. In J Edwards (Ed.) 1995, p124-128. |
| Rackham O | 1994 | <i>The Illustrated history of the countryside</i> . London. George Weidenfeld and Nicholson Ltd. |
| RCAHMW | 1917 | <i>Inventory of the ancient monuments Wales and Monmouthshire</i> . London. HMSO. |
| Rees A | 2002 | 'New Dock, Llanelli: the changing landscape'. In the <i>Carmarthenshire Antiquary</i> , vol. XXXVIII. |
| Smith J &
Yonow N | 1995 | <i>The coast of Dyfed and southwest Glamorgan: an environmental assessment</i> . Pembroke. Field Studies Council. |
| Symons M | 1979 | <i>Coal\mining in the Llanelli area</i> . Llanelli. Llanelli Borough Council. |

**PROPOSED RESIDENTIAL DEVELOPMENT AT MACHYNYS EAST, LLANELLI
ARCHAEOLOGICAL DESK-BASED ASSESSMENT**

CONTENTS	PAGE
Summary	1
Introduction	2
The study area	3
The archaeological resource	10
The impact of development	14
Suggested further archaeological works	16
Sources	17
Figure 1: Location plan	3
Figure 2: Extract from late 18 th century navigation chart	4
Figure 3: Extract from Ordnance Survey 1st edition map	9
Figure 4: Extract from Ordnance Survey 2nd edition map	9
Figure 5: Known archaeological sites within the development areas	10
Figure 6: Suggested location of archaeological evaluation trenches	17
Plate 1: View east of Machynys House	14