

PENDINE OUTDOOR EDUCATION CENTRE, CARMARTHENSHIRE: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT



Prepared by DAT Archaeological Services
For: Carmarthenshire County Council



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**PENDINE OUTDOOR EDUCATION CENTRE,
CARMARTHENSHIRE:
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ASSESSMENT**

By

Charlie Enright

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PENDINE OUTDOOR EDUCATION CENTRE, CARMARTHENSHIRE:

HISTORIC ENVIRONMENT DESK BASED ASSESSMENT

Client	Carmarthenshire County Council
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Event Record No 127946

Report No	2022-02
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Report Prepared By	Charlie Enright
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Site-visit Undertaken By Charlie Enright

Illustrated By	Charlie Enright
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**PENDINE OUTDOOR EDUCATION CENTRE, CARMARTHENSHIRE:
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EXECUTIVE SUMMARY

DAT Archaeological Services were commissioned by Carmarthenshire County Council to prepare an Historic Environment Desk-Based Assessment for a proposed housing development at the Pendine Outdoor Education Centre (NGR SN 23544 08238).

The potential impact upon an adjacent late post-medieval well, and a Second World War military camp is highlighted. The remaining archaeological potential is considered to be low, and no significant impacts on the settings of surrounding designated assets were identified.

CRYNODEB GWEITHREDOL

Comisiynwyd Gwasanaethau Archaeolegol YAD gan Gyngor Sir Caerfyrddin i baratoi Asesiad Desg Amgylchedd Hanesyddol ar gyfer datblygiad tai arfaethedig yng Nghanolfan Addysg Awyr Agored Pentywyn (NGR SN 223544 208238).

Yr effaith bosibl ar ffynnon ôl-ganoloesol hwyr gyfagos, a gwersyll milwrol o'r Ail Ryfel Byd wedi amlygu. Ystyrir bod y potensial archeolegol sy'n weddill yn isel, ac nid nodwyd unrhyw effeithiau arwyddocaol ar leoliadau'r asedau dynodedig o amgylch.

INTRODUCTION

1.1 Project Proposals and Commission (Figure 1 & 2)

- 1.1.1 DAT Archaeological Services were commissioned by Carmarthenshire County Council to prepare an Historic Environment Desk-Based Assessment for a proposed new housing site currently being assessed through an options appraisal, which may then be further developed towards public consultation and planning application. The site is located at the Pendine Outdoor Education Centre (SN 23544 08238; Figure 1), a residential activity centre located 300m from the historic Pendine Sands beach. The site is owned and managed by Carmarthenshire County Council. The site covers approximately 2.7 acres, with several blocks that are mostly used for accommodation.
- 1.1.2 This Historic Environment Desk-Based Assessment provides an indication of the archaeological potential of the development area and highlights possible issues in relation to the impact of any proposed development on the historic environment.
- 1.1.3 The assessment has been a primarily desk-based study of the site, identifying any known archaeological or historic assets within the site and its environs, identifying any historic landscape areas that may be affected by the proposals and assessing the potential for hitherto unknown archaeological remains to be present within the development area. Due to current restrictions related to the Covid-19 outbreak some archive sources have not been consulted, although sufficient information has been gained to provide a comprehensive assessment of the site.

1.2 Scope of the Project and Methodology

- 1.2.1 The scope of the assessment follows the Chartered Institute for Archaeologists' *Standard and guidance for historic environment desk-based assessment* (CIfA 2014). This states that:

Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of Conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.

- 1.2.2 A desk-based assessment is defined by CIfA as:

.....a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of historic assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.

- 1.2.3 The desk-based assessment of the area identifies known archaeological sites within the site and its environs and assesses the potential for hitherto unknown remains to be present within the proposed development area. This will help inform future decision making, design solutions and potential mitigation strategies, including the potential for further archaeological works.
- 1.2.4 The scope of the report also includes an assessment of the potential impact of the proposed development on the settings of designated historic assets in the vicinity, including scheduled monuments, listed buildings and historic landscape character areas, utilising best practice guidance in *Setting of Historic Assets in Wales* (Cadw 2017).
- 1.2.5 The report presents relevant information from a number of sources including:
- The regional Historic Environment Record;
 - Map regression exercise using cartographic sources;
 - Available and relevant reports on any archaeological work undertaken in the area that affect the site or its setting;
 - Material held in the County Archive, the National Library of Wales (NLW) and the Royal Commission on Ancient and Historic Monuments of Wales (RCAHMW);
 - Aerial photography, satellite imagery and Lidar data;
 - Relevant records held by the developer;
 - Identification of any Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Historic Landscapes, Historic Landscape Character Areas or Conservation Areas within or in the vicinity of the site area (Cadw, DAT, NRW);
 - Assessment of the archaeological potential of the area;
 - Assessment of the likely impact upon the setting of surrounding historic environment features; and
 - Assessment of likely impacts on any identified remains within the development site (or potential remains) and likely requirements, if any, for further stages of archaeological work.
- 1.2.6 Carmarthenshire County Council has requested a study area of 0.5km from the perimeter of the proposed development area to ascertain the known archaeological and historical resources. The report will, however, include sites beyond this limit within the assessment, if they are deemed to be of significance to the results.
- 1.2.7 This report contains information about the historic environment and historic assets in the vicinity of the proposed development site, which will assist the archaeological advisors to the planning authority in their decision about what, if any, archaeological mitigation will be required. Further guidance on how the planning system considers the historic environment and historic assets during development plan preparation and decision making on planning and Listed Building (LBC) applications can be found in *Planning Policy Wales: Technical Advice Note 24: The Historic Environment* (Welsh Government 2017; available online).

1.3 Abbreviations

- 1.3.1 All sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Reference Number (PRN) and located by their

National Grid Reference (NGR). Sites recorded on the National Monument Record (NMR) held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) are identified by their National Primary Reference Number (NPRN). Listed Buildings (LB). Altitude is expressed to a height above Ordnance Datum (aOD). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full bibliographic details listed in the sources section at the rear of the report.

1.4 Illustrations

- 1.4.1 Printed map extracts are not necessarily reproduced to their original scale. North is towards the top of the page unless otherwise indicated.

1.5 Timeline

- 1.5.1 The following timeline gives date ranges for the various archaeological periods that may be mentioned within this report.

Table 1: Archaeological and Historical Timeline for Wales

Period	Approximate date	
Palaeolithic –	c.450,000 – 10,000 BC	Prehistoric
Mesolithic –	c. 10,000 – 4400 BC	
Neolithic –	c.4400 – 2300 BC	
Bronze Age –	c.2300 – 700 BC	
Iron Age –	c.700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1086	
Medieval Period –	1086 – 1536	
Post-Medieval Period ¹ –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20th century onwards	

¹ The post-medieval and Industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust

2. NATIONAL POLICIES AND GUIDANCE

2.1 The Historic Environment (Wales) Act

2.1.1 The Ancient Monuments and Archaeological Areas Act 1979 was previously the primary legislation for protecting archaeological remains and scheduled monuments. This has more recently been amended by The Historic Environment (Wales) Act 2016 which has three main aims as defined by Cadw:

- to give more effective protection to listed buildings and scheduled monuments;
- to improve the sustainable management of the historic environment; and
- to introduce greater transparency and accountability into decisions taken on the historic environment.

2.1.2 The new Act amends the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents. The Act most specifically provides better safeguards for the protection of scheduled monuments, listed buildings and historic parks and gardens. It also includes further guidance on place names.

2.2 Planning Policy Wales

2.2.1 Planning Policy Wales sets out the Welsh Government's land use planning policies. Its primary objective is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

2.2.2 Chapter 6, 'Distinctive and Natural Places', explains how planning systems must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being of present and future generations. It also sets out the planning policies for the sustainable management of specific categories of historic environment assets.

2.3 Technical Advice Note 24: The Historic Environment

2.3.1 This technical advice note provides guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building consent applications. It also provides specific guidance on how the following historic environment assets should be considered:

- scheduled monuments
- archaeological remains
- listed buildings
- conservation areas
- historic parks and gardens
- historic landscapes
- historic assets of special local interest
- World Heritage Sites

2.3.2 The technical advice note usefully gathers together the selection criteria employed in the designation of scheduled monuments and listed buildings and the registration of historic parks and gardens and historic landscapes.

- 2.3.3. Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic environment assets) is provided by Cadw acting on behalf of Welsh Government.
- 2.3.4 This report will also make reference to other guidance documents published by Cadw, namely: *Conservation Principles* (March 2011); *Heritage Impact Assessment in Wales* (May 2017); *Managing Historic Character in Wales* (May 2017); and *Setting of Historic Assets in Wales* (May 2017).

3. LOCAL PLANNING POLICIES

3.1 Carmarthenshire County Council Policies

- 3.1.1 The Historic Environment is subject to the relevant policies and procedures as laid out in the Carmarthenshire County Council (CCC) Local Development Plan (LDP) 2018 – 2033.
- 3.1.2 The historic environment is referenced throughout the document in numerous policies, emphasising its significance to the county. The main policy references to the Historic Environment are outlined in the strategic policy **SP 14: Protection and Enhancement of the Built and Historic Environment:**

Development proposals should preserve or enhance the built and historic environment of the County, its cultural, townscape and landscape assets, and, where appropriate, their setting. Proposals will be expected to promote high quality design that reinforces local character and respects and enhances the cultural and historic qualities of the plan area.

11.445 *Carmarthenshire has a rich and diverse historical and cultural built heritage with a range of Conservation Areas, Listed Buildings, and Scheduled Monuments. The recognition of the Plan area's built heritage and its conservation is essential in providing a sense of history, character, and a sense of place.*

11.446 *The Plan area also contains discovered, and yet to be discovered archaeological sites and features. The Policy and the Plan aims, in conjunction with primary legislation on the built environment and historic buildings to safeguard the cultural integrity of the historic settlements, features and buildings within the Plan area. Where applicable, it also looks to contribute to the enhancement of the historic and built environment. This recognises that our historic assets are irreplaceable resources and their conservation provides social, cultural, economic and environmental benefits.*

11.447 *The County's historic buildings, townscape and landscape should be regarded as assets and positively conserved and enhanced for the benefit of residents and visitors alike. These are not only affected by change and neglect, but also by changes to their setting. As such, this is an important consideration in making decisions on proposals which may have an effect.*

11.448 *Many elements of the County's built and historic environment are protected through legislation or other policy provisions, and as such do not require policies in the revised LDP. The Plan does not therefore include policies in relation to facets of the built heritage such as Scheduled Monuments as they are adequately protected elsewhere.*

11.451 *Environment which recognises the importance of such areas and features of the County:*

- *Historic Parks and Gardens[38] - Many parks and gardens are historically significant and are listed in the Historic Parks and Gardens in Wales Register. These areas are also defined on the LDP Proposals Map;*
- *Historic Landscapes[39]*
- *Archaeological Remains[40]*
- *Enabling Developments[41] - PPW sets out the provisions through which an enabling proposal would be considered*
- *Scheduled Monuments - These are defined on the Proposals Map*

4 LOCATION, TOPOGRAPHY AND GEOLOGY

- 4.1 The proposed development site is located on the eastern edge of the village of Pendine, Carmarthenshire, in south-west Wales. Pendine is located on the northern shore of Carmarthen Bay, a wide open bay at the mouth of the Bristol Channel. The county town of Carmarthen is located approximately 20km to the northeast.
- 4.2 The proposed development site is approximately centred on SN 23544 08238 (Figure 1). The site occupies a gradual south facing slope which is situated at approximately 10m OD. The site is backed by steeply rising ground to the north, the wooded slopes cut by small steep-sided stream valleys. To the south and southeast extends the wide sandy beach of Pendine Sands, backed by the sand dunes of Pendine Burrows with extensive areas of reclaimed marshland between the dunes and the rising ground to the east of the site. The original centre of Pendine is focussed on higher ground to the northeast, with a mix of some traditional but largely modern housing spreading down the B4314 to the edge of the sea. The proposed development site lies within an extensive semi-permanent caravan park which has developed along the lower ground to the east of Pendine. The original centre of the village is fed by sinuous local roads, including the B4314, which connects to the main A4066 road which runs along the foot of the rising ground, behind Pendine Burrows and marsh, and leads to Laugharne, 7.5km to the north-east.
- 4.3 The underlying geology comprises Pridoll Rocks (undifferentiated) – mudstone, siltstone and sandstone. This sedimentary rock formed approximately 416 – 419 million years ago during the Silurian period, in a local environment dominated by rivers (BGS nd).



Figure 1: Location of development area

5 DESIGNATED HISTORIC ASSETS (Table 2 and Figure 3)

5.1 General

- 5.1.1 A search of several databases was made in order to identify historic assets within the 500m radius search area. This included both designated and non-designated assets. Designated assets of potential interest beyond this search area are included if deemed of relevance.

5.2 Scheduled Monuments

- 5.2.1 Scheduled Monuments are historic and archaeological sites considered to be of national importance. These sites are given legal protection, and the potential impact of development upon these sites and their settings are considerations of the planning process.
- 5.2.2 There are no scheduled monuments within the 500m radius study area.
- 5.2.3 Of potential interest further afield lie two Iron Age promontory forts. The nearest is Napp Camp (CM019), located approximately 850m southwest of the proposed development area. Just over 1km to the northeast lies Castle Lloyd Camp (CM141). These two sites may be of interest as the proposed development site lies approximately midway between the two similar sites.

5.3 Registered Historic Landscapes

- 5.3.1 Registered Historic Landscapes are landscapes of historic interest included on the non-statutory Register of Landscapes of Historic Interest in Wales (Cadw 1998). The landscape boundaries and associated details have been created as non-statutory advice to assist decision-makers and landscape managers to help ensure that the historic character of the landscape is sustained and that where change is contemplated, it is well-informed.
- 5.3.2 The Taf and Tywi Estuary Landscape of Outstanding Historic Interest (HLW(D)9) lies immediately to the south of the proposed development area, the southeast border of the site effectively providing the boundary to the registered Landscape. The full description of this landscape can be found in the *Register of Landscapes of Outstanding Historic Interest in Wales* (Cadw 1998), also reproduced on the Dyfed Archaeological Trust website - <https://dyfedarchaeology.org.uk/HLC/CarmarthenBayMap.htm>

This landscape is summarised as:

This littoral area of estuaries, coastal lowlands, sand dunes and intertidal sand bars lies across the north east side of Carmarthen Bay, on the South Wales coast. Behind the long expanses of sand dunes on the north east side of Carmarthen Bay, on the east and west sides of the estuary mouths of the Rivers Taf, Tywi and Gwendraeth, lie large areas of low lying marsh land. The whole area contains diverse evidence of activity from the prehistoric to the recent past and includes the Hugden medieval open field system on the low coastal ridge west of Laugharne.

- 5.3.3 In order to better characterise the historic environment of the Historic Landscape it has been sub-divided into a number of Historic Landscape Character Areas (HLCA). These areas do not necessarily confine themselves to the illustrated limits of the registered Historic Landscape. The proposed development site lies within HLCA 139 Pendine and Llanmiloe. This area is spread along the coastal fringe at Pendine, and

comprises former reclaimed marsh, sand dune and the lower built-up hillside of the coastal slope. A small number of traditional buildings, including cottages, hotel, public house and villas, lie on the sea front, and Llanmiloe House also lies in the area, but it is largely swamped by holiday parks at Pendine, and housing development at Llanmiloe for workers at the nearby Ministry of Defence research establishment. Included within this is a small estate of post-war 'prefabs'. Historically Pendine was a manor of the medieval Lordship of Laugharne, the village itself lying outside this HLCA. Mid-19th century maps show a small settlement of four houses and a lime kiln on the shoreline, with some more houses further upslope around New Inn. To the east, at Llanmiloe, stood Westmead Mansion and Llanmiloe House. Westmead was around in the 16th century, but the current house was built by Sackville Crow in the 17th century. Llanmiloe House was built in the 1720s, acquired by the Ministry of Defence in the Second World War. A tourist industry developed at Pendine from the late 19th century, initially centred on villas, a public house and hotel. Development increased dramatically in the 2nd half of the 20th century with the establishment of the MoD research centre to the east, and holiday and caravan parks to the west.

5.4 Registered Historic Parks and Gardens

- 5.4.1 Parks and gardens of special historic interest in Wales are included on a Register of Historic Parks and Gardens, designed to provide comprehensive information to assist decision makers to help protect and preserve essential features of these parks and gardens, and enable their significance and character to be protected through the planning system.
- 5.4.2 There are no registered historic parks and gardens within the 500m radius study area. The nearest historic park is Llanmiloe House, located approximately 1.2km northeast of the proposed development (PGW (Dy) 1(Cam)). The grounds at Llanmiloe House are registered (grade II) for their historic interest as a well-preserved example of an Edwardian garden and for group value with the listed house

5.5 Listed Buildings

- 5.5.1 Listed Buildings are buildings and structures of national importance given legal protection by being placed on a 'List' of Buildings of Special Architectural or Historic Interest. Buildings on the List are given one of three grades which denote their level of importance (Grade I, II* & II), Grade I being the highest. A listed building may not be demolished, extended, or altered without special permission from the local planning authority.
- 5.5.2 There are no listed buildings within the 500m radius study area. The nearest listed buildings are clustered around the old hilltop settlement of Pendine in the vicinity of the parish church. These include the church itself, dedicated to St Margaret of Antioch, which dates from the medieval period (LB 19014; Grade II*). Other nearby listed building records are all associated with the Great House, a 17th-century former gentry house (LB 9408, LB 24447 and LB 24446; all grade II).

5.6 Conservation Areas

- 5.6.1 Conservation Areas are designated to preserve and enhance the special character of areas of architectural or historic interest. The purpose of

designating a Conservation Area is to provide the Planning Authority with an additional measure of control over an area that they consider to be of special historic or architectural value.

- 5.6.1 The proposed development area does not lie within any Conservation Area. The nearest Conservation Area is in Laugharne, over 6km away.

6 NON-DESIGNATED HISTORIC ASSETS (Table 2 and Figure 2)

6.1 General

- 6.1.1 A search of data held by the Dyfed Archaeological Trust Historic Environment Record (HER) and other databases was made within a 500m buffer area from the periphery of the proposed development. The HER records six assets within the search area, however one (PRN 40171) refers to the HLCA described above (section 5.3.3), and two (PRNs 111079 and 111080) record sea cave sites to the southwest but no archaeological remains are recorded in association with them.
- 6.1.2 In addition to the HER the Coflein database (maintained by RCAHMW) was also consulted. This provided an additional two historic assets within the study area. The first relates to the modern Pendine Museum of Speed (NPRN 402835) and the second is a suggested maritime landing place (NPRN 525042) identified by the convergence of tracks on the foreshore. As these contribute little to the understanding of the archaeological and historical context of the area, they have not been included in Figure 2.
- 6.1.3 The following information is provided chronologically to give a brief archaeological and historical background for the development area and its environs for each archaeological period, along with the relevant HER information.

6.2 Palaeolithic, Mesolithic and Neolithic

- 6.2.1 There are no known Palaeolithic, Mesolithic or Neolithic sites recorded within the study area.
- 6.2.2 Just under 5km to the east lies the site of Coygan Cave, on an inland cliff face now fronted by reclaimed marshland. This cave produced rare evidence of occupation by Neanderthals during the middle Palaeolithic (64-50,000 BCE), when it was likely occupied as a temporary shelter. This cave has subsequently been quarried away, but similar cave sites along the limestone coastal areas of Wales have produced a wealth of Palaeolithic and Mesolithic archaeological remains. The local geology provides the opportunity for further cave sites to exist and cave sites are recorded to the southwest (PRNs 111079 and 111080), but these are sea caves and unlikely to contain any surviving remains. No caves have ever been identified within the proposed development area.
- 6.2.3 1.5km to the west lies the important Neolithic site of Morfa Bychan. A group of four chambered tombs (PRN 4314), along with a long cairn (PRN 11430) and a series of cup-marked stones, lie along a limestone outcrop overlooking the neighbouring stream valley. This marks the site out as an important funerary and ritual location during the Neolithic period, although currently no Neolithic sites have been uncovered closer to the proposed development area.

6.3 Bronze Age and Iron Age

- 6.3.1 There are no known Bronze Age sites within the study area. Some sites do lie in closer proximity, including a burial cist on the northwest edge of Pendine village (PRN 3838) at the head of the Morfa Bychan valley, 1.1km from the proposed development site, and a round barrow (PRN 3840) on a prominent hilltop 1.2km to the north. Approximately 700m to the west of the proposed development site is a record of a findspot (PRN 39092) where a flint arrowhead of potentially Bronze Age date was recovered during ploughing. There is little, however, to indicate a particularly active area during this period within the proposed development area.
- 6.3.2 There are no known Iron Age sites within the study area. Outside the study area however there is increasing evidence of settlement activity during the Iron Age, largely in the form of defended enclosures. Approximately 800m southwest of the proposed development area one such enclosures sits on top of the rocky promontory of Gilman Point (PRN 3827/3828). 1.1km to the northeast a similar promontory overlooking a steep stream valley is also occupied by a defended enclosure (PRN 3830). A third site lies 1.5km to the north, on the hillslopes overlooking the head of another stream valley. Access to the sea is likely to have been a factor in the siting of these enclosures, which increases the potential for general Iron Age archaeological remains in the area.

6.4 Romano-British

- 6.4.1 There are no known Roman period sites within the study area, nor the wider area. One sherd of early Roman pottery was recovered from one of the Iron Age defended enclosures (PRN 3830), which is not uncommon and would suggest many of these defended enclosures continued to be occupied into the Romano-British period.

6.5 Early medieval & medieval

- 6.5.1 There are no known early medieval or medieval sites within the study area.
- 6.5.2 There is the potential that the local churches at Pendine and Marros had early medieval origins, although this is currently considered a low probability.
- 6.5.3 St Margaret's Church (PRN 3839) in Pendine was a medieval chapelry, later becoming a parish church during the post-medieval period. The presence of a medieval chapel may indicate that the settlement at Pendine has medieval origins. The proposed development site lies in close proximity to the traditional closest access point between settlement at Pendine and the sea. Other medieval sites in the area include a possible medieval cross base (PRN 3818) found in a similar topographical location 600m to the east, potentially located close to a routeway along the base of the cliffs.

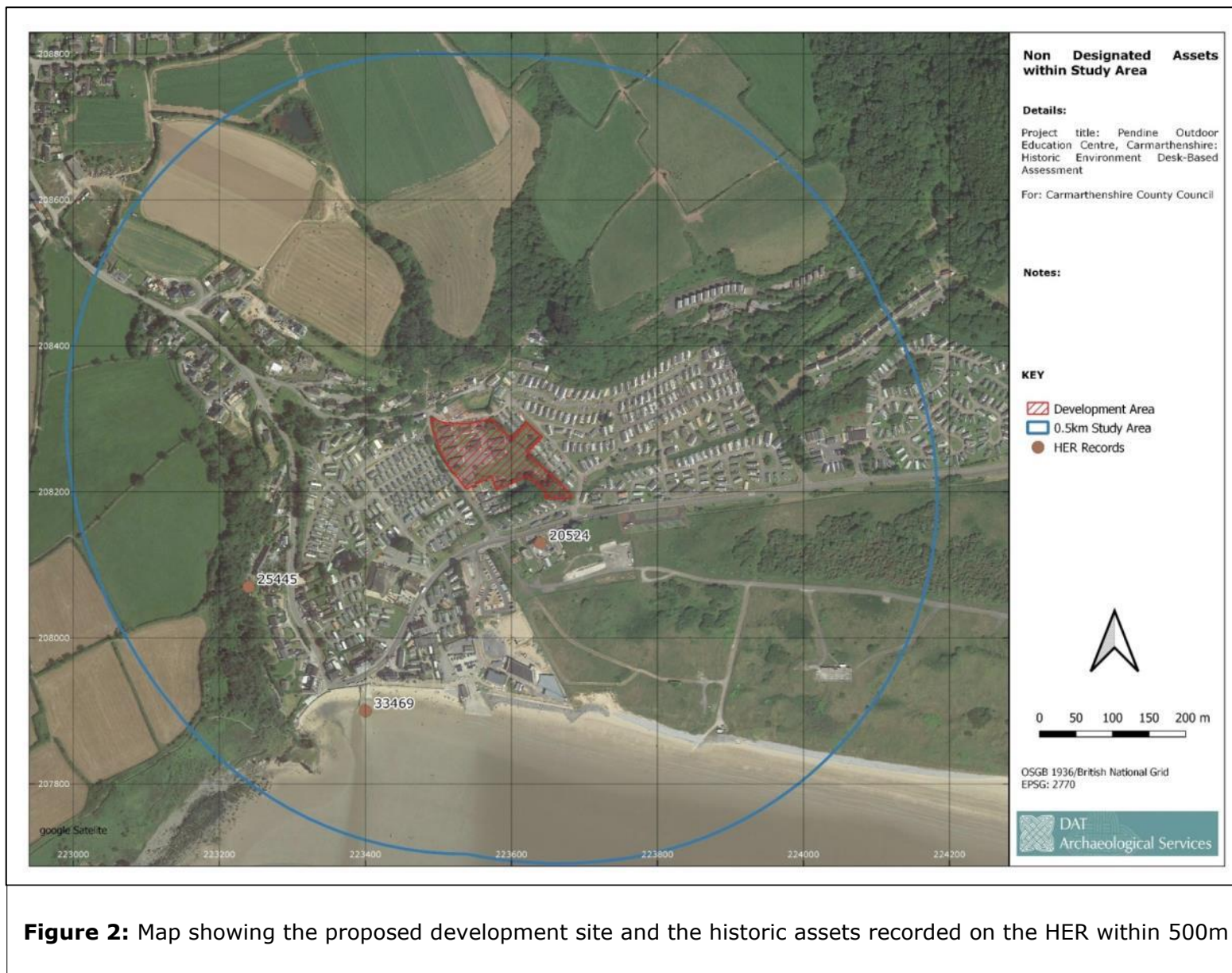
6.6 Post-medieval & Modern

- 6.6.1 Each of the three HER records within the study area is related to the post-medieval period. None of these sites are recorded within the proposed development area itself.

- 6.6.2 To the south of the site is Beach Chapel (PRN 20524). A plaque at the front of the chapel is dated 1896 and in memory of Peter Williams. The graveyard contains only three graves; two that are unmarked and one that dates from the 1950s.
- 6.6.3 At the far western end of Pendine beach is a sea wall, partly 19th century stone-built with modern concrete additions.
- 6.6.4 The final historic asset recorded within the study area relates to Ashwell House, an 18th century minor gentry house.
- 6.7.5 There are few records relating to Pendine in the early post-medieval period, although there is one famous account from the early 17th century recording the sighting of a mermaid off Gilman Point to the south of Pendine (Anon 1604). Pendine is likely to have remained a relatively small village throughout much of the post-medieval period. The presence of Ashwell House from the 18th century at least indicates there was a road connecting the village to the sea. The proposed development area may have occupied marginal farmland on the edge of the marshland and sand dunes that extended eastward. In the later 19th century, a tourist industry began to develop around Pendine, focussed initially on a small area of development on the sea front.
- 6.7.6 Tourism continued to form an important part of the local economy into the 20th century, boosted by the use of Pendine Sands for racing and motor sports, including attempts to establish world land-speed records in the 1920s. The Sands were also famous as the launch point for Amy Johnson's flight across the Atlantic in 1933. The next major change came during the Second World War. The Ministry of Defence established a research centre and firing range on Pendine Burrows and Sands in the summer of 1940. The headquarters were initially established at the Beach House Hotel, before transferring to Llanmiloe House in 1941. Pre-fabricated housing was established in Pendine and around Llanmiloe to house the new workforce at MoD Pendine. The firing range remains in use to this day, but since the post-war period Pendine has seen the establishment of extensive caravan parks on the fields surrounding the proposed development site. The site itself was apparently used as a military camp, presumably associated with MoD Pendine, into the later 20th century, before being repurposed in its current form as Pendine Outdoor Education Centre.

PRN	NPRN	Site name and Description	Period	NGR
20524	6637	Beach Chapel – No description given.	Post-Medieval	SN 2364 0813
25445		Ashwell - Home of a minor gentry in 18th Century. It is now a cottage. F.Jones.	Post-Medieval	SN 2324 0807
33469		Sea Defences - A sea wall at the extreme western end of Pendine Beach, designed to protect Pendine village. It is partly stone-built (presumably of 19th century date) with concrete additions. A slipway forms part of the wall. KM 1996	Post-Medieval	SN 234 079

Table 2: All sites recorded on the HER within the study area. Illustrated in Figure 2



7 ASSESSMENT OF EVIDENCE

7.1 Previous Archaeological Work

- 7.1.1 Records of previous archaeological work were assessed but none were found to be within the proposed development area, nor the 500m study area.

7.2 Historic Mapping

Pendine Parish Tithe Map, 1842 (Figure 3)

- 7.2.1 One of the earliest available detailed maps of the area is the Pendine parish tithe map of 1842. The map extract shows that the proposed development area predominantly overlies fields that were under pasture, part of Ashwell Farm. The road that defines the western edge of the proposed development site was in place by this time, and the southern boundary was defined by an artificial drainage ditch that defined the limit of the coastal marshes/dunes. This ditch is also still in existence. The field alongside the road, covering much of the western half of the proposed development area, is described in the accompanying tithe apportionments as 'including Buildings'. No structures are depicted on the map, but this description would suggest former buildings within the proposed development area, likely to be agricultural in nature, and also likely to have access to the road along the west side. Ashwell Farm itself lies to the west, alongside the B4314, at that time owned by William Chambers, but being farmed by Abraham Hodge.
- 7.2.2 The village of Pendine was largely clustered around the parish church at the top of the hill at this date. Buildings are illustrated in the area of Great House (PRN LB 9408), but they are not labelled on the map itself. A road or trackway, still in use today and known as the B4314, connects the hilltop settlement with the sea front, where a lime kiln, house and cottage are depicted. Mid-way along this road it branches east opposite Ashwell Farm. At this point a small settlement is depicted, and the trackway continues to then run alongside the development area, as well as accessing a building to the northeast (outside the development area) that is listed as a cottage and garden on the tithe apportionment. These trackways are still in existence.

Ordnance Survey 1:2500 map 1889 (Figure 4)

- 7.2.3 The 1889 Ordnance Survey (OS) map shows the area of the proposed development site as undeveloped land, despite the expansion of the nearby settlement. There is no indication of the former buildings suggested by the tithe apportionments (see 7.2.1). The fields to the east and west of the development site are also undeveloped. To the south of the site Pendine Burrows is depicted. A well (PD01) is labelled in the northwest corner of the development field, which appears to be located on the roadside on the western side of the site boundary.
- 7.2.4 The road/trackway from the hilltop settlement to the sea front now connects with a hotel, instead of the lime kiln as previously depicted on the parish tithe map (1844). Ashwell Farm also appears to have gone by this time, the name transferred to a house further to the south, potentially indicated a change of ownership for the proposed development area.

Ordnance Survey 1:2500 map 1906 (Figure 5)

- 7.2.5 Little change has occurred within the development area and its immediate environs on the subsequent 1906 OS map.

Ordnance Survey 1:10,560 map, 1938-53

- 7.2.6 The 1:10,560 OS map shows no change to the development site since the previous map.

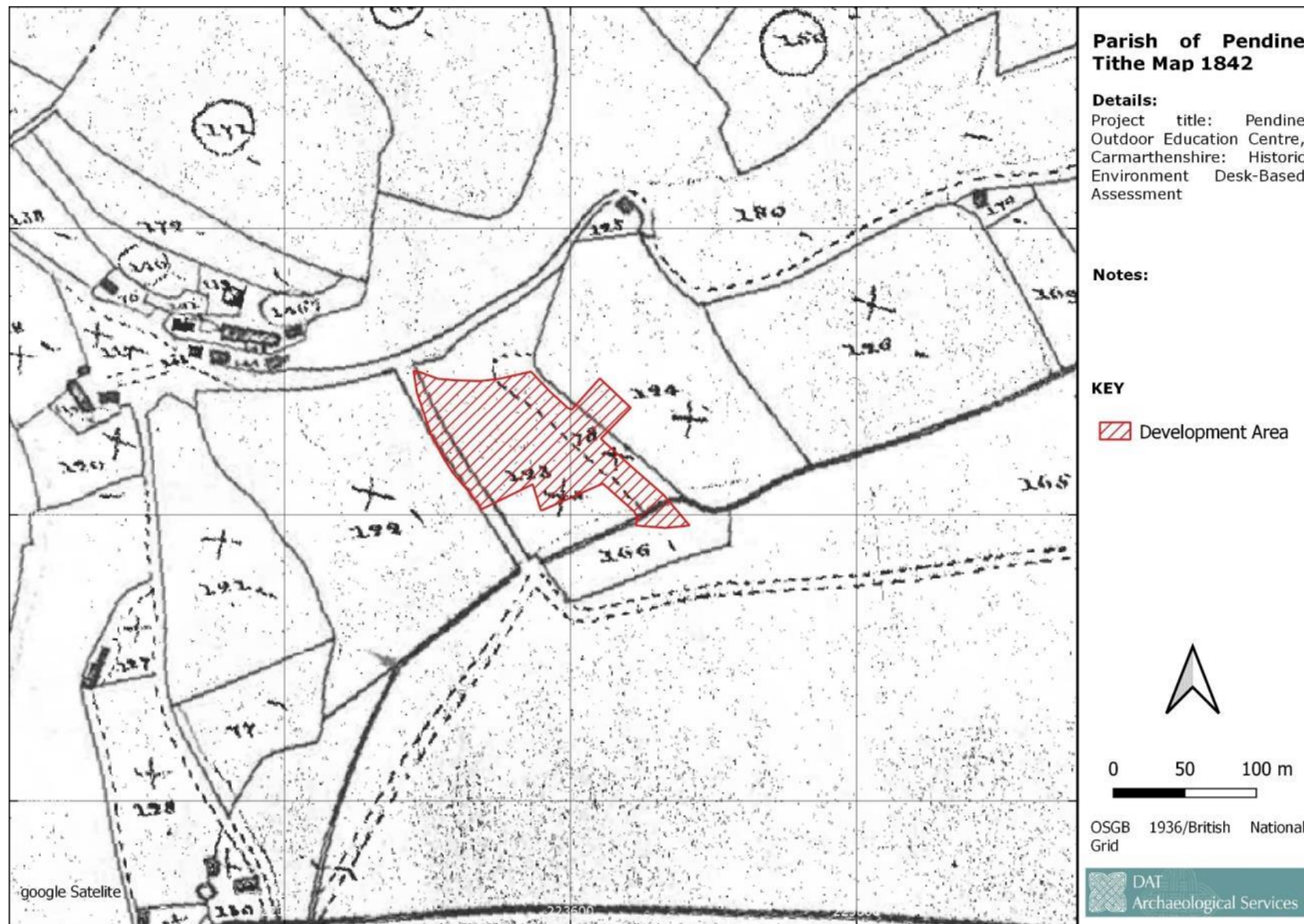


Figure 3: Extract from the 1842 parish tithe map.

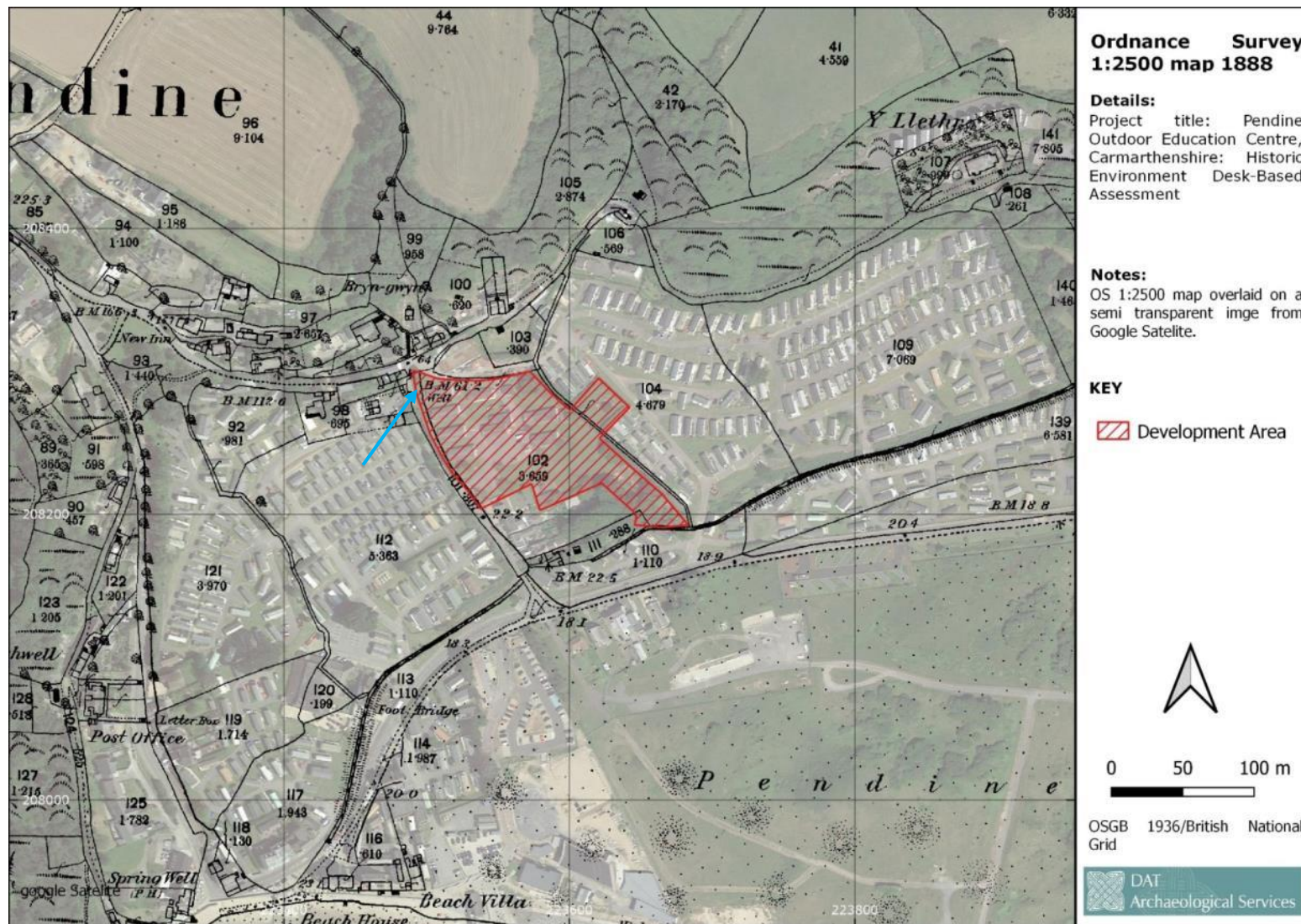


Figure 4: The 1889 Ordnance Survey map over modern satellite imagery, showing the proposed development site. The well site (PD01) is marked by the blue arrow.

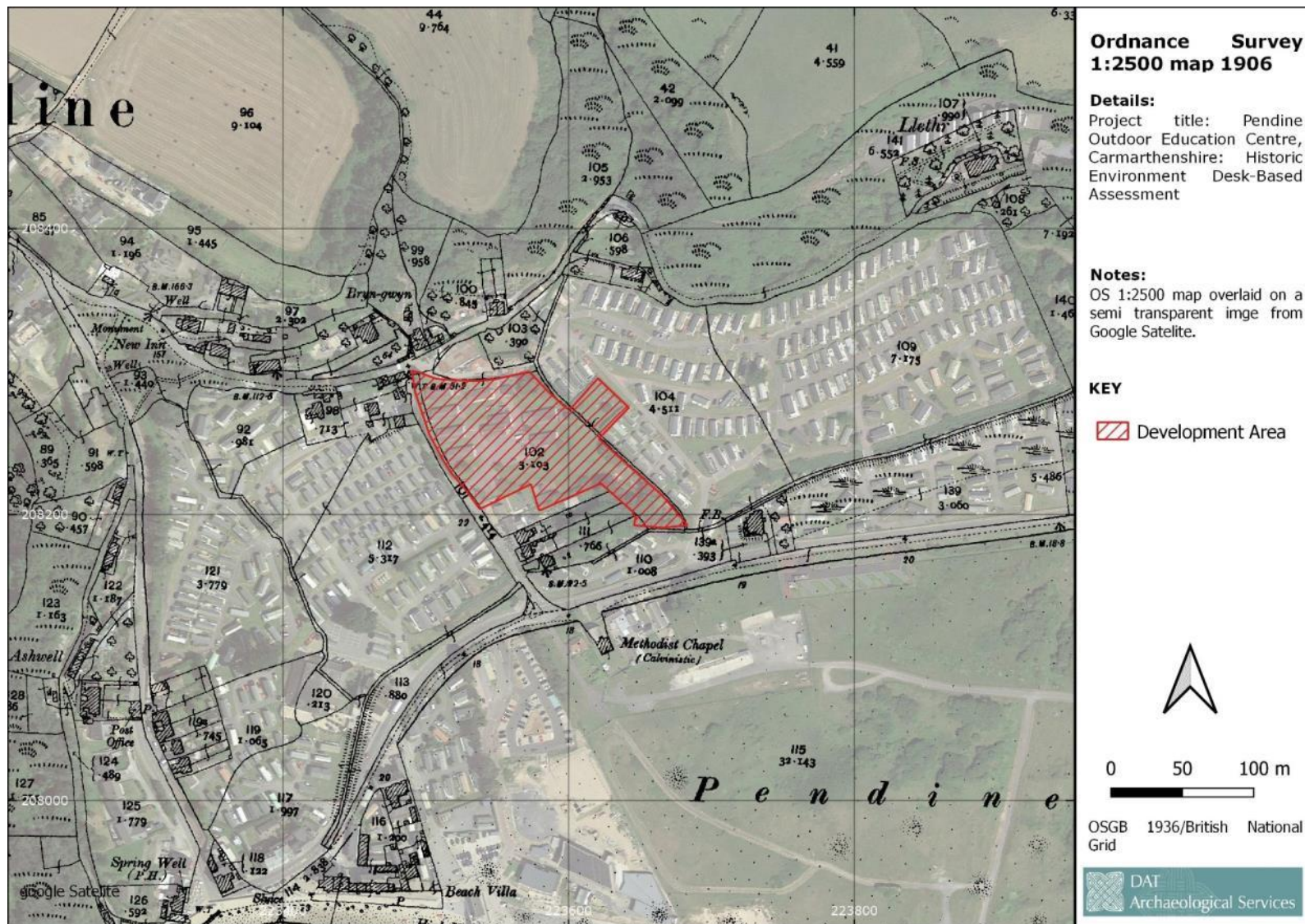


Figure 5: The 1906 Ordnance Survey map over modern satellite imagery, showing the proposed development site.

7.3 Aerial & Historic Photography

- 7.3.1 A search was made of available historic and modern photographs depicting the proposed development area and surrounding area. Mid-twentieth century RAF aerial photographs show that there has been a military camp (PD02) at Pendine since at least 1946. Later photographs of Pendine in the mid-1950s and early 1960s (www.francisfrith.com) show this camp comprised of a series of pre-fabricated single-storey huts, largely set out in rows perpendicular to the hillside slope. The camp comprised six rectangular huts of identical design, with pitched roofs and gable entry, with a larger central range, and small huts arranged on the periphery of the camp. It is likely these buildings were erected for use in association with the Ministry of Defence research centre and firing range established on Pendine Sands from the summer of 1940. The initial headquarters were established at the nearby Beach House Hotel, before transferring to Llanmiloe House further to the east. The location of the camp between these two suggests it may date from the initial establishment of the MoD centre. The photographs show the site clearly continued into the 1960s, but whether they continued as a military camp or had changed use by then is unclear. It is possible some of these original camp structures remain in the current site.
- 7.3.2 Even into the 1960s the area immediately surrounding the camp was not developed, but no further evidence of previously unknown archaeological sites are identified.

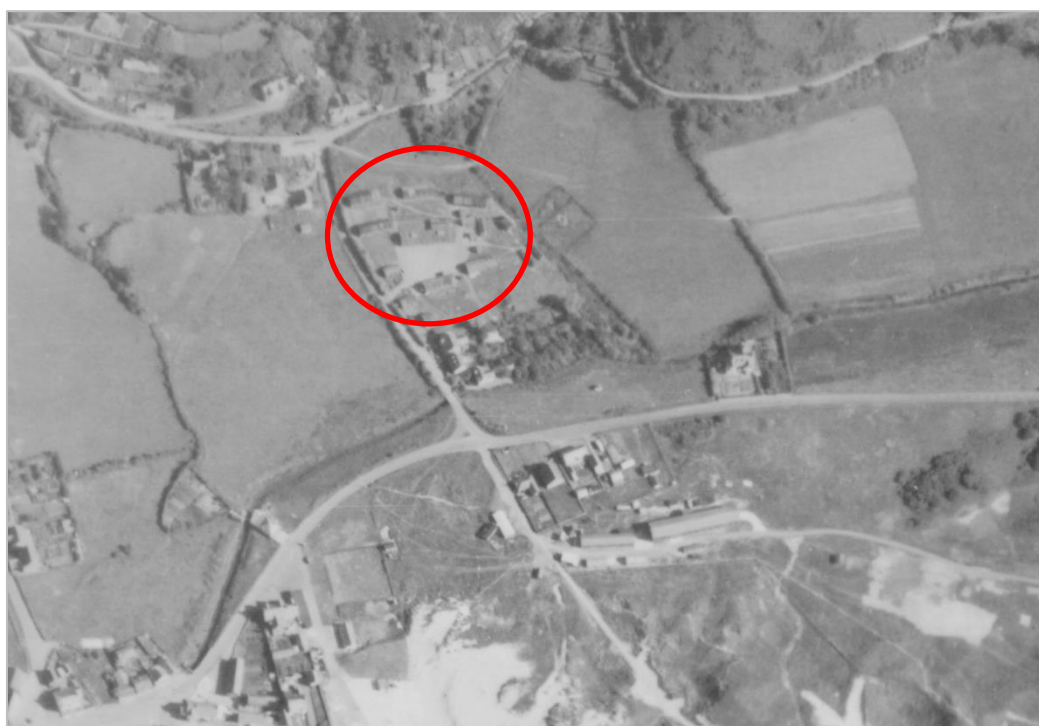


Photo 1: Extract from 1946 RAF aerial photograph. Development area circled in red.



Photo 2: Extract from 1947 RAF aerial photograph. Development area circled in red.

7.4 LiDAR

- 7.4.1 LiDAR data for Pendine Education Outdoor Centre is available from Natural Resources Wales on an Open Government Licence at a resolution of 1.0m. Since the site had been developed by the time of the LiDAR survey (aside from a small area towards the southeast corner) no archaeological features are apparent.

7.5 Site Visit (Photos 3 - 7)

- 7.5.1 A site visit was undertaken on January 11th 2021.
- 7.5.2 The Pendine Outdoor Education Centre is a well-established facility covering an area of approximately 0.09ha. An employee of the Education Centre said the Centre has been operating from this site since the 1980s, prior to which it was a military camp. The Outdoor Education Centre makes use of the former military buildings.
- 7.5.3 The Pendine Outdoor Education Centre is located on land that gradually slopes south towards the sea, within the centre of the sea front settlement of Pendine. Immediately to the west the site is bounded by a minor road, beyond which is a holiday park with static caravans. To the north the hill continues to slope up more steeply with residential properties overlooking the site. To the east is a further holiday park with more static caravans. Finally, to the south are residential properties and garden plots. There is limited intervisibility between the Education Centre and its surrounding areas.
- 7.5.4 Much of the Pendine Outdoor Education Centre plot has been built over and terraced for the military buildings. Comparisons to historic

photographs suggest the basic dimensions, entry points and layout of some of the buildings are consistent with the original camp buildings, but window and roof details, and external appearance, suggests extensive renovation of the buildings, and the addition of some later 20th century structures and landscaping. A small plot of land in the southeast corner (c.0.16ha) has not been built over.

7.5.5 No features of archaeological interest were identified during the site visit.



Photo 3: View from the entrance to the Education Centre, looking northeast.



Photo 4: One of the former military blocks now being used by the Outdoor Education Centre. The dimensions and door location match the early photographs of the site, but the roof cladding, windows and external render appear to be later alterations.



Photo 5: View from the northwest corner of the Outdoor Education Centre.



Photo 6: View looking up slope (northwards) within the Outdoor Education Centre.



Photo 7: View from the southeast corner of the Outdoor Education Centre looking northwest across the undeveloped plot in the southeast corner.

8 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL, IMPORTANCE, AND SETTING

Table 3: Site potential definitions

Archaeological Potential	Definition
High	Known archaeological remains of the period within the site area, or an abundance of remains of the period within the near vicinity
Medium	A number of archaeological remains of the period are present in the vicinity or wider area, and/or the topography or location of the site would be typical for remains of that period
Low	Few sites of a specific period are known in the wider area, or where the topography of the site is unlikely to contain remains of that period. Or where no archaeological records of a certain period are present, but the location of the site is one that would be considered suitable or typical for remains of that period to exist
Negligible	Where there is no evidence for archaeological remains of a certain period to be present and the location/topography is most unlikely to contain remains of that period, or where a site area has already been totally disturbed

Table 4: Site importance definitions

Site Importance (SI)	Definition of Site Category
High	Features of national importance - Scheduled Monuments, Listed buildings Grade I and II*, well preserved historic landscapes, registered parks and gardens and historic battlefields
Medium	Non-scheduled sites of regional or county importance. Listed Buildings Grade II, reasonably preserved historic landscapes
Medium / Low	Features of district or local importance but generally common features at a national or regional level
Low	Minor sites or sites so badly damaged that too little now remains to justify their inclusion in a higher grade
Uncertain	Features about which insufficient is known to attribute them to a higher rank, or which cannot be sufficiently accurately located to justify their consideration
Negligible	Where a site area has already been totally disturbed by previous development or natural processes

8.1 Potential & Importance.

- 8.1.1 The proposed development site at Pendine Outdoor Education Centre lies in a local landscape that includes some important Palaeolithic and Neolithic sites, as well as some evidence for Bronze Age and increasing Iron Age activity in the area. No evidence of activity associated with these periods has been uncovered within closer proximity to the proposed development site however, and therefore there is currently no indication of an increased potential for archaeological evidence of these periods within the proposed development site. Similarly, nearby Pendine may have medieval origins as a settlement, with associated access to the sea and coastal resources in closer proximity to the site, but there is currently no indication of an increased potential for archaeological evidence from this period within the proposed development area.
- 8.1.2 The proposed development area is likely to have been used largely as agricultural land throughout the post-medieval period, and mapping evidence suggests it remained so until the mid-20th century. There is a suggestion on the tithe apportionment of the 1840s that agricultural buildings may have stood within the proposed development area, although they are not depicted on the associated tithe map. If they were present, they do not appear to have survived into the later 19th century; there are no surface traces of such structures and subsequent development of the area from the mid-20th century onwards is likely to have adversely impacted any below ground remains. Therefore, there is a low potential for post-medieval building remains, likely to be of low archaeological importance.
- 8.1.3 Late 19th century mapping (Figure 4) records a small well (PD01), located on the roadside on the western side of the proposed development boundary. No visible evidence of this feature remains at surface level, but buried remains may survive. This is likely to have been a relatively simple well structure with no associated local significance attached to it, and may even have been relatively temporary in nature, therefore considered to be of low archaeological importance.
- 8.1.4 The site was developed c.1940 with the establishment of a military camp (PD02), likely associated with MoD Pendine, originally headquartered at the nearby Beach House Hotel before moving to Llanmiloe House. It is possible that some of the original military camp structures have survived and are incorporated into the current Outdoor Education Centre, although clearly they have been modernised for a change of use and renovated in the intervening period, with new structures added to the complex. Huts were built to standard designs that had been developed for use by the military from the later 19th century onward, and were used extensively during the First World War. These structures appear to be later, but are likely based on earlier designs that were used as accommodation, storage and workshop sheds. Such sites have often been cleared away, and therefore surviving examples here, albeit subsequently modernised, are of regional importance associated with an important wartime installation that still operates, therefore they are of Medium/Low archaeological importance.

8.2 Setting

- 8.2.1 The *Setting of Historic Assets in Wales* (Cadw 2017) offers guidance on defining and analysing the setting of designated historic assets to allow the impact of development to be appropriately assessed. The setting of such monuments includes “the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve’ (Cadw 2017). As such, setting often extends beyond the physical boundaries of the monument itself. This may include physical elements in its surroundings, such as boundaries and other monuments, relationships with other historic assets and natural features, or associated agricultural, industrial or other surroundings. Less tangible elements are also included, such as function, sensory perceptions, and historical, artistic, literary and scenic associations.
- 8.2.2 A full and detailed analysis of the setting of all designated historic assets within the vicinity of the proposed development is beyond the scope of this assessment, but some general conclusions can be drawn at this stage.
- 8.2.3 Two Scheduled Monuments have been identified in the initial assessment, Napp Camp (CM019) to the southwest, and Castle Lloyd Camp (CM141) to the northeast. Both appear to be Iron Age settlements, Napp Camp seemingly multiperiod, and Castle Lloyd Camp likely to be late Iron Age and early Romano-British, but the two sites may have been contemporary settlements. As such there is the potential for the sites to be linked, however current vegetation blocks any visual link, and intervening topography suggests that a direct visual link between the two is unlikely, although more detailed analysis would be required to establish this. Both camps are sited to take advantage of natural defences, occupying promontories surrounded by steeply falling ground. This offers good views southward from each site, although the degree to which viewpoints are intentional in their siting is debateable. Communication links between the two may also be possible, although there is no indication as to which routes this would have taken. Other recorded Iron Age sites in the area are rare, and direct links to the surrounding landscape are therefore not currently understood.
- 8.2.4 The proposed development site lies outside the boundaries of the registered Historic Landscape, but within the associated Historic Landscape Character Area of 139 Pendine and Llanmiloe. The main characteristics of this landscape area are described in section 5.3.3.
- 8.2.5 There are no listed buildings in the area that are likely to be directly affected by inter-visibility to and from the proposed development site. Further afield, Grade II listed Llanmiloe House (LB 18870) was occupied during the Second World War as the headquarters for MoD Pendine, and as such there may have been some indirect links with the military camp (PD02) established on the proposed development site. The full nature of the military camp (PD02) is uncertain, therefore the links to Llanmiloe House also remain uncertain, but there is no direct physical or visual link between the two sites.
- 8.2.6 No further historic, artistic, literary, or scenic associations, intellectual relationships or non-visual factors forming part of the settings of any of the surrounding designated assets have been identified.

9 IMPACT ASSESSMENT

9.1 Development details

9.1.1 The development area comprises 2.7 acres of land with several accommodation blocks forming the Pendine Outdoor Education Centre. At this stage development proposals are undefined, beyond the potential for developing the site for new housing. Therefore, a full impact assessment cannot be undertaken until details such as layout and design, demolition and renovation proposals, amongst others, are known.

9.1.2 Generally however, any of the following activities associated with the proposed development could have a direct impact upon historic assets by potentially exposing, damaging or destroying previously unrecorded archaeological remains:

- Renovation and demolition works;
- Enabling works, such as the installation of contractor's compounds, construction of access roads, parking and storage areas, associated services;
- Landscaping and terracing works;
- Surface stripping and levelling;
- Construction of roads and infrastructure;
- Foundation excavations;
- Service installation; and
- Any other ground disturbing works

9.1.3 Development in this area also has the potential to generate indirect impacts upon historic assets, by altering elements of their setting.

9.2 Impact assessment criteria

9.2.1 Typically the criteria for the assessment of impacts, both direct and indirect, on historic assets used in this report would be based on The Department for Transport 'Transport Analysis Guidance' (TAG), Unit A3 'Environmental Impact Appraisal: Section 8 Impacts on the Historic Environment', of May 2019, with additional information based on professional judgement. In addition, the guidance offered in the Setting of Historic Assets in Wales (Cadw 2017) would also be utilised.

9.2.2 The TAG criteria divides the impacts into seven categories, ranging from Large Adverse (negative), Moderate Adverse (negative), Slight Adverse (negative), to Neutral, and then on to Slight Beneficial (positive), Moderate Beneficial (positive) and Large Beneficial (positive).

9.2.3 As stated above (9.1.1) no specific development proposals are suggested at this stage, and therefore it is not possible to assign a definitive category to the potential impacts until further details are known. The following assessment therefore serves to highlight potential issues at this early stage to allow further refinement once development proposals progress.

9.3 Physical (direct and indirect) impacts upon the historic assets

9.3.1 The general potential for archaeological remains predating the later post-medieval period is considered to be low, given the lack of recorded evidence in the local vicinity and subsequent development of the site. The potential for later post-medieval agricultural buildings (and associated activity) has been highlighted. Again however, subsequent development

of the site is likely to have already impacted upon any such remains, and further development is likely to have a Neutral to Slight Adverse impact.

- 9.3.2 A late post-medieval well (PD01) has been identified on the boundary of the proposed development area. Generally, development within the boundaries is unlikely to impact upon this site, and will therefore have a Neutral impact, but alterations to the boundary or establishment of new entranceways or service connections could impact upon the site.
- 9.3.3 The current Outdoor Education Centre in part uses buildings from a former military camp (PD02). This camp appears to have been established during the Second World War, likely associated with MoD Pendine, possibly from its establishment in 1940. The extent of impact upon the site will clearly vary depending on the final development plans, but as original building fabric may survive, the removal of these structures to make way for development is likely to be a Large Adverse impact.

9.4 Impacts to Settings of Surrounding Designated Historic Assets.

- 9.4.1 The main elements of the setting of potentially affected sites are described in Section 7.2.
- 9.4.2 The proposed development site does not appear to have any tangible link to the Scheduled Monuments of Napp Camp (CM019) and Castle Lloyd Camp (CM141), neither does the site features in viewpoints to and from these monuments. With the exception of any significant high-rise structure development on the site is unlikely to impact on any inter-visibility between these monuments.
- 9.4.3 The site lies within the Historic Landscape Character Area of Pendine and Llanmiloe (HLCA 139). The site is already developed, and surrounded by existing development and holiday camps. Buildings associated with Second World War development are mentioned as an element of the historic landscape, although this particular former military camp is not highlighted as a specific feature. If redevelopment remains in character with the local area then it is unlikely to have a significant impact upon the historic landscape.
- 9.4.4 A potential link between the military camp and Second World War history of the Grade II listed Llanmiloe House (LB 18870) has been highlighted, although the precise nature of this link is uncertain, and no physical or visual links exist between the two sites. Any development that results in the removal of visible elements of the former military camp is therefore unlikely to significantly alter the setting of Llanmiloe House.
- 9.4.5 No further potential impacts were identified.

10 CONCLUSIONS

10.1 Archaeological potential and impact assessment

- 10.1.1 No detailed development plans for the Pendine Outdoor Education Centre have yet been produced. The assessment of the proposed development area suggests that the general archaeological potential of the site is considered low, due to the sparsity of known archaeological remains within the immediate area and the subsequent development of the site from the mid-20th century onwards. However, two specific sites have been identified that may potentially be affected by development works on the site.
- 10.1.2 Adjacent to the western boundary is a late post-medieval well (PD01 – Figure 4), of which no visible surface remains exist, and that is considered to be a site of low archaeological value. Development within the bounds of the proposed development site is unlikely to impact upon this asset, however changes to the boundary, or groundworks associated with new access and service arrangement have the potential to have an adverse impact.
- 10.1.3 The site itself was formerly a military camp (PD02), likely established during the Second World War in association with MoD Pendine, possibly from its inception in 1940. Original buildings associated with the camp may survive, albeit modernised in their current use. The regional importance of MoD Pendine means this site is of Medium/Low archaeological value. Any redevelopment of the site that requires the removal of the existing structures is likely therefore to have a Large Adverse impact upon PD02.
- 10.1.4 Impacts to the setting of surrounding designated historic assets were examined, but no likely impacts were identified.

10.2 Mitigation

- 10.2.1 As development details are currently unknown the ability to suggest appropriate mitigation is limited. However, it should be noted at this stage that any proposals adversely affecting remains of the former military camp (PD02) are likely to require further archaeological mitigation, potentially in the form of more detailed recording of existing structures prior to their alteration and/or removal.

11 SOURCES

Database

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