

TIDAL EMBANKMENT, MWCHE FARM, LLANYBRI, CARMARTHENSHIRE: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT



Prepared by DAT Archaeological Services
For: Binnies UK Ltd.



DYFED ARCHAEOLOGICAL TRUST

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LLANYBRI, CARMARTHENSHIRE:
HISTORIC ENVIRONMENT DESK-BASED
ASSESSMENT**

By

Philip Poucher MCIfA and Dr Marion Shiner



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HISTORIC ENVIRONMENT DESK BASED ASSESSMENT

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EXECUTIVE SUMMARY

DAT Archaeological Services were commissioned to prepare a Historic Environment Desk-Based Assessment of a proposed intertidal habitat creation scheme near Mwche Farm, Llanybri, Carmarthenshire (SN 32100 11770).

A slight to moderate adverse impact upon a linear earthwork known as The Taf flood defence has been identified and discussed, and further potential impacts on land reclamation features in the area, including reclaimed farmland that forms part of an Historic Landscape Character Area (HLCA146) is also discussed. A potential slight to moderate impact on extant farmsteads has also been identified and discussed. A low potential for early medieval and medieval archaeological remains has also been identified. Proposals to mitigate the impact upon the archaeological resource are also suggested.

CRYNODEB GWEITHREDOL

Comisiynwyd Gwasanaethau Archaeolegol YAD i baratoi Asesiad Desg Amgylchedd Hanesyddol o gynllun creu cynefin rhynglanwol arfaethedig ger Fferm Mwche, Llanybri, Sir Gaerfyrddin (SN 32100 11770).

Mae effaith andwyol fach i gymedrol ar wrthglawdd llinol a elwir yn amddiffynfa rhag llifogydd Taf wedi'i nodi a'i thrafod, ac effeithiau posibl pellach ar nodweddion adennill tir yn yr ardal, gan gynnwys tir fferm wedi'i adennill sy'n rhan o Ardal Cymeriad Tirwedd Hanesyddol (HLCA146) yn cael ei drafod hefyd. Mae effaith fach i gymedrol bosibl ar ffermydd sy'n bodoli hefyd wedi'i nodi a'i drafod. Mae potensial isel ar gyfer olion archeolegol canoloesol cynnar a chanoloesol hefyd wedi'i nodi. Awgrymir hefyd gynigion i liniaru'r effaith ar yr adnodd archeolegol.

INTRODUCTION

1.1 Project proposal and commission

- 1.1.1 DAT Archaeological Services were commissioned by Binnies UK Ltd. to prepare an Historic Environment Desk-Based Assessment proposed intertidal habitat creation behind a tidal embankment near Mwche Farm, Llanybri, Carmarthenshire (SN 32100 11770).
- 1.1.2 The area currently comprises an area of reclaimed farmland enclosed by a riverside embankment bordering the eastern bank of the River Taf, south-west of the village of Llanybri. The site lies in an area of potential historic and archaeological interest, with the embankment recorded as an archaeological feature on the regional Historic Environment Record (PRN 29979). Following a Heritage Management consultation with Dyfed Archaeological Trust Heritage Management (DAT-HM) by Natural Resources Wales (NRW), an Historic Environment Desk-Based Assessment was recommended.
- 1.1.3 In order to inform their proposals Binnies UK Ltd have requested that a desk-based assessment be carried out to determine the impact of the proposed work on the historic environment, particularly the post-medieval tidal embankment, and what potential mitigation may be required.
- 1.1.4 This Historic Environment Desk-Based Assessment is a primarily desk-based study of the site area and provides an indication of the archaeological potential of the development area, highlighting possible issues in relation to the impact of the development on the historic environment.

1.2 Scope of the Project and Methodology

- 1.2.1 The scope of the assessment follows the *Standard and guidance for Historic Environment Desk-Based Assessment* as defined by the Chartered Institute for Archaeologists (CIfA 2014). The standard is stated by CIfA as:

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 study area. This will help inform future decision making, design solutions and potential mitigations strategies, including the potential for further archaeological works.
- 1.2.4 The report also includes a brief assessment of the impact on the settings of any surrounding designated historic assets, including scheduled monuments, listed buildings, historic landscape character areas and undesignated archaeological sites. This utilises the 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:
 - Dyfed Archaeological Trust Historic Environment Record data;
 - Map regression exercise using earlier cartographic sources;
 - Available and relevant reports on any archaeological work undertaken in the area that affects the site or its setting;
 - Archive records held at the County Archive, the National Library of Wales (NLW) and the Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMS);
 - 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 settings of surrounding features of the historic environment; and
 - Assessment of likely impacts on any identified remains within the study area (or potential remains) and likely requirements, if any, for further stages of archaeological work.
- 1.2.6 The site area was determined by an approximation of the area that may be affected by tidal inundation and associated hydrological changes if the flood bank was removed. On this basis a main project area was determined, which encompasses the potential physical works for the project. Beyond this a larger study area includes the area which may be affected by hydrological changes from the project to the nearest land boundary (e.g. hedge line) and extends seawards of the existing bank by 150m to account for potential changes to saltmarsh morphology as a result of creating a breach. An initial search area of 500m from the boundary of the study area was used to identify sites recorded on the Historic Environment Record and other sources, and was extended to examine the potential impact on the setting of high status, designated, historic assets in the surrounding landscape. Figure 2 illustrates the boundaries of these areas.

- 1.2.7 For the purposes of planning policy in Wales, the historic environment is defined as:

All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed (Welsh Government 2017).

A historic asset is:

An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated (ibid).

1.3 Abbreviations

- 1.3.1 All sites recorded on the regional HER are identified by a 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).

Additional sites identified during the course of this assessment have been given the site-specific prefix MM.

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 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	

Note: ¹The post-medieval and Industrial periods are combined as the post-medieval period on the Regional HER, as held by Dyfed Archaeological Trust.

2. 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 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 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 Local Development Plan

2.2.1 The Historic Environment is subject to the relevant policies and procedures as laid out in the Carmarthenshire County Council (CCC) *Local Development Plan* (LDP). A revised LDP is currently being prepared but until that is adopted, the 2006–2021 LDP remains in place.

2.2.2 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.

3 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1 The proposed development is located on the eastern bank of the River Taf, south-west of the village of Llanybri in Carmarthenshire (NGR SN 32100 11770 – Figures 1 & 2). The small village of Llanybri is centred around the ruinous St Mary's church, formerly a chapel-of-ease in the parish of Llansteffan (Ludlow 1998). The slightly larger village of Llansteffan is c.3km to the south-east, while the county town of Carmarthen is c.12km to the north-east.
- 3.2 The site comprises areas of low-lying reclaimed pasture enclosed by a sea defence embankment, and bounded by hedgerows and unnamed minor roads that link farmsteads with Llanybri. The area is formed within the mouth of small tributary to the River Taf, which bounds the site to the west. The tributary flows northeast to southwest, crossed by one of the local roads. To the east of this road lies improved and managed pasture, to the west lies rougher grazing. A network of creeks and land drains criss-crosses the site, draining into the Taf a little north of its confluence with the Towy and the Gwendraeth where the three rivers form the distinctive 'crow's foot' estuary at Carmarthen Bay. The land rises gradually to the north and south of the tributary, forming a small valley.
- 3.3 The site is divided into three main areas. The proposed development itself is located within the project area, which is focused on an area of reclaimed pasture between the sea defence embankment to the west and a local road to the east. A wider study area lies around this, which encompasses the area which may be affected by hydrological changes from the project to the nearest land boundary (e.g. hedge line) and extends seawards of the existing sea defences by 150m to account for potential changes to saltmarsh morphology as a result of creating a breach. A wider search area then encompasses more of the surrounding landscape to understanding the archaeological potential of the site.
- 3.4 The underlying geology comprises interbedded argillaceous rocks and sandstone and conglomerate. This sedimentary bedrock formed between 427.4 and 407.6 million years ago during the Silurian and Devonian periods (BGS viewer 2023).

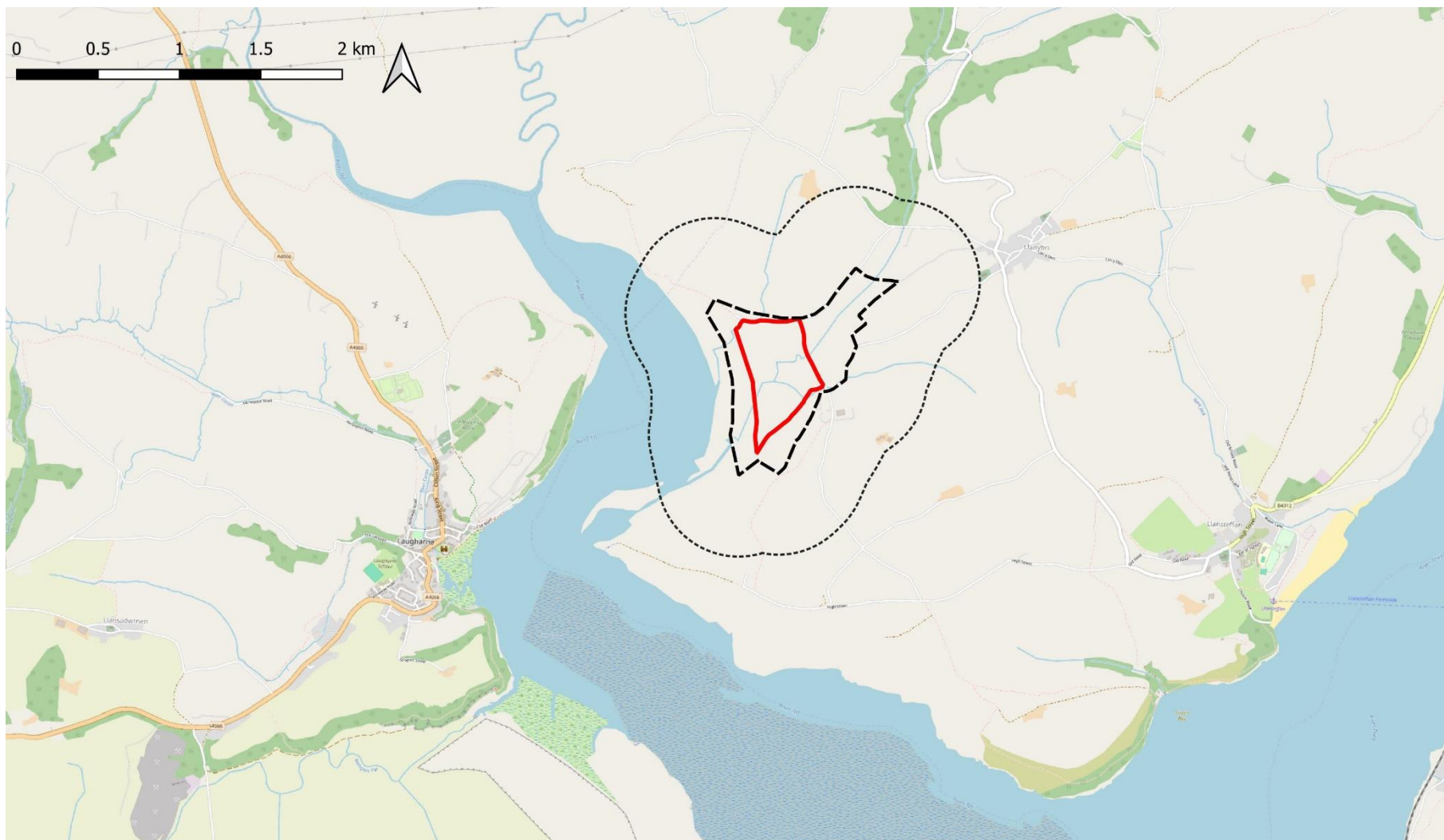


Figure 1: Site location map, showing the project area in red, with surrounding study area. The dotted line marked the extent of the search of Historic Environment Records.

Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 29/01/24.



Figure 2: More detailed site location plan, showing the project area in red, the surrounding study area in black, and the extent of the search of Historic Environment Records in white, overlaid on satellite imagery. © Google Earth.

4 DESIGNATED HISTORIC ASSETS (Figure 3)

4.1 General

- 4.1.1 A search of data held on several databases was made of historic assets within the 500m radius search area. Designated assets beyond this search area were also considered for potential wider-ranging impacts, but ultimately it was considered that impacts would be limited to within the initial search area. These designated assets are considered first, as they largely comprise assets with some form of statutory protection.

4.2 Scheduled Monuments

- 4.2.1 Scheduled monuments are historic and archaeological sites considered to be of national importance. These sites are given legal protection, and consideration of the impact of development upon these sites and their settings are considerations of the planning process.
- 4.2.2 There are no scheduled monuments within the study area, nor within the 500m radius search area. The nearest scheduled monuments comprise CM310, Delacorse Uchaf standing stone, CM232 Hillslope enclosure at Laugharne Park Holiday Village and CM003 Laugharne Castle, all of which lie between 1.3km and 2km to the west and south-west, on the opposite side of the River Taf.

4.3 Listed Buildings

- 4.3.1 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.
- 4.3.2 There are no listed buildings within the study area, nor within the 500m radius search area. The closest site is the Tower of Yr-Hen Gapel (Ref.9407) in the centre of Llanybri to the northeast.

4.4 Conservation Areas

- 4.4.1 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 and/or architectural value.
- 4.4.2 The Llansteffan Conservation Area encompasses the historic core of the town to the south-east of the study area. Across the Taf lies the Laugharne Conservation Area, encompassing the historic core of that village. The study area does not lie within either conservation area, the boundaries of which lie 2km to the south-east and 1.2km to the west of the study area, respectively.

4.5 Registered Historic Parks and Gardens

- 4.5.1 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.
- 4.5.2 There are no historic parks and gardens within the study area, nor within the 500m radius search area.

4.6 Registered Historic Landscapes

- 4.6.1 Registered Historic Landscapes are landscapes of historic interest included on the 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.
- 4.6.2 The study area lies within the **Taf and Tywi Estuary Landscape of Outstanding Historic Interest (HLW (D) 9)**. This landscape is summarised thus:

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.

The present coastline is a changing one, owing to continuing sand movement, but sea walls and drains, fronted by tidally inundated morfeydd or salt marshes, safeguard the reclaimed land. Archaeological evidence, the study of relict and active features in the present landscape, and the use of aerial photographs, cartographic and documentary sources, have been successfully combined to reconstruct the evolution of this largely man-made landscape.

- 4.6.3 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). The study area overlaps three such areas. The first is **HLCA 146 Taf Valley Reclaimed Marsh**. This covers a strip of land on the eastern bank of the Taf, including most of the study area (Figure 3). The following is taken from the HLCA description:

The marshland within HLCA 146 had formed by the medieval period, when it lay within the Lordships of Laugharne to the east, Osterlow in the centre and St Clears to the west; lands that were mainly held under manorial tenure. During this period, Mwche Marsh was known as 'Mundegy Marsh' and its economic value lay primarily in a ferry to Laugharne which was operational until the 1950s (James, n.d.). The sea-wall across Mwche Marsh was constructed shortly after 1812 under the Morris family of Carmarthen and Llansteffan, who had acquired Mwche Farm in 1791 (James, n.d.). Tithe maps of the 1840s (Llandeilo

Abercowin, Llanstephan and Laugharne Parishes) clearly show these sea walls and enclosures.

- 4.6.4 The description of the essential historic landscape components states that,

This area comprises former unenclosed salt marsh lying just above sea level, which had developed by the Medieval period. Formerly unenclosed, the larger areas of marsh have from the late 17th-century onwards been enclosed by low sea walls, now represented by low earth banks, and have been drained and divided into 'fields' by ditches. Scrubby hedges run alongside some of the ditches, but these are no longer stockproof and wire fences provide additional boundaries. Salt marsh has continued to develop outside the sea walls, in some instances to over 100m. Summer rough grazing is the predominant land use and there are no settlements, or woodland, in this area.

- 4.6.5 The second HLCA covered by the study area is **HLCA 153 Llanybri and Llansteffan strip fields**. The area covered is in the north-east of the study area, to the east of Pont y Mwche (Figure 3). An extract of the HLC description states that,

The dominant feature of the present landscape is a pattern of fields which tend to be long and narrow with curved boundaries. These are particularly concentrated south-west and north-east of Llanybri, and are the product of the fossilisation of post-12th century open field strips within 17th- and 18th-century field boundaries established under gentry families such as the Lloyds of Llansteffan and Laques. The landscape can thus be contrasted with that of Area 152 within which Post-Medieval enclosure, under the same landowners, effaced any pattern of earlier field systems.

- 4.6.6 The description of the essential historic landscape components states that,

This Historic Landscape Area comprises a system of enclosed, former field strips lying across a band of rolling hills that achieve a height of approximately 100m close to the village of Llanybri, and run down to sea level by the estuaries of the Taf and Tywi. Most land is farmed; the majority is improved pasture, though there is a little arable. On steep slopes are small stands of deciduous woodland, but trees are not common, and essentially this is an open landscape. Settlements consist of the hamlet of Llanybri and dispersed farms. These farms are set in a landscape of small, irregular fields. On historic maps and in certain areas on the ground it is possible to detect enclosed strips in the modern field system - clearly the modern system evolved out of an open field system. Enclosed strips survive best on steep slopes to the north and east of Llanybri and to the west of Llansteffan. Over recent decades, on flatter ground, there has been a tendency to merge the enclosed strips into larger more regular fields, and it is more difficult to detect the former presence of an open field system. Boundaries to the fields consist of earth banks topped with hedges. Hedges are generally in good condition, but on the steep slopes to the north of Llanybri they are becoming very overgrown, and to the west of Llansteffan some are becoming derelict.

Earlier features within the landscape include a scheduled Bronze Age standing stone which, during the medieval period, was a known landmark called 'Welsh Cross' (Rees 1932). There is at least one more standing stone, and two round barrows. An inscribed stone is possibly recorded in a place-name at Llanybri, and a spring/holy well lies to the south-east.

Distinctive buildings include the Grade II listed Medieval chapel of St Mary which exhibits a low west tower from the 16th century but has become ruinous since 1917, the 19th century Holy Trinity Church and a non-conformist chapel. The core of the settlement consists of stone-built farms, houses and cottages of probable 19th century date with a former inn and smithy; other buildings include Pendegy mill, a bridge, farms and cottages.

This historic landscape character area is similar to the area to the south, with scattered farms and medium-sized fields, and though the historical process that have helped form the two areas are different, the boundary is not well defined. A similar lack of definition exists between this area and the area to the north, and the area to the north-east. Reclaimed salt marsh provides a good boundary to the west, and Llansteffan village clear definition to the east.

- 4.6.7 The third HLCA area covered is **HLCA 152 Laques**. A small strip of this area lies within the south-eastern area of the study area (Figure 3). The following is taken from the HLCA description:

An area of undulating country featuring fairly large fields with irregular boundaries and dispersed farmsteads, all the result of the amalgamation and enclosure of fields under emerging gentry families such as the Lloyds of Laques (and The Plas, Llansteffan) in the 17th- and 18th-century. This landscape can be contrasted with those in which the curving shape of former open field strips was fossilised by the Post-Medieval boundaries eg. to the north. To the south-east, part of the area may have lain within the medieval 'Broadlands Park' (Rees 1932), and have remained unenclosed until the post-medieval period. Elements of the medieval landscape also include Pentowyn Farm, to the west of the area ... It contains the site of a chapel apparently dedicated to St Teilo, possibly with pre-Conquest origins ... The central farmstead of Laques, with a name derived from the Old English 'lac' (stream), is known to have been occupied since the 14th century ... Lord's Park farm to the south is, by contrast, an example of a possible medieval settlement reorganised according to a system of home and tenant farms, typical of 18th century estate re-organisation.

- 4.6.8 The description of the essential historic landscape components states that,

This small historic landscape area lies between the confluence of the Rivers Tywi and Taf and is, in its present form, early Post-Medieval. It rises from sea level into a landscape of rolling hills that achieve a maximum height of over 130m. Most of the land is farmed, the majority of which is improved pasture. There are small stands of ?ancient deciduous woodland on steep slopes, but apart from these this is a very open landscape. Fields tend towards being medium-sized and regular, particularly at higher

levels, with boundaries consisting of earth banks topped with hedges. Hedges are well maintained; few are overgrown, and distinctive hedgerow trees are rare. The settlement pattern is of dispersed farms.

Recorded archaeology, in addition to the Medieval and Post-Medieval landscape features noted above, includes Neolithic finds at Pentowyn, two possible Bronze Age standing stones, two possible Iron Age hillforts.

There are some distinctive buildings but none are listed. Farms consist of substantial stone-built dwellings with slate roofs, in the Georgian tradition, usually with a range of stone-built out-buildings as well as modern structures; with the exception of Laques which retains Jacobean features but was extended after 1747 (Jones 1987, 97). There are also Post-Medieval cottages and a school.

To the south this area is extremely well defined by sea cliffs/coastal slope. Similar good boundary definition exists to the west against reclaimed salt marsh, and to the east against Llansteffan village. To the north the exact boundary between this historic landscape character area and the neighbouring area, enclosed strip fields, is less defined but nevertheless these two character areas are distinct.

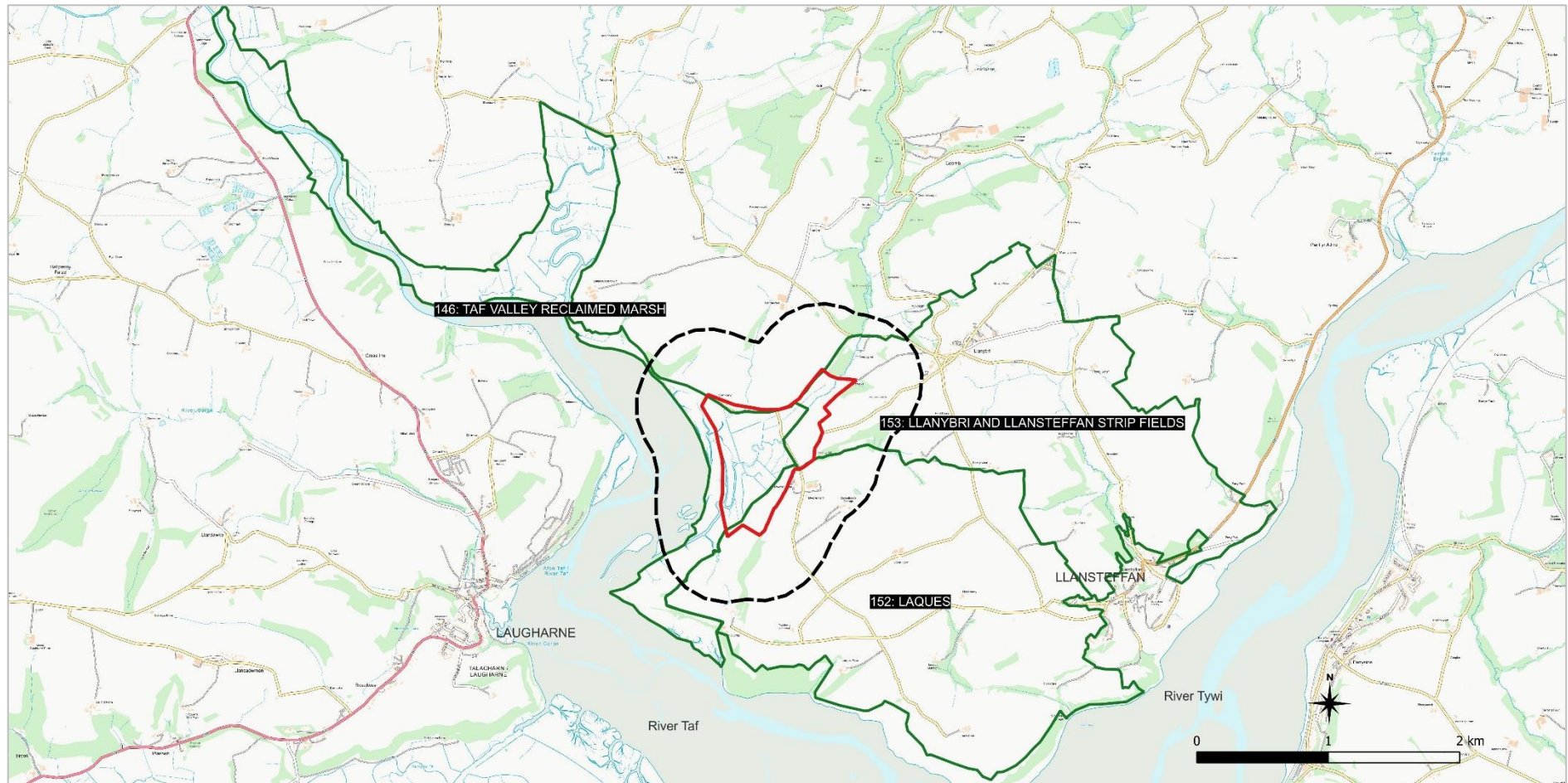


Figure 3: Map showing the study area (red polygon) and the 500m buffered search area (black dotted line). Also showing historic landscape character areas (green polygons).

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5 NON-DESIGNATED HISTORIC ASSETS

5.1 General

- 5.1.1 A search of the regional Historic Environment Record (HER) and other databases was made within the 500m search area around the proposed development. There are four previously recorded sites within the study area (Table 2 and Figure 4).
- 5.1.2 The HER records twenty-two assets within the wider search area. One additional historic asset is recorded just outside that area on the NMR database, held and maintained by the RCAHMS (Table 2 and Figure 4).
- 5.1.3 The following information is laid out chronologically to provide a brief archaeological and historical background for the area and its environs for each period, along with the relevant HER entries pertaining to that period.

5.2 Palaeolithic, Mesolithic & Neolithic

- 5.2.1 No sites of this date are recorded within the study area. Within the 500m search area, a Neolithic flint arrowhead (PRN 9601) is recorded as having been found on Pentowyn Farm. No further information is available for this find. Outside the search area to the east, close to Llansteffan lie the remains of a possible Neolithic funerary monument. There is no known evidence of activity during either the Palaeolithic or Mesolithic periods in the wider landscape.

5.3 Bronze Age

- 5.3.1 No sites of this date are recorded within the study area. The HER records a possible Bronze Age standing stone within the 500m search area (PRN 11188). This record is based on a placename - *Parc Y Carreg Llwyd* (field of the grey stone) – on the 1840 Llanstephan parish tithe map. Other placenames in the vicinity also suggest the former location of standing stones, while within the wider landscape, a fine Bronze Age example is situated just north-east of Llanybri.

5.4 Iron Age

- 5.4.1 No sites of Iron Age date are recorded in the HER within the study area nor within the 500m search area. However, c.1.1km west of Black Scar Point, on the bank of the Taf, and c.1.1km due south of the study area, the HER records documentary evidence for an Iron Age promontory fort. No further information is available for this site. Further east, at Wharley point overlooking the confluence of the Taf and the Towy, are the possible earthwork remains of a promontory fort of probable Iron Age date. A small, possible Iron Age defended enclosure, visible on LiDAR mapping is also located within the wider area, c.1.2km north-west of Llansteffan.
- 5.4.2 The only record in the NMR close to the study area is a possible Iron Age circular enclosure visible as a cropmark on aerial photographs located on sloping ground a little to the south of Fynnonau Farm (NPRN 414581) (Figure 4).

5.5 Roman

- 5.5.1 No sites of Roman date are recorded within the study area nor within the 500m search area. There are three records of Roman activity within the HER in the wider landscape, all of which are from sites close to Scott's Bay, at the mouth of the Towy to the southeast. All three are findspots and include a sherd of Romano-British pottery from Llansteffan Castle, and coins of Nero (emperor AD 54–68) and Domitian (emperor AD81–96), from two sites overlooking the bay south-west of the castle.

5.6 Early Medieval & Medieval

- 5.6.1 No early medieval (AD410–1086) sites are recorded in the HER within the study area, nor the 500m search area. Within the wider area, the medieval parish church of Llandeilo Abercywyn, c.1.4km north-west of the study area, may have an early medieval origin. It is probably the location of 'Llandeilo Aper Couin' which is recorded in a 12th century entry in the *Book of Llandaff* – a compilation of manuscripts relating to the diocese of Llandaff (Davies 1982), but there is a strong possibility that the entry refers to an earlier foundation. The church is sited on the foreshore of the Taf estuary, near the site of a possible medieval ferry. The churchyard forms the western side of a post-medieval farmstead, which includes a medieval building known as the Pilgrim's Rest. Both church and churchyard are scheduled monuments, but both are still in ecclesiastical ownership (Ludlow 2002).
- 5.6.2 The HER contains two records of medieval (AD1087–1536) sites located within the search area. The first is Mwche farm itself just beyond the study area, which is recorded as having its origin as a medieval settlement (PRN 10965). This is based on very late-15th or early-16th century documents that refer to a 'Mochey', later 'Moghey'. It is not known when the present form of the name was first used. The second record of medieval activity relates to a rough-out for a wheel-headed cross (PRN 39307), discovered in use as a gate post on Mwche Farm in 1999 (Page 1999). This may once have been associated with two pilgrims' graves at Llandeilo Abercywyn. Alternatively, it could have functioned as a roadside preaching cross on the pilgrimage route to St Davids, and in this regard its proximity to the former medieval ferry may be relevant.
- 5.6.3 Three further medieval sites are recorded in the HER within the 500m search area. The first is a placename, 'Holly Stone' (PRN 5242), recorded just west of Llanybri on the mid-19th century tithe schedule for Llanstephan parish and apparently a corruption of 'Holy Stone' (RCAHMS 1917). However, there is no other evidence for a stone in this location, and its form and date are unknown (Ludlow 2002). The second HER record is for a mill, named 'Mundegy' or 'Mondeggy' (PRN 12644), and depicted on William Rees' map of south Wales in 1482 (Rees 1932). This is likely to be on the site of Felin Pen-degy (PRN 105988), a corn mill recorded on historic Ordnance Survey maps as part of a farmstead complex (Ings 2014). Finally, the HER records a possible medieval chapelry to Llanstephan parish that is shown on Rees' (1932) map at Pentregwyn Farm and labelled 'Eglwys Trewyn' (PRN 12643). Rees depicts a second chapelry, 'St Teilo's', in broadly the same location but they are probably the same site, Rees perhaps being unsure whether Pentregwyn, or Pentowyn Farm (south of the study area) was the correct location. No other sources for this chapel are known. The nature of the four figure NGR for this site locates it a little to the west of the Taf flood defence bank (PRN 29979, see below) on the HER mapping. This is clearly inaccurate, as Pentregwyn Farm lies 1km to

the north-east, straddling the boundary of the 500m search area (Figure 5).

5.7 Post-Medieval & Modern

- 5.7.1 There are two sites of post-medieval date recorded within the project area (namely bridge PRNs 15733 and tidal defences PRN 29979), and two further sites within the surrounding study area (farmstead PRNs 111911 and 111914).
- 5.7.2 Most sites recorded on the HER within the search area are of post-medieval date. Many of these sites relates to the developing agricultural landscape of the later post-medieval period. Several farmsteads are included, including Mwche Farm itself (PRN 111913), which as stated above may have its origins during the medieval period. Cwm-celyn farmstead (PRN 111914) on the northern edge of the study area is included, although there is very little recorded about this farmstead. Similarly Rhooks farmstead (PRN 111911), which lies on the northeast edge of the study area, is included but has very little recorded history. The spread of farmsteads demonstrates a well-developed agricultural landscape had formed by the later post-medieval period, possibly developing from the medieval period.
- 5.7.3 Other sites include two bridges, Pont Pen-degy (PRN 15729) and Pont y mwche (PRN 15733) and a linear embankment, the Taf flood defence (PRN 29979). These features are depicted on historic mapping from the mid-19th century onwards (see 'Historic Mapping below') and likely relate to late post-medieval agricultural expansion, which lead to the enclosure and drainage of former marginal lands.
- 5.7.4 Post-medieval sites recorded within the 500m search area reflect the settlement pattern of dispersed farmsteads and agricultural land use, connected by a network of minor roads that persists to this day. There are no records of a modern (post-1900) date in the HER for this area.

Table 2: All sites recorded on the HER within the study area and wider search area

Prn	Type	Period	Ngr
111914	Farmstead	Post medieval	SN3200412205
12643	Chapel	Medieval	SN3200012000
105988	Corn Mill	Post medieval	SN3302612597
129498	Gravel pit	Post medieval	SN3255811309
111602	Farmstead	Post medieval	SN3290411428
111912	Farmstead	Post medieval	SN3270111809
5242	Inscribed Stone	Medieval;Unknown	SN33331242
23585	Cottage	Post medieval	SN3184712595
129394	Garden	Post medieval	SN32521162
10965	Settlement	Medieval	SN32561164
12644	Corn Mill;Water Mill	Medieval; Post medieval	SN330126
39111	Quarry	Post medieval	SN32251119
39308	Cart Shed	Post medieval	SN3257411633
39307	Inscribed Stone	Medieval	SN3260211602
111913	Farmstead	Post medieval	SN3256511609
111910	Farmstead	Post medieval	SN3325012222
103059	Building	Post medieval	SN32701179
112029	Farmstead	Post medieval	SN3270611793
9601	Findspot	Neolithic	SN32251085
15729	Bridge	Post medieval	SN33031272
111880	Farmstead	Post medieval	SN3294912729
15733	Bridge	Post medieval	SN3244311948
111911	Farmstead	Post medieval	SN3292612352
29979	Flood Defence	Post medieval	SN31961221

Tidal Embankment, Mwche Farm, Llanybri, Carmarthen
Historic Environment Desk-Based Assessment

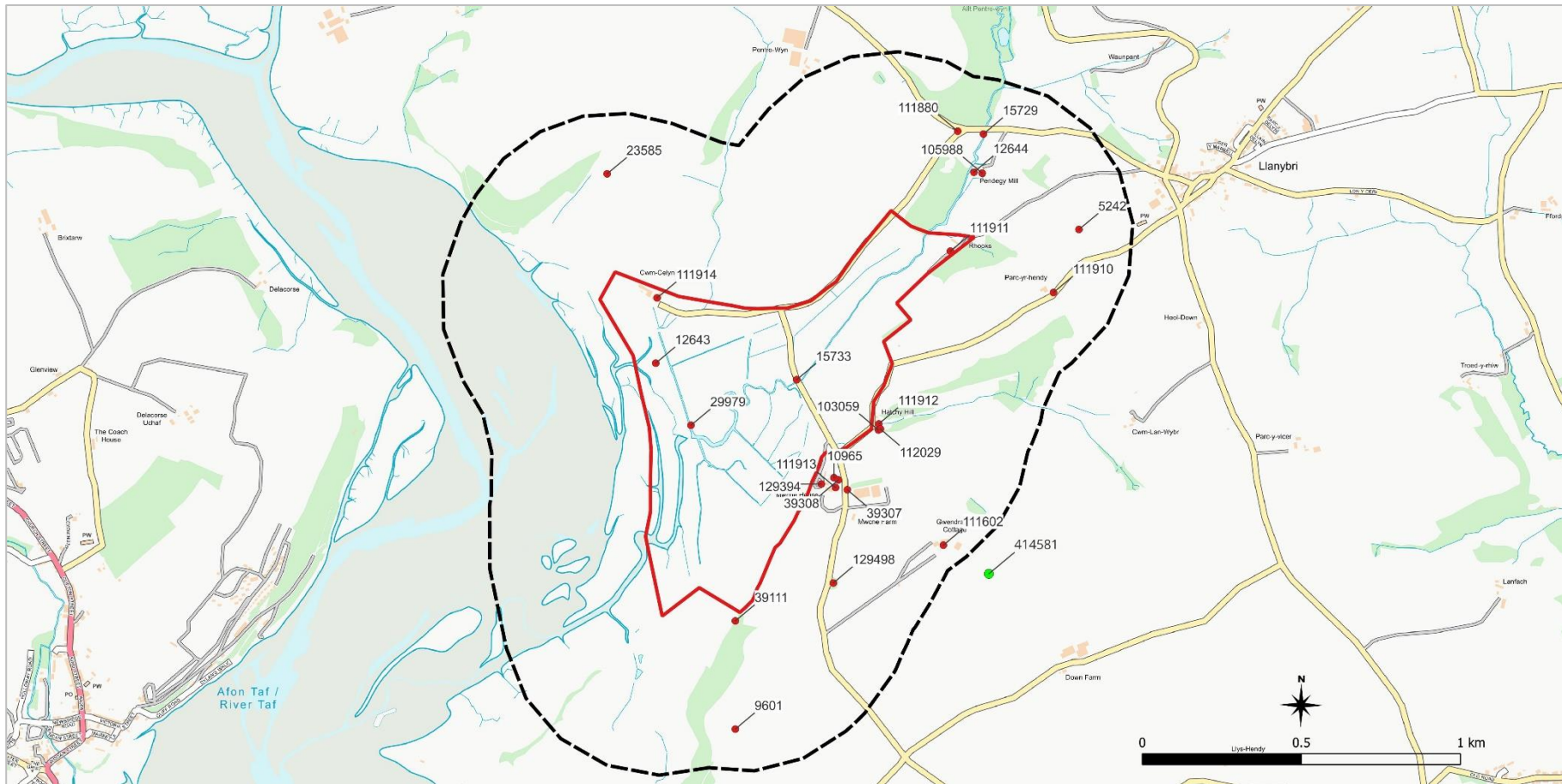


Figure 4: Map showing the study area (red polygon) and the 500m radius search area (black dotted polygon). Also showing assets recorded on the regional HER (red dot) and in the NMR (green dot), labelled by PRN/NPRN.

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6 ASSESSMENT OF EVIDENCE

6.1 General

- 6.1.1 Sections 4 and 5 have described the known archaeological resource for the area, recorded on national and regional databases of historic assets. The following section examines some of the main sources of information that inform or could expand the current understanding of the archaeological resource and highlight previously unrecorded historic assets.

6.2 Previous Archaeological Work

- 6.2.1 No intrusive archaeological investigations (excavations, evaluations or watching briefs) have previously been undertaken within the search area.
- 6.2.2 A non-intrusive archaeological walk-over survey of Mwche Farm was undertaken in the late 20th century as part of the Tir Gofal agri-environment scheme (Page 1999). This resulted in the creation of a number of the HER records mentioned in the previous section. Of relevance for the current study is the description/management recommendation for the linear earthwork bank recorded as Taf flood defence (PRN 29979). This states that the bank

'...still forms the primary flood defence for this part of the farm. It is still the active flood defences for the reclaimed land behind it and should, therefore, be maintained in its present condition.' (Page 1999, 6).

6.3 Historic Mapping

Ordnance Survey surveyors' drawing, 1811-12 (Figure 5)

- 6.3.1 The earliest cartographic evidence depicting the study area is the original Ordnance Survey (OS) surveyors' drawing of 1811-12. This map pre-dates the construction of the Taf flood defence (PRN 29979). According to the HLCA description, Mwche (shown as 'Muche') Farm was acquired by the Morris family in 1791, and the flood defence constructed by them shortly after 1812. Clearly this took place after the OS cartographers had surveyed the area. However, the OS drawing appears to show that the new flood defence replaced an earlier, slightly smaller defensive earthwork protecting the farm buildings. Mwche marsh is depicted to the west of this feature, with a watercourse west of that.
- 6.3.2 The OS drawing shows that construction of minor road that today passes Mwche Farm and is carried over the 'Brook' (see Table 3, No.141, and discussion of OS maps) by Pont y mwche (PRN 15733) also post-dated 1812. The later line of this road is visible on the map as tracks running north and south from the farm. The northern track crosses the Brook in an area that was presumably fairly boggy (the Brook having two channels in this area) and it is possible that the track was only viable during the summer months.
- 6.3.3 Two tracks are shown crossing the Taf to connect with minor roads near Laugharne on the opposite bank of the river. One of these is labelled 'Ford'. These may also have only been viable at certain times of year. Alternatively, before the new flood defence reduced the area of land that was accessible to the water, they may have been viable at low tide.

6.3.4 The farmsteads of Cwm-celyn (PRN 111914) and Rhooks (PRN 111911) had both clearly been established by the time this map was created.

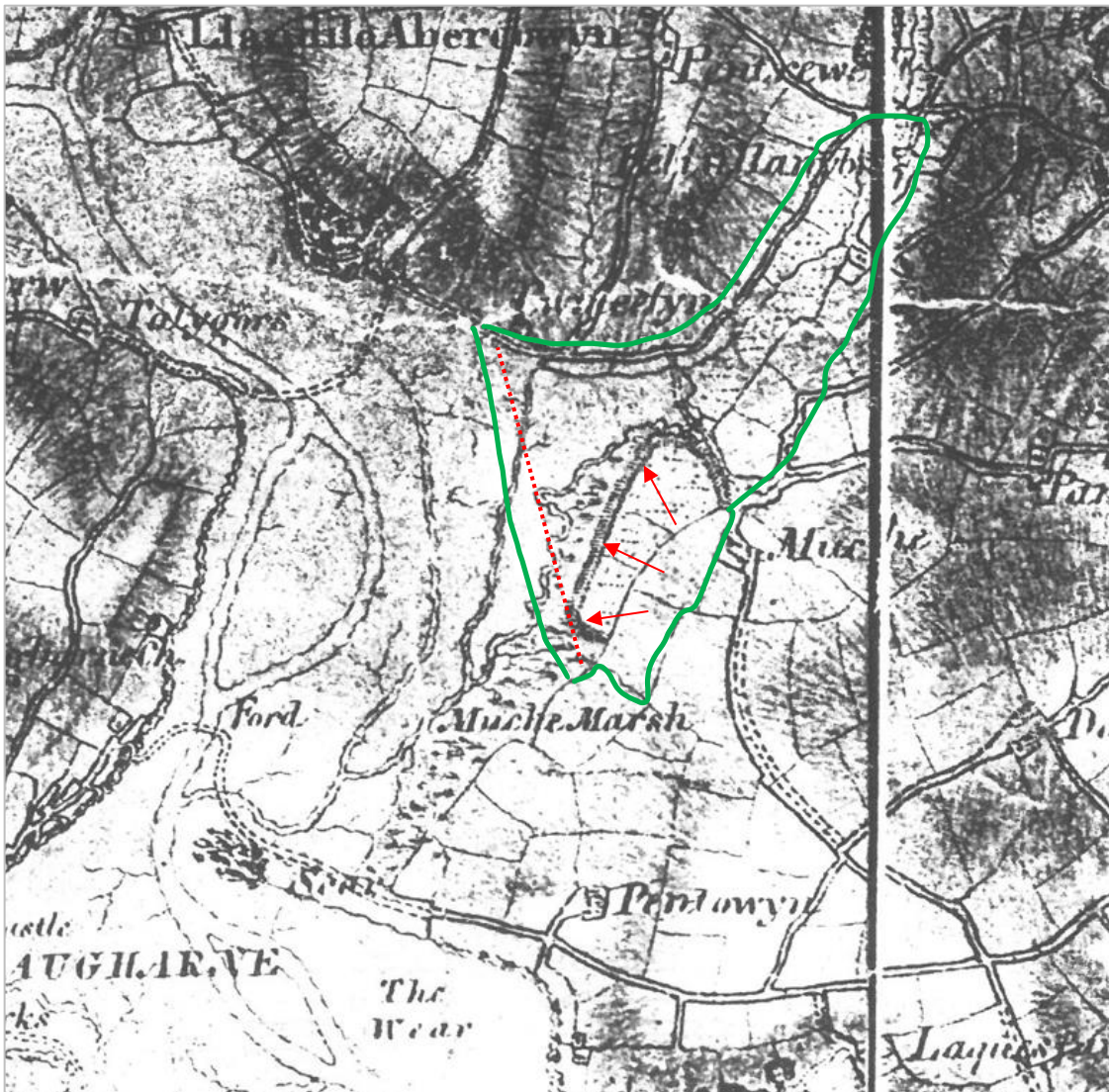


Figure 5: Extract of the original OS surveyors' drawing of 1811-12. Approximate study area boundary in green. Dotted red line shows the approximate location of the later flood defence, arrows point to an earlier defensive bank protecting Mwche Farm. Tracks extending north and south from Mwche Farm will later become the present minor road that passes the farm.

Llanstephan Parish tithe map 1841 (Table 3 & Fig. 6)

6.3.5 The 1841 parish tithe map is the first cartographic source for the present Taf flood defence bank and shows that it was constructed during the second or third decade of the 19th century. The 1840 tithe schedule shows that at this time, the landowner was Thomas Charles Morris of 'Moche' (present-day Mwche) Farm while the main occupier, or farmer, was a David Hancock. John Davies farmed some of the area around Cwm Celyn farm. The map shows the study area divided into fourteen land parcels. Pont y mwche, and the minor road that it carries are not shown. This suggests either that the land reclaimed by the construction of the

flood defence in 1812 was not yet stable enough to support a road, or that a metalled road was not yet considered necessary.

- 6.3.6 Just south of Cwm Celyn Farm the flood defence bank is shown deviating from its present, broadly north/south, alignment to run north-east for a short distance. Land parcels 140, 140a, 142, 143 and 143a are reclaimed land but while 140, 140a are meadow, 143 and 143a are clearly still marshy (see Table 3). A channel of the Brook still forms a boundary between 142 and 143a.

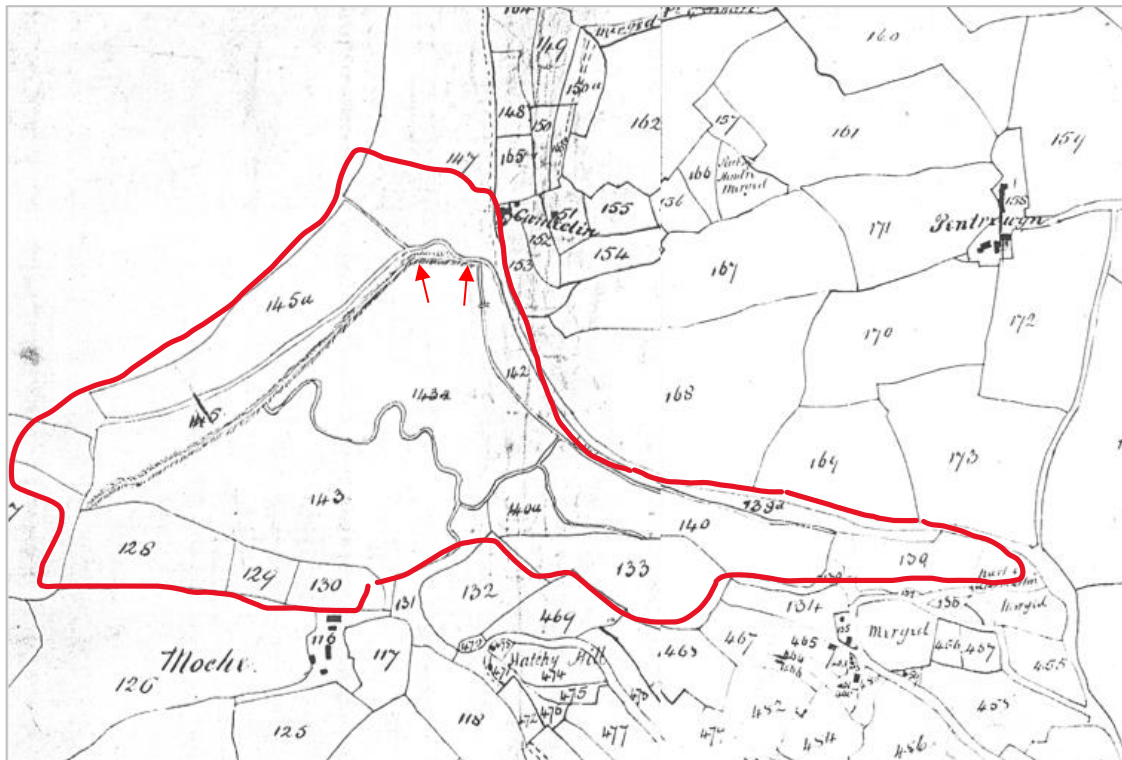


Figure 6: Extract of the 1841 parish tithe map. North is towards the top right-hand corner. Approximate boundary of study area in red. Arrows show the former deviation in alignment of the flood defence.

Table 3: Field names on the 1840 Tithe schedule for the study area

Parcel	Field Name	Parcel	Field Name
128	Parc Morfa	141	Piece west side of the Brook
129	Waun Arw	142	Llain wen
130	Waun Islan ty	143	Big Marsh
131	Common	143a	Big Marsh
133	Broadmead	145	Marsh
140	Waun fawr	145a	Marsh
140a	Waun fawr	147	Marsh

Ordnance Survey 1:10560 map, 1888 (Figures 7 & 8).

- 6.3.7 By 1888, when the first edition OS map was published, the line of the flood defence bank had been altered to follow its present, broadly north/south, alignment. The line of the earlier deviation at the northern end is shown fossilised by the route of the adjacent brook south of Cwm Celyn Farm. The main Brook, which had three channels to it on the 1811–12 map, is now shown as a single north-east/south-west aligned channel that flows into the Taf south-west of 'Moche' Farm. The channel that formed the boundary between land parcels 142 and 143a on the tithe map has dried up; the only stream shown flowing into the Taf just south-west of Cwm Celyn Farm is one that flows from north of the farm. It is shown crossing the road near Cwm Celyn (the road fords it) and apparently flowing under the flood defence bank, which must have been culverted to allow the water through.
- 6.3.8 This map edition shows that the minor road which passes 'Moche' Farm was constructed between the tithe survey (published 1841) and 1887, when the OS first edition survey of this area was undertaken.

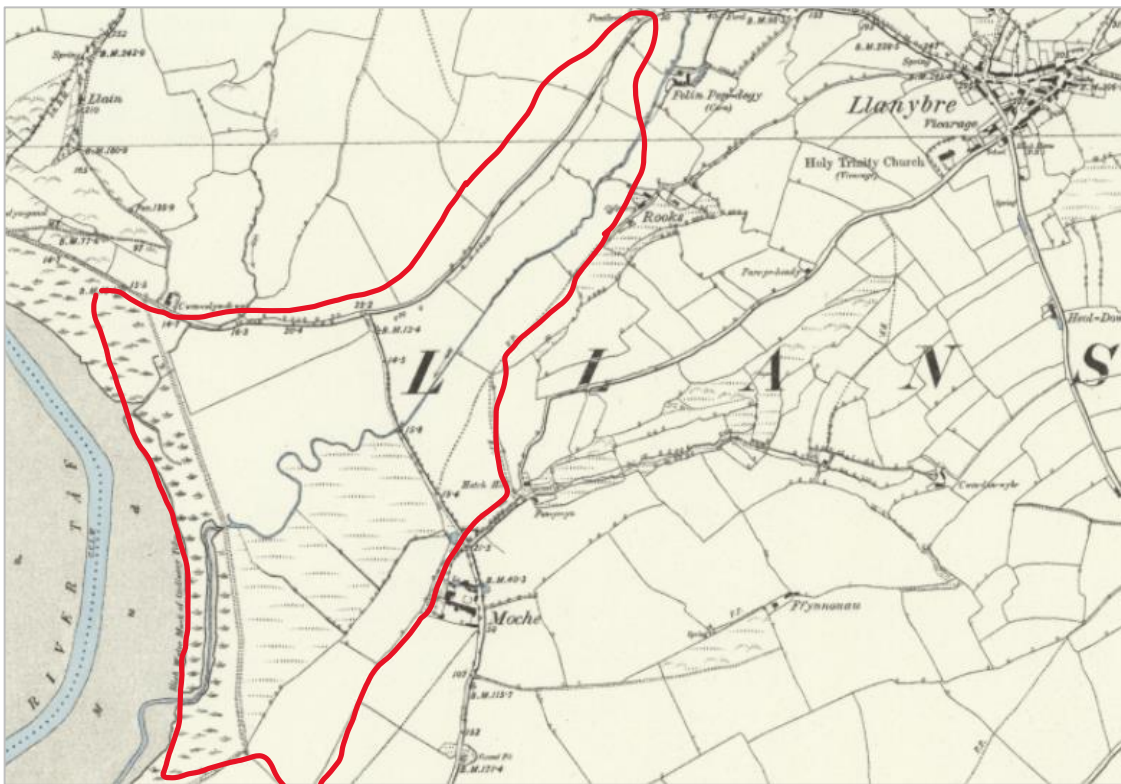


Figure 7: Extract from the 1888 Ordnance Survey map. Study area boundary in red. Note the undeviating north/south alignment of the flood defence bank. The land south of the Brook is still depicted as marshy ground. To the east, a new road is shown crossing the Brook north of Mwche Farm.



Figure 8: Close up of the 1888 first edition OS map, showing a road crossing the stream east of Cwm Celyn and the stream passing under the Taf flood defence bank. The line drawn across the bank to the south appears to depict a land division.

Ordnance Survey 1:10560 map, 1907 (Figure 9).

- 6.3.9 The revised second edition of the OS map was surveyed in 1905 and published in 1907. By this time, the stream to the east of Cwm Celyn Farm has been diverted under the road, and the three fields south of the Brook are no longer depicted as marsh, indicating that the process of land reclamation took almost a century to complete following the construction of the Taf flood defence bank in 1812. As the road crosses the Brook it is now labelled as 'Pont y Moche', which may be an indication that the bridge was recently added.



Figure 9: Extract from the 1907 Ordnance Survey map. The two fords have been replaced by a culvert east of Cwm Celyn and Pont y Moche bridge north of 'Moche'. Three marshy fields depicted south of the Brook on the previous edition are no longer shown as marsh.

6.4 Aerial & Historic Photography

- 6.4.1 A search was made of available historic aerial photographs and modern aerial photographs. A number of aerial photographs taken by the RAF between 1944 and 1949 show the area in some detail.
- 6.4.2 Two images were taken three months apart during 1946 (Photos 01 and 02). Both show the Taf flood defence, the Brook and the two farms quite clearly, although the photograph dated 8th July (Photo 02) is of better quality. This photograph also shows evidence for recent ditch clearance in the area of land north of the Brook.
- 6.4.3 Recent ditch clearance, this time in the field south of the Brook, is evident on a photograph taken on 27th August 1947 (Photo 03). Close inspection of the image shows that material from within the ditches had been piled up in small heaps alongside their length.
- 6.4.4 An RAF photograph taken on 10th October 1949 shows a small area of flooded land just east of the flood defence, where the Brook flows through the culvert (Photo 4). The photograph seems to have been taken during a high tide, as it appears to show the river coming right up to the flood defence bank. Presumably the high tide caused the Brook to burst its banks close to the culvert, and this event has been captured on the image.



Photo 01: Aerial photograph taken by the RAF on 11th April 1946. Line of flood defence bank indicated by red arrows.



Photo 02: Close up extract from aerial photograph taken by the RAF on 8th July 1946. Line of flood defence bank indicated by red arrows. Work (possibly ditch clearing) has recently taken place in the area north of the Brook. North is to the left of the photograph.



Photo 03: Extract from aerial photograph taken by the RAF on 27th August 1947. Line of flood defence bank indicated by red arrows. Ditch clearing has recently taken place in the area south of the Brook.

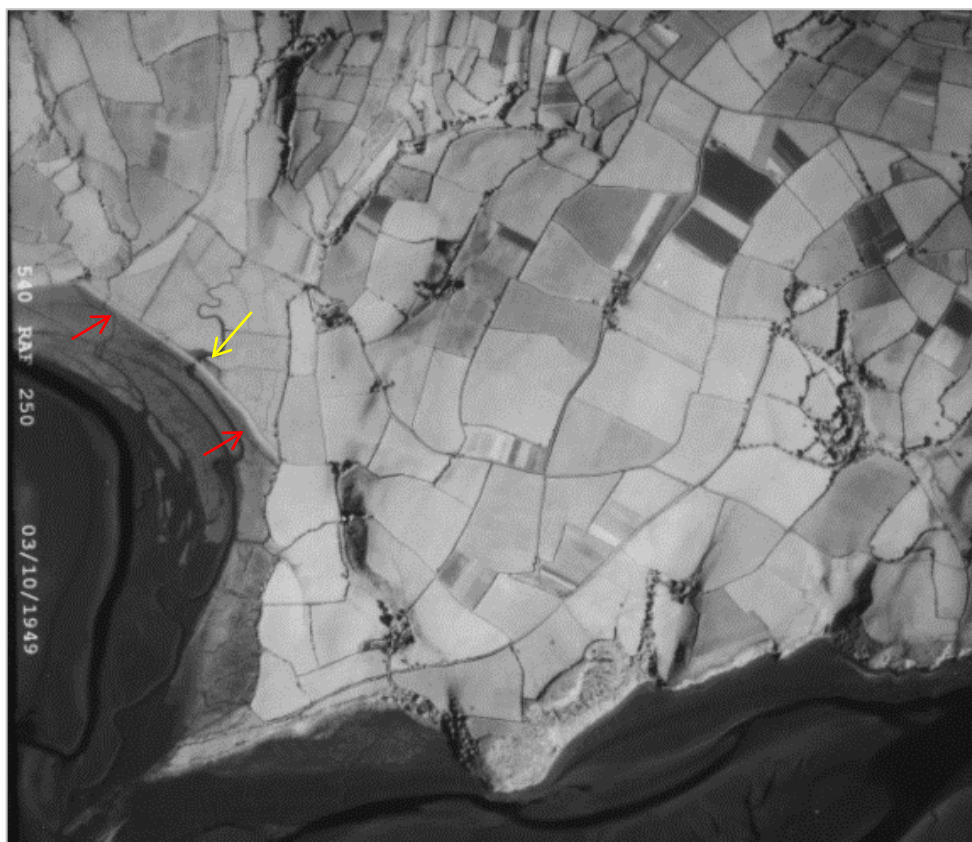


Photo 04: Extract from an RAF aerial photograph taken during a high tide on 10th October 1949. North is to the top left-hand corner. Line of flood defence bank clearly indicated by high water line (red arrows). The Brook appears to have burst its banks near the culvert (yellow arrow).



Photo 05: Extract of Meridian Air Photograph taken in 1954 or '55. Part of the flood defence bank is just visible (red arrow).

6.5 LiDAR

6.5.1 Archive LiDAR data at 1mDSM and DTM is available for the study area (Figures 10 and 11). The LiDAR data confirms the mapping evidence depicting the enclosure and drainage of the reclaimed land. The line of the earliest embankments around Mwche Farm, visible on the 1811-12 OS map are visible as a slight earthwork along the south side of the Brook. The water channels as depicted on the tithe map of 1841 can also be traced, as well as a series of presumably earlier natural water channels meandering across the reclaimed land. Straight-sided drainage ditches are clearly visible that appear to post-date the establishment of the main embankment, and the Brook to the east of the road has also clearly been straightened to encourage the drainage of the surrounding land. Areas of more recent ditch clearance can be seen as a series of mounds alongside the drainage ditches, particularly on the wetlands to the west of the embankment. Some plough lines are visible to the south of Cwm Celyn Farm, but no further features of interest are noted.

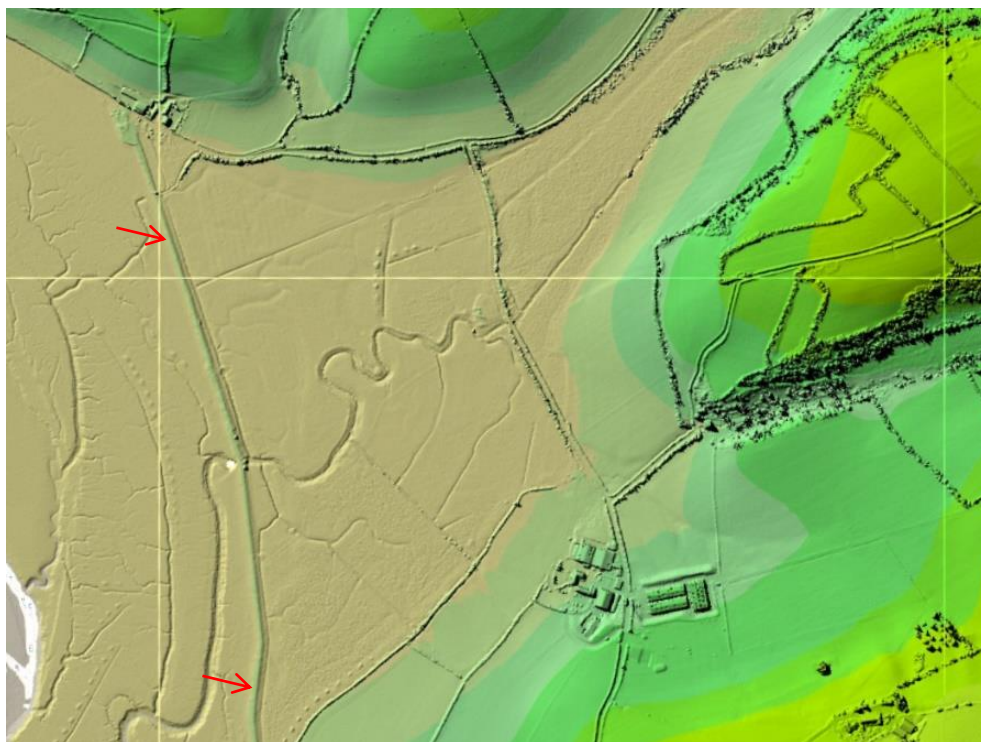


Figure 10: Lidar data at 1mDSM showing the proposed study site depicted in grey-brown, crossed by a series of drains and water channels. The flood defence bank is indicated by the red arrows.

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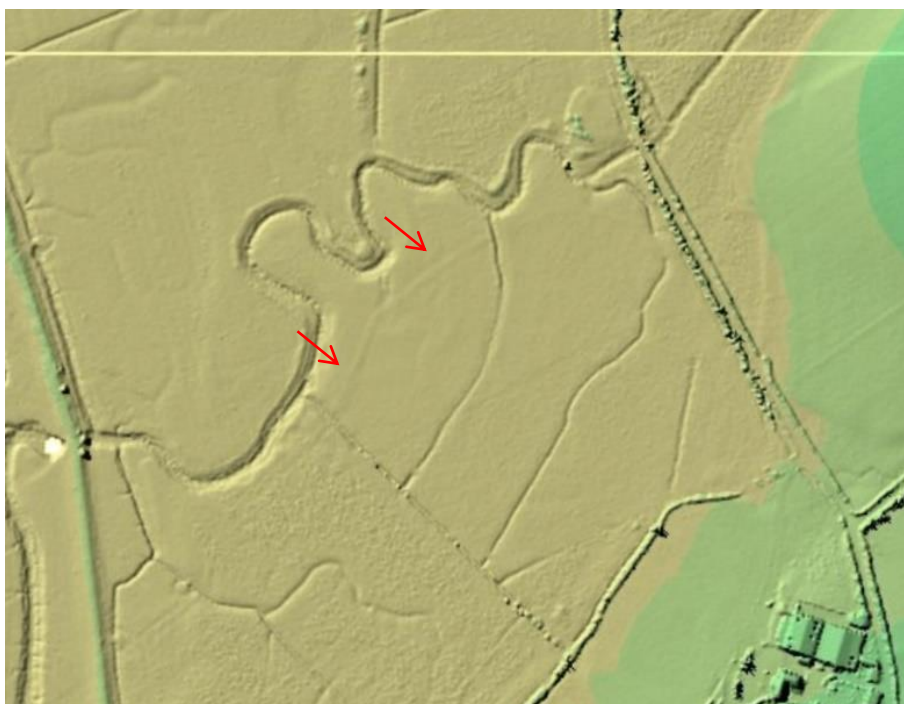


Figure 11: Detail from the LiDAR data show the line of the original, pre-1812, flood defences around Mwche Farm, indicated by the red arrows.

6.6 Site Visit (Photos 06-28)

- 6.6.1 A site visit was undertaken on the 21st of August 2023. The weather conditions were overcast but dry, with good visibility. Access to the entire project area was possible and much of the study area to the west of the local road crossing the site, including the land to the west (seaward) side of the flood defence bank. Farmland to the east of the road was not accessible but was observed from the road. Adjacent farmsteads were not visited.
- 6.6.2 The land rises steeply to the north, south and east of the site, but the land immediately adjacent to the flood defence bank is flat, and is criss-crossed by a number of drainage ditches (Photos 06–08). Here and there, ditches within the area south of the Brook were fenced off (Photos 09–10). The vegetation was long grass, with frequent stands of rushes (see Photos 06–07). The Brook bisected the area east of the flood defence bank on a meandering, but approximately east/west, course (Photo 11). West of the flood defence, the Brook turned to flow south towards the River Taf.
- 6.6.3 Water was visible in several of the drainage ditches that cross the area. However others had clearly not been maintained for many years as they had vegetation growing in them, which obscured any water (Photos 09 & 12).
- 6.6.4 Two of the wider drainage ditches had small bridges across them. The first of these was simply a large, flat stone measuring c.0.9m by 0.9m and 0.2m thick (Photo 13). The second was a small, earth- and stone-built structure with a concrete pipe set into it to allow water through (Photo 14).
- 6.6.5 The minor road between Mwche Farm and the road to Cwm Celyn Farm is carried over the Brook on a bridge named Pont y Moche on the historic OS maps (see Section 6.3). Pont y Moche (PRN 15733) is a small, stone-built, single arched structure that is 14m long and 6m wide, with walls that are a maximum of c. 2.5m high (Photos 15–16). An iron bar gives additional strength to the arch below the structure (Photo 16). A change in the stonework was observed towards the northern end of the western wall of the bridge, suggesting that it may have been damaged and repaired in the past (Photo 15). A scale for measuring the water level was observed attached to the western wall of the bridge, adjacent to the arch (Photo 16).
- 6.6.6 A large, recumbent concrete slab measuring c.3m long by 1.5m wide and 0.25m thick was recorded in the area north of the Brook, a little to the north-west of Pont y Moche (Photo 17).
- 6.6.7 A large ditch runs parallel to the eastern side of the flood defence bank. A line of wooden posts was observed along the western edge of the ditch (Photo 18). Access to the bank is via a modern crossing over the ditch. The ditch drains into the Brook further to the south (Photo 19).
- 6.6.8 Observation of the site from the top of the flood defence bank showed that to the east, the vegetation was long grass with frequent stands of rushes, especially in the area south of the Brook (Photo 20). To the west was saltmarsh vegetation (Photo 21).
- 6.6.9 The flood defence bank (PRN 29979) is a linear earthwork measuring approximately 870 metres north/south by a maximum of 10 metres wide at its base, tapering to c.3–5m wide at the top. The bank rises

approximately two metres above the level of the land to either side (Photos 22–23).

- 6.6.10 A sluice gate allows the Brook to pass through the flood defence bank (Photos 24–26). The V-shaped opening in the bank is revetted with stone on both sides. The quality of the revetment on the western side of the bank varies. Towards the outer edges of the opening it comprises rough drystone (no evidence of bonding material). Around the gate, the stone is of better quality, the stonework is finer, and is bonded (Photos 24–25). The gate itself is made of iron. A pair of iron runners is fastened to the revetment wall above it, although these do not seem to be a part of it (Photo 25). On the eastern side of the bank, the revetment structure is uniform, comprising only good quality dressed stone and there is no gate in the opening (Photo 26).
- 6.6.11 A network of small ditches or creeks criss-crosses the area west of the flood defence bank. During the site visit, a cast iron cylinder, possibly once part of a boiler, was recorded in use as a bridge across one of these streams (Photo 27).
- 6.6.12 A line of grass-covered mounds was observed on a north/south orientation within the area west of the flood defence bank (Photo 28). LiDAR data suggests these may represent ditch clearance upcast, probing suggested these do not contain stonework.
- 6.6.13 The farmland to the east of the minor road comprised well-drained improved pasture, but no features of interest were noted within them.



Photo 06: View west across the reclaimed farmland, showing the line of the flood defence bank (indicated by red arrows), with the land beyond rising on the other side of the River Taf.



Photo 07: View north across the reclaimed farmland, showing the land rising above Cwm Celyn Farm (yellow arrow) near the end of the flood bank (red arrow).



Photo 08: View east across reclaimed farmland, showing the land rising beyond the minor road (behind hedge bank – red arrows) that passes Mwche Farm. The farm is out of shot to the right.



Photo 09: View east showing stock fencing alongside an unmaintained ditch within reclaimed farmland south of the Brook. 1m scale.



Photo 10: View north showing a fenced off ditch within reclaimed farmland just east of the flood defence bank (red arrows).



Photo 11: View west from Pont y Moche showing the Brook dividing the northern and southern areas of reclaimed land.



Photo 12: View west along an unmaintained drainage ditch within reclaimed land south of the Brook.



Photo 13: View west showing a large stone bridging a ditch within reclaimed land south of the Brook. 1m scale.



Photo 14: View north showing an earth- and stone-built bridge over a concrete pipe culverting a drain within reclaimed land south of the Brook. 1m scale.



Photo 15: Pont y Moche bridge, showing a change in the stonework of the western wall, either side of the 1m scale. View east.



Photo 16: Pont y Moche bridge, showing a scale for measuring the water level and an iron bar set below the arch. View east, 1m scale.



Photo 17: View north showing a recumbent concrete slab on reclaimed land near Pont y Moche. 1m scale.



Photo 18: View south from a modern crossing of the main ditch to the east of the flood defence bank, showing wooden posts on the western side of the ditch.



Photo 19: View north of the main ditch flowing into the Brook just east of the sluice gate.



Photo 20: View south-east from the top of the flood defence bank, showing vegetation on reclaimed land south of the Brook. Mwche Farm is visible in the distance, outside the study area.



Photo 21: View south-west from the top of the flood defence bank, showing the vegetation to the west. The town of Laugharne is visible between two wooded hills across the Taf estuary.



Photo 22: View north along the flood defence bank, towards Cwm Celyn Farm.



Photo 23: View south along the flood defence bank.



Photo 24: View south-east showing the sluice gate on the western side of the flood defence bank. 1m scale (on top of structure).



Photo 25: View east, showing the iron sluice gate hung within the stone-revetted V-shaped opening in the flood defence bank. Note a pair of iron runners mounted on the wall above the gate.



Photo 26: View north-west, showing the stone-revetted opening of the sluice gate in the eastern side of the flood defence bank.



Photo 27: View north, showing a cast iron cylinder bridging a small stream to the west of the flood defence bank.



Photo 28: View south-east showing a line of small earthworks on land west of the flood defence bank.

7 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL, IMPORTANCE AND SETTING

Table 4: 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 5: 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

7.1 Potential

- 7.1.1 Three, possibly four, previously recorded archaeological sites lie within the study area (Nb. PRN 12643 is marked within the site boundaries, but the given grid reference is imprecise, and the site lies outside the boundary). These include a substantial, post-medieval linear earthwork known as the Taf flood defence (PRN 29979), which lies on the western edge of the project area. Another site is Pont-y-Mwche (PRN 15733), a modern bridge carrying a minor road over the watercourse known, historically, as the Brook, which lies on the eastern edge of the project area. The assessment of evidence has identified that both sites are associated with early 19th century land reclamation. As the means of reclamation, the Taf flood defence has a direct association, first built in *circa* 1812 with later adaptations. Pont-y-Mwche has an indirect association, resulting from the fact that the road which it carries traverses reclaimed land, first built in the later 19th or early 20th century. These two sites are considered of Medium to Low archaeological importance as defined in Table 5 (above).
- 7.1.2 The remaining sites include the farmstead of Cwm-Celyn (PRN 111914). This small farmstead is first recorded on early 19th century mapping but its origins are unclear. Access to the farmstead was not possible during the site visit but mapping evidence suggests the farmhouse was built in the late 19th or early 20th century, with an earlier 19th century farm building range to the north. The remaining structures on the site are largely modern. The traditional buildings are likely to be relatively common features of the local area, although they are still extant, and are therefore considered to be of Medium archaeological importance.
- 7.1.3 Part of Rhooks farmstead (PRN 111911) lies on the very edge of the study area to the northeast. Similar to Cwm-Celyn, this farmstead was not visited but mapping evidence indicates it had been established by the early 19th century, and that traditional farm buildings survive on the site, perhaps more extensively than they do at Cwm-Celyn. This is also considered to be a site of Medium archaeological importance.
- 7.1.4 An earlier, pre-embankment PRN 29979 line of flood defence on the south side of the Brook within the project area has been identified from historic mapping and LiDAR data, although this appears largely indistinguishable on the ground. Given its current condition this is considered to be of Low archaeological importance.
- 7.1.5 The reclaimed agricultural land within the project area can also be considered a heritage asset in itself. This area forms part of a general expansion of agricultural land in the latter stages of the agricultural revolution, introduced by a local landowner. Although relatively considerable local investment and labour would have been required to create the embankment and drainage system in the early 19th century, historical mapping suggests the change to productive land was a gradual one, and the area lacks the time depth and historical importance of other areas of similar land reclamation recorded around the Taf and Towy estuary. As a recognised element of the registered historic landscape however the reclaimed land is considered to be of Medium archaeological importance.
- 7.1.6 The nearby church at Llandeilo Abercowyn may have been on an important pilgrimage route during the medieval period, with access from Laugharne via the former Taf ferry. Nearby Mwche Farm is also thought to have medieval origins. Therefore there is a Low potential for early

medieval and medieval archaeological remains in the area, of uncertain archaeological importance.

- 7.1.7 There is little indication from the available records for other archaeological sites of specific interest within the study area. Throughout the 19th and 20th centuries the area appears to have remained agricultural land with little change in its layout. Three small bridges observed during the site visit show that pedestrian and agricultural access to the reclaimed land and also to the wetland west of the flood defence bank was necessary. A line of grass-covered mounds on the wetland may represent past ditch/creek clearance in this area, but this identification is tentative, based upon small spoil heaps relating to ditch clearance seen on historic aerial photographs (Section 6.4). Ditch clearance no longer appears to be actively taking place, with some drainage ditches becoming infilled.

7.2 Setting

- 7.2.1 *Setting of Historic Assets in Wales* (Cadw 2017a) offers guidance on defining and analysing the setting of designated heritage assets to allow the impact of development to be appropriately assessed. The setting of such assets 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 2017a). As such it 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, historical, artistic, literary and scenic associations.
- 7.2.2 There are no scheduled monuments, listed buildings, historic parks and gardens or conservation areas within the search area. There are three scheduled monuments on the opposing side of the Taf, namely CM310 Delacorse Uchaf Standing Stone, CM232 Hillslope Enclosure at Laugharne Park Holiday Village and CM003 Laugharne Castle. Although outside the search area these three sites may have partial views of the project area, and therefore changes in this view, from reclaimed land to wetland, may impact upon the setting of these sites. However, given the distance to the proposed project area, the expanse of coastal wetland in front of the site, and the fact reclaimed farmland has been a relatively recent introduction into the views from these monuments, it is unlikely this change will have a significant impact upon these settings.
- 7.2.3 As an area of undeveloped reclaimed agricultural land much of the area currently forms part of the extensive Historic Landscape Character Area of HLCA 146 Taf Valley Reclaimed Marsh. At around 23 hectares the area forms around 14% of the 251 hectares of the entire Landscape Character Area and is typical of the reclaimed marshland landscape that is characteristic of this area. As stated in section 7.1.3 above however the area is part of the later, more localised areas of land reclamation, lacking the time depth and historical importance of other elements of this landscape area.

- 7.2.4 Part of the northeast corner of the study area lies within the Historic Landscape Character Area of HLCA 153 Llanybri and Llansteffan strip fields. This HLCA is characterised by former strip fields, subsequently enclosed in the 17th and 18th centuries, focussed on the traditional settlements of Llanybri and Llansteffan. The fields are enclosed in hedgebanks, largely pasture, with some amalgamation into larger units. The study area however includes irregular fields on lower slopes and the valley base, since amalgamated into two large sinuous fields. Historic mapping suggests they have always been on the fringes of the strip field enclosures, and do not appear to have formed part of the characteristic long and narrow fields, and currently display few characteristic elements of this HLCA.
- 7.2.5 The southeast fringe of the study area includes two fields that lie within the Historic Landscape Character Area of HLCA 152 Laques. This is a large agricultural area of fairly large fields with irregular boundaries and dispersed farmsteads, developed during enclosures of the 17th and 18th century, making it distinct from the earlier strip fields described above. The two fields are characteristic elements of this area, but at just under 8 hectares they amount to around 1.5% of the total HLCA.

8 IMPACT ASSESSMENT

8.1 Development proposals

- 8.1.1 The development proposal is for wetland habitat creation within the project area facilitated by the creation of a breach, or breaches, in the Taf flood defence bank (PRN 29979). This would enable reclaimed agricultural land to the east of the bank to return to its pre-19th century coastal saltmarsh conditions. The suggested proposals are in the early stages of development and therefore detail on where and how the breach(es) would be created are not currently defined.
- 8.1.2 The creation of a new breach to allow the inundation of seawater would likely have a direct physical impact on the 19th century flood defence bank. Any associated groundworks, such as the establishment of new water channels, access tracks, works compounds etc could have a physical impact upon historic assets by potentially exposing, damaging or destroying archaeological remains should they be present.
- 8.1.3 Changes to the project area through the establishment of saltmarsh could also lead to assets becoming obscured or visibly lost to inundation. Although the physical remains of the assets may remain intact this inundation is still likely to be a physical impact upon them. The development of saltmarsh within the project area could also affect the hydrology and morphology of the surrounding study area, impacting archaeological sites in this area.
- 8.1.4 Changes in this area also has the potential to generate indirect impacts upon historic assets, by altering elements of the setting as discussed in section 7.2, as well as covering and obscuring currently visible heritage assets.

8.2 Impact assessment criteria

- 8.2.1 The criteria for the assessment of impacts, both direct and indirect, on historic assets is 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 however, the guidance offered in the Setting of Historic Assets in Wales (Cadw 2017a) has been utilised.
- 8.2.2 The TAG criteria divides the impacts into seven categories:
- Large Adverse (negative)
 - Moderate Adverse (negative)
 - Slight Adverse (negative)
 - Neutral
 - Slight Beneficial (positive)
 - Moderate Beneficial (positive)
 - Large Beneficial (positive)

8.3 Physical impacts upon the historic assets

- 8.3.1 The Taf flood defence PRN 29979 has been identified as a heritage asset. The creation of a new breach through this structure will have an adverse impact. The extent of the impact will be dependent on the number of breaches created and whether this includes the removal of the current sluice gate through the centre of the embankment, which would increase the impact due to the fact that this is an important built and visible element of the defences. The proposed development therefore has a potential **Slight to Moderate Adverse impact** upon PRN 29979, dependent upon the scale of development.
- 8.3.2 Pont-y-Mwche bridge PRN 15733 may be adversely impacted by a change to surrounding environment from agricultural land to saltmarsh wetland. Although it is unlikely for this change to adversely affect the structural remains of the bridge, if large parts of the bridge were to become submerged leading to a loss of function and visibility then this would be considered to be a **Slight Adverse impact**.
- 8.3.3 Cwm-Celyn farmstead PRN 111914 is an occupied and working farmstead. The site lies outside the project area, therefore it should not be directly affected by potential development works to facilitate saltmarsh development. The site is currently affected by flooding, no modelling has yet been undertaken to suggest the potential impact through future flooding along with hydrological and morphological changes associated with nearby saltmarsh development, therefore any direct impacts to the farmstead and its operation remain uncertain at this stage. Farmland associated with this farm is excluded from the project area, but changes to the hydrology may lead to the loss or change of use of some associated farmland, impacting the operation and even viability of the farmstead. Given the uncertainties surrounding potential impacts to this site the proposed development is considered to have a potential **Slight to Moderate Adverse impact** upon PRN 111914, but the extent of this impact will require further future reviews.
- 8.3.4 Rhooks farmstead PRN 111911 is also an occupied and working farmstead, lying on the fringes of the study area. Due to its peripheral location the extent of potential impact upon this asset is not clear and could vary considerably. The farmstead itself is unlikely to be directly impacted as it lies away from the main project area, but if the site were to be abandoned through changes to the hydrology and morphology of associated farmland due to the wetland development, then this would be considered to be a **Moderate Adverse impact**. Equally however, the site may remain physically unaffected if these changes have little impact upon the current management of associated farmland, which would be a **Neutral impact**.
- 8.3.5 An earlier, pre-19th line of sea defences has been identified on the south side of the Brook within the project area. If new channels are created to aid in the spread of saltmarsh wetlands through the line of this defence then this may have a direct physical impact upon these remains, which therefore has the potential for a **Slight Adverse impact**. However, at present this appears unlikely. The build-up of saltmarsh wetland deposits may obscure these remains, although they are not currently clearly discernible at ground level, and such a build-up of deposits will not physically impact upon the remains, which is therefore considered to be a **Neutral impact**.

- 8.3.6 The reclaimed farmland itself has been highlighted as historic asset in itself, which is also represented in its identification as part of an historic landscape character area HLCA146. Disregarding the Taf flood defence which is dealt with above, the physical elements of this area, such as the drainage ditches and their bridges, and the field boundaries, are unlikely to be physical adversely affected, but the change to saltmarsh wetland will fundamentally alter the current appearance and understanding of this asset, which is considered to be a **Slight Adverse impact**.
- 8.3.7 There is considered to be a low potential for general early medieval and medieval remains relating to pilgrimage activity and the former Taf ferry, along with medieval activity associated with Mwche farm. There is the potential for any associated ground breaking works associated with the proposals to have an **Slight Adverse impact** on any such remains, however, the general change to saltmarsh wetlands throughout the area is considered to have a **Neutral impact** on any such remains.

8.4 Impacts to the Settings of Surrounding Designated Features

- 8.4.1 The definition of setting, how it contributes to the significance of a historic asset, and why it is important are outlined in *Setting of Historic Assets in Wales* (Welsh Government 2017a; available online) as follows:

The setting of a historic asset 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. Elements of a setting may make a positive, negative or neutral contribution to the significance of an asset.

- 8.4.2 As illustrated in Section 7.2 there is the potential that this area may form part of the setting for three scheduled monuments on the opposite side of the Taf, namely CM003, CM232 and CM310. It is suggested however that this is unlikely to be a significant impact, and is therefore considered to be **Neutral**.
- 8.4.3 The site lies within the Taf and Tywi Estuary Landscape of Outstanding Historic Interest (HLW (D) 9). The proposed development may impact on three Historic Landscape Character Areas that form part of this wider landscape.
- 8.4.4 Breach of the Taf flood defence will impact upon one of the Historic Landscape Character Areas within that overall landscape (HLCA 146 Taf Valley Reclaimed Marsh), by altering the land use and causing the loss of a characteristic element of that landscape area. As stated in section 7.2, although characteristic, this area of reclaimed land is perhaps of lesser significance than other areas of reclaimed land within the landscape area. HLCA 146 is a large character area and includes areas of extensive salt marsh as well and therefore the reversion to marshland will be in keeping with this characteristic element. Generally therefore, in addition to the physical impact stated in section 8.3.4, it is considered that there will be a **Slight Adverse to Neutral impact** upon the HLCA.
- 8.4.5 Part of the study area lies within HLCA 153 Llanybri and Llansteffan strip fields. As stated in section 7.2 however the affected area is not particularly characteristic of the HLCA as a whole, and changes to the area in question is likely to have a **Neutral impact** upon the HLCA. Two fields on the

southeast fringe of the study area also lie within HLCA 152 Laques. These fields are more characteristic of the HLCA, but comprise only a small fragment on the fringe of this area, and therefore the changes from enclosed pasture to potential wetland is considered to have a **Slight Adverse to Neutral impact** upon the HLCA. Together these changes are considered to have a **Slight Adverse to Neutral impact** upon the registered Historic Landscape as a whole.

9 CONCLUSIONS

9.1 Archaeological potential and impact assessment

- 9.1.1 A Slight to Moderate adverse impact has been identified to the Taf Flood defence PRN 29979. This is an early 19th century flood embankment, considered to be of Medium to Low archaeological importance. The scale of impact will be dependent on the number and location of breaches required through the embankment.
- 9.1.2 A Slight adverse impact has been identified to Pont-y-Mwche bridge PRN 15733, of Medium to Low archaeological importance. The impact will largely be through partial submersion of bridge elements and loss of visibility and function, with structural remains likely to be largely unaffected.
- 9.1.3 A potential Slight to Moderate adverse impact has been identified on Cwm Celyn farmstead PRN 111914. This is an extant farmstead of Medium archaeological importance. The scale of impact will be dependent on the changes to hydrology and morphology around the farmstead, the extent of which is currently uncertain.
- 9.1.4 A similar potential Moderate adverse impact has been identified on Rhooks farmstead PRN 111911, of Medium archaeological importance. As a more peripheral site however this impact is very uncertain, and also dependent on the impact of changes to the hydrology and morphology and subsequent use of farmland associated with the farmstead. If the management of associated farmland were to remain unaltered then the impact would more likely be Neutral.
- 9.1.5 A Slight Adverse to Neutral impact has been identified on a line of pre-19th century flood defences to the south of the Brook, of Low archaeological importance. The line of these defences are visible on historic mapping and LiDAR data, but is largely indistinguishable at ground level. The scale of impact will be dependent on the requirement for groundworks across the site to facilitate the wetland development.
- 9.1.6 A Slight Adverse to Neutral impact has been identified on the reclaimed farmland, a historic asset in itself, of Medium archaeological importance, and part of the historic landscape character area 146 Taf Valley Reclaimed Marsh, itself a part of the Taf and Tywi Estuary Landscape of Outstanding Historic Interest (HLW (D) 9). The Slight adverse impact will result from the loss of reclaimed farmland as it reverts to saltmarsh wetland, although many of the actual physical elements of the landscape will be preserved within the wetlands. There will also be a Slight Adverse to Neutral impact on historic landscape character area 152 Laques through a change in character to peripheral fields. The impact upon the entire landscape area and registered historic landscape will be Slight to Neutral in its impact, largely because of the impact to character area 146.
- 9.1.7 The assessment has identified a low potential for early medieval and medieval archaeological remains in the area, of uncertain archaeological importance. A Slight Adverse to Neutral impact on this potential has been identified, dependent on the requirements for groundworks to facilitate the wetland development.
- 9.1.8 No other significant impact has been identified.

Table 6: Assessment of impacts

Site	Ref. No.	Potential	Value	Site status	Physical impact	Setting impact
Taf flood defence	PRN 29979	High (extant monument)	Medium to Low	-	Slight to Moderate Adverse	-
Pont-y-Mwche bridge	PRN 15733	High (extant monument)	Medium to Low	-	Slight Adverse	-
Cwm Celyn farmstead	PRN 111914	High (working farmstead)	Medium	-	Moderate to Severe	-
Rhooks farmstead	PRN 111911	High (working farmstead)	Medium	-	Uncertain Moderate/ Severe to Neutral	-
Pre-19 th century flood defences	-	High (slight earthworks)	Low	-	Slight Adverse to Neutral	-
Mwche reclaimed farmland	HLCA 146 Taf Valley Reclaimed Marsh (Pt of)	High	Medium	Regd. historic landscape	Slight Adverse	Slight Adverse to Neutral
Laques	HLCA 152 Laques (Pt of)	High	Medium	Regd. historic landscape	Slight Adverse to Neutral	Slight Adverse to Neutral
Early Medieval & Medieval archaeological potential	-	Low	Uncertain	-	Slight Adverse to Neutral	-

9.2 Mitigation

- 9.2.1 There is the potential for development proposals to adversely impact the Taf flood defence embankment PRN 29979 through the creation of new breaches and potential removal of the current sluice gate. Similarly, should groundworks be required within the reclaimed farmland area there is the potential for adverse impacts on an earlier line of flood defence and the general archaeological potential in this area. There is also the potential for two working farmsteads to be adversely affected, namely Cwm Celyn PRN 111914 and Rhooks PRN 111911, although the extent of these impacts will be significantly dependent on the extent of inundation and changes to the hydrology and morphology of lands within the study areas, in particular Cwm Celyn as it appears to lie in a more vulnerable position. Such works may therefore require further archaeological mitigation. Any recommendations for archaeological mitigations rests with the archaeological advisors to the local planning authority, or in this case NRW.
- 9.2.2 The extent of mitigation required is likely to be related to the extent of inundation and physical works required to facilitate it. Advance recording, in the form of historic building recording, may be required on the Taf flood defence embankment PRN 29979, to gain an appropriate record of the structure prior to elements of it being removed to create a sufficient breach. The level of recording may be dependent on the extent of the impact from proposed works. Such recording varies from a largely visual photographic record (Level 1) to an analytical record that includes photography, drawn and surveyed recording, and historical research (Level 4), the level chosen is often linked to the importance of the asset and the extent to which it will be altered through development. Similarly historic building recording may be beneficial for other structural elements that could be affected, such as Pont-y-mwche bridge PRN 15733. Again, the level and need for such recording would likely be dependent on the scale of impact on these sites.
- 9.2.3 If ground disturbing works are required to facilitate the development then archaeological monitoring during such works on the flood defence embankment and within the reclaimed farmland area should assist in identifying and recording elements of archaeological assets that are revealed and disturbed.
- 9.2.4 An improved understanding of the potential impacts upon sites such as Cwm Celyn farmstead PRN 111914 and Rhooks farmstead PRN 111911 may be advantageous and inform future mitigation. Modelling changes to the local hydrology and associated impacts due to wetland development in the area may be beneficial in improving this understanding.
- 9.2.5 An adverse impact upon the reclaimed farmland itself, and its place within the historic landscape character area, has been identified. This impact is largely due to the reversion from reclaimed farmland back to its pre-existing coastal wetland conditions and is an unavoidable consequence of the development, therefore proposals to mitigate this process will be limited.

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