

PROPOSED TIDAL FLOOD ALLEVIATION SCHEME, CARDIGAN, CEREDIGION: ARCHAEOLOGICAL DESK-BASED ASSESSMENT 2015



Prepared by DAT Archaeological Services
For: Natural Resources Wales



DYFED ARCHAEOLOGICAL TRUST

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**PROPOSED TIDAL FLOOD ALLEVIATION SCHEME,
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SUMMARY

DAT Archaeological Services was commissioned by NRW to prepare an Archaeological Desk Based Assessment archaeological desk based assessment for the proposed Tidal Flood Alleviation Scheme at Cardigan. The aim of this assessment is to provide more information about the potential effects upon the historic environment by the scheme proposals. This report will be used by NRW to assist with the design of the scheme and by planners to help make an informed decision on the proposals in regards to archaeology and the historic environment.

The proposed Tidal Flood Alleviation Scheme lies along the banks of the Afon Teifi through Cardigan, Ceredigion and comprises three main elements: The Afon Mwldan / Cambrian Quay Area; The North Bank of the Afon Teifi; and The South Bank of the Afon Teifi. The majority of the proposed defences lie on or very close to the present edge of the Afon Teifi, and also the eastern bank of the Afon Mwldan.

A study area of 100m around each of the three elements of the Tidal Flood Alleviation Scheme was used to obtain information on known archaeological and historical assets within the proximity of the scheme. A more general background history of Cardigan has also been used to provide a wider context for the proposals. Archaeological observation of a number of hand dug geotechnical test pits on the northern bank of the Afon Teifi was also carried out and reported upon within this report.

Within the study area for the northern bank of the Teifi lie a number of designated archaeological sites including Cardigan Castle (Scheduled Ancient Monument CD123, Grade I Listed Building, Grade II Historic Park and Garden); Cardigan Bridge (SAM CD003; Grade II Listed Building); Cardigan Town Walls (SAM CD141) and Castle Green House (Grade I Listed Building). Although not directly impacted upon by the proposals, effects to their settings will need to be considered in the design of the scheme.*

The archaeological assessment has shown that the proposed Tidal Flood Alleviation Scheme lies within an archaeologically and historically significant area of Cardigan, with known remains associated with the medieval Castle and settlement, as well as development of the port and economic prosperity and expansion of the town in the 18th and 19th centuries.

In the Afon Mwldan / Cambrian Quay area, the scheme will run along the surviving river front of Cambrian Quay, a grade II listed building. The Quay Street car park area is reclaimed ground as is much of the east bank of the Afon Mwldan. For the North Bank of the Afon Teifi the land is almost entirely formed of wharfs developed in the later 18th and 19th centuries, which are of historical significance. The scheme also passes through the former St Mary's Street Foundry and former river crossings near the slipway on Gloster Row. For the South Bank of the Afon Teifi, the scheme will almost totally run through land that was reclaimed during the latter part of the 19th century.

Further archaeological mitigation will be required for the proposed Cardigan Tidal Flood Alleviation Scheme. This could include pre-commencement works within the area of the St Mary's Street Foundry site on the southern side of The Strand. Structural recording may be needed on wharfs and other riverside features. For the majority of the scheme archaeological mitigation would need to be in the form of an archaeological watching brief during initial groundworks associated with construction.

1 INTRODUCTION

1.1 Project Proposals and Commission

- 1.1.1 DAT Archaeological Services were commissioned by Natural Resources Wales (NRW), to provide an archaeological desk based assessment for the proposed Tidal Flood Alleviation Scheme at Cardigan.
- 1.1.2 This report updates and replaces a previous desk-based assessment undertaken by Cambria Archaeology (the former trading name of Dyfed Archaeological Trust) in 2006 for a previous scheme design developed by the Environment Agency. This previous scheme was never implemented.
- 1.1.3 This archaeological desk-based assessment considers the new scheme proposals which are being put forward. These have been designed to be effective and more cost efficient in comparison to the previous scheme which included the provision of new quayside defences of some 4.7m height.
- 1.1.4 The new alternative design theme being developed is already considering the local historic environment in its design. In summary the new scheme being proposed will comprise a tidal flood wall of 1.3m to 1.9m (max) height. The wall will have the *'built in ability of the foundation design to allow the wall to be raised, should sea level raise exceed the current predictions. The proposals would have to offer a considered approach to both the unique features of the riverside areas as well as match the needs of the community going forward'* (NRW 2015).

1.2 Scope of the Project

- 1.2.1 An Archaeological Brief was prepared by NRW detailing their requirements for this report. The brief also included background to the project, which is reproduced here:

The lower quayside areas of Cardigan are regularly inundated by the tide, which affects the Lower Strand and the Cattle Market areas. Low lying residential and commercial properties are affected by a tidal return period of approximately 1:1yr annual chance of probability. It is feared that the onset of property flooding is near or at this level of probability with several properties having threshold levels of 3.100m AOD and below.

Environment Agency Wales commissioned consultant Arup to produce a project appraisal report in 2006 to evaluate a solution to the tidal risk within the quayside areas.

The 2006 study concluded that an economically viable scheme could not be substantiated, and a viability report addendum was produced to conclude the project.

The 2006 study also included an archaeological study of Cardigan.

Current Position

Since the conclusion of the study in 2007, Cardigan has experienced several tidal events, with one of the most severe occurring on the 3rd January 2014.

During the event of the 3rd January a total of 36 properties flooded, from a combination of high astronomical tide height and the effects of a 600mm storm surge affecting areas around Cardigan Bay. These two components combined to produce a tide height of 3.670m. (NRW 2015)

- 1.2.2 The assessment comprised the examination and collation of available sources of archaeological and historical information, including published and unpublished reports held by Dyfed Archaeological Trust; Historic Environment Record (HER) data; Royal Commission on Ancient and Historic Monuments in Wales (RCAHMW) |National Monument Record (NMR) data; Listed Building records; Registered Parks and Garden records; Scheduled Ancient Monuments; and site visits.
- 1.2.3 Additional archaeological watching brief visits were carried out during a scheme of geotechnical investigations at the site undertaken by White Young Green (WYG), which are reported on within this document.
- 1.2.4 The results of the assessment contained in this report are intended to identify the extent and character of the known and potential archaeological resource, to assess the likely and potential impacts of any development on that resource and to outline a possible programme of further works to mitigate those impacts. The assessment should be seen only as the first stage of the archaeological process and does not preclude the possibility that further archaeological input may be required prior to, or during, any proposed development.
- 1.2.5 A 100m zone around each of the three elements of the proposed Tidal Flood Alleviation Scheme were used as search areas for known information on the historic environment of the area, which is considered appropriate for the scale of the scheme and its potential impacts.
- 1.2.6 The Tidal Flood Alleviation Scheme comprises three main elements:
 - 1) The Afon Mwldan / Cambrian Quay Area;
 - 2) The north bank of the Afon Teifi from Castle Street/Cardigan Bridge along the Strand to the hospital; and
 - 3) The south bank of the Afon Teifi from Cardigan Bridge to the A487 bridge through Jewson's yard and the cattle market.

1.3 Abbreviations

- 1.3.1 All sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Record 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 Record Number (NPRN). Scheduled Ancient Monument (SAM). Altitude is expressed to Ordnance Datum (OD). 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.

1.5 Timeline

1.5.1 The following timeline (Table 1) is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text.

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	

Table 1: Archaeological and Historical Timeline for Wales

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



Figure 1: Location map based on the Ordnance Survey.

Reproduced from the Ordnance Survey 1:50,000 scale Landranger Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust Ltd., The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF. Licence No 100020930

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2 SITE LOCATION AND TOPOGRAPHY

- 2.1 The proposed Tidal Flood Alleviation Scheme lies along the banks of the Afon Teifi through Cardigan, Ceredigion.
- 2.2 The Tidal Flood Alleviation Scheme comprises three main elements:
- 1) The Afon Mwldan / Cambrian Quay Area – A C-shaped route of flood defences running around part of Cambrian Quay from NGR SN 17632 45942 at its eastern end, crossing the Quay Street car park and then along the River Mwldan to SN 17630 46067 at its northern end);
 - 2) The North Bank of the Afon Teifi from Castle Street/Cardigan Bridge (western end at SN 17801 45863) along the Strand to the hospital (eastern end at SN 18076 45971); and
 - 3) The South Bank of the Afon Teifi from close to Cardigan Bridge (west end at SN 17812 45778) through to the A487 bridge (eastern end at SN 18188 45852) through Jewson's yard and the cattle market.
- 2.3 The majority of the proposed defences lie on or very close to the present edge of the Afon Teifi, and also the eastern bank of the Afon Mwldan.
- 2.4 The majority of the flood defences lie within the proposed development site lies on the gently sloping southeast-facing side of a hill. The lowest point on the site is at about 200m OD and the highest at between 270m and 280m OD. Streams run along about three-quarters of the site boundary, and there are springs, streams and wet ground within the southern half of the site.
- 2.5 The majority of the underlying superficial geology comprises alluvial clay, silt and sand derived from the Afon Teifi. Underlying bedrock is of the Ordovician period, comprising Ashgill Rocks (shales, mudstones, siltstones and sandstones).

3 METHODOLOGY

- 3.1 This Archaeological Desk Based Assessment has been prepared using the following methodology which has been discussed and agreed with the archaeological advisors to the planning authority.
- 3.2 A study area of 100m around all three elements of the proposed Tidal Flood Alleviation Scheme was used to collate data on the extent of known archaeology within and in the vicinity of the site area. A more general history regarding the archaeology and history of Cardigan has also been used based on previous reports prepared by Dyfed Archaeological Trust for Cardigan

Desk Top Study

- 3.3 The desk-based assessment has been prepared using the following sources of information:
- Dyfed Archaeological Trust Historic Environment Record data and other relevant information;
 - National Monuments Record of Wales information as held by the Royal Commission on the Ancient and Historic Monuments of Wales in Aberystwyth (via the COFLEIN website);
 - Bibliographic, cartographic and photographic information;
 - Identification of any Scheduled Ancient Monuments, Listed Buildings, Historic Landscape Character Areas, Registered Parks and Gardens or Conservation Areas within or in the vicinity of the site area;
 - Relevant web-based information;
 - Site visit and walkover survey;
 - Archaeological watching brief during elements of geotechnical investigations undertaken by WYG;
 - Assessment of the archaeological potential of the area; and
 - Assessment of likely impacts on any identified remains (or potential remains) and likely requirements, if any, for further stages of archaeological work.
- 3.4 The report complies with the relevant Chartered Institute for Archaeologists (CIfA) standards and guidance.

Site Walkover Survey

- 3.5 An initial meeting and site walkover with Mark Davies of NRW and the archaeological advisor to the planning authority (Mike Ings, Planning Services, Dyfed Archaeological Trust) was carried out on 04/02/15.
- 3.6 A second visit was undertaken by the author on 11/02/15 to view all accessible parts of the proposed Tidal Flood Alleviation Scheme, take photographs and notes.
- 3.7 The archaeological; watching brief visits were carried out on 03/03/15 and 04/03/15 to monitor the hand excavation of small test pits adjacent to existing structures to the south of Cardigan Castle, the Cardigan Bathroom Centre, around the J & M Vehicle Repairs and Servicing Building and within the former site of Cardigan Foundry on the southern side of The Strand.

4. HISTORICAL, LANDSCAPE AND ARCHAEOLOGICAL BACKGROUND

4.1 Archaeological and Historical Development of Cardigan

- 4.1.1 The following section provides a summary overview of the general development of Cardigan as a town. It includes a summary of known information from all periods to provide a wider context for the archaeological assessment of the tidal flood defence scheme. The information is mainly taken from the Historic Town Survey of Cardigan (Cook & Poucher 2007; Part 2).

Prehistoric

- 4.1.2 The *Cardiganshire County History* (Davies and Kirby 1994) highlights the relative dearth of evidence for the presence of man in the county before the Bronze Age; the monumental stone burial chambers that characterise the early farmers of the Neolithic period are almost completely absent. Some artefactual evidence has been found at chance findspots, however, in the form of stone and antler implements. These date to both the Mesolithic and the Neolithic periods, some of which have been recovered from the Teifi estuary area. The older Palaeolithic period is unlikely to be represented in this area due to the removal of any archaeological layers by the movement of ice during our last glaciation.
- 4.1.3 Evidence for the Bronze Age in Ceredigion is far more apparent, mainly in the form of numerous burial monuments such as round barrows and cairns. There are also many standing stones and some stone circles. The majority of these lie on the highest ground in the east of the county. Bronze Age artefacts have also been recovered from the Teifi Estuary area, indicating some level of activity in the area during that period but as yet no evidence of sustained activity has come to light.
- 4.1.4 More permanent settlement is suggested during the Iron Age with the establishment of several defended enclosures and larger hillforts in prominent areas around the landscape. The promontory on which Cardigan was established lends itself to the possibility of settlement during this period but as yet there is no archaeological evidence to sustain this theory. The remains of many hillforts and other types of defended enclosure from the Iron Age are found in abundance in the lower lying western half of the county.

Roman

- 4.1.5 There is hardly any evidence for Roman activity in the area; forts and camps are so far only found in the eastern half of the county along a known Roman road. Roman coins have been said to have been found on the Gwbert side of the Teifi Estuary although the provenance of these is uncertain. It is very likely that the Teifi Estuary was used during the Roman period.

Early Medieval period

- 4.1.6 The Kingdom of Ceredigion was one of several Welsh kingdoms that emerged in the 5th century AD and persisted until the Norman Conquest in the 13th century. Its area corresponded roughly to that of the modern county of Ceredigion. Some of the exploits of the rulers of Ceredigion from this time are documented, for example in the *Chronicle of the Princes* (Jones 1973), which describes the various civil wars enacted by rulers such as Maredudd ap Owain, Llywelyn ap Iorwerh and Maelgwn ap Rhys from the 10th century onwards. It was also written in the *Chronicle* and elsewhere that Danes and Northmen also caused trouble in these parts.
- 4.1.7 By the 5th century it is believed that St Dogmael (or Dogfael) had established a monastic community in the area on the south side of the river, one such suggested location is near the Iron Age hillfort of Caerau.

- 4.1.8 It would appear that by the time the Normans arrived in the area in the late 11th century a monastic community had already been established at the current St Dogmaels settlement, however other than the possibility of some form of defended site called Din Geraint on the north side of the river there is no indications of more extensive settlement prior to the arrival of the Normans.

Medieval

- 4.1.9 Cardigan as an established settlement has its origins in the Medieval period. The first Norman incursions into this area occurred in 1093 when Welsh chroniclers record the raid of Roger de Montgomery, Earl of Shrewsbury. To secure his position he built a timber and earth castle on the north banks of the Teifi, according to the Brut y Tywysogion, at a site called Din Geraint. This may have been the location of the current castle site but it is often equated with the defensive earthworks visible at Old Castle Farm less than a mile further downstream. However, it appears the castle was short-lived, following Rogers's death the following year the area soon fell back into the hands of the native Welsh.
- 4.1.10 In 1110 Gilbert fitz Richard de Clare was commissioned to retrieve Roger's possessions and following another successful invasion established another castle on the Teifi. This would appear to have been on the site of the current castle, as there is no indication it moved prior to the establishment of the town. Cardigan castle was to be Gilbert's centre of power in this area of Wales north of the river, and as was common with Norman invasions a settlement was to be established around the castle, both to provide an administrative and commercial foothold, but also to attract a local force of foreign settlers willing to fight for the new lord. The first reference to the settlement comes from reports of the battle of Crug Mawr in 1136. A pitched battle fought nearby between a large Welsh force of men from both Gwynedd and Deheubarth and a hastily assembled force of Normans from south of the Teifi. The victorious Welsh force went on to plunder the town of Cardigan and break the town bridge but failed to take the castle. This indicates that not only was the castle a strong one, but in its shadow lay a small town complete with a church and a bridge across the river.
- 4.1.11 The castle and town eventually fell to Rhys ap Gruffydd in 1165 who, unusually for a native Welsh ruler of the time, rebuilt the castle in stone, retained the settlement and confirmed various existing rights. It is clear that between this period from c.1110 to 1165 the basis of a thriving community had been established at Cardigan.
- 4.1.12 It is unclear if the town itself was defended at this stage and it remained small by today standards, extending roughly from Lower Mwdan to Carriers Lane, and from the back of the Quayside to Ebens Lane. In 1165 Rhys granted a charter confirming the right of the small Benedictine Priory already established to the east of the castle. St. Mary's Lane between the castle and the Priory also appears to have been developed by this time, Seamus Cunnane has identified plots of land which in 1158 was the property of the Knight Hospitallers, currently beneath the Angel Inn.
- 4.1.13 There are indications that a church called Holy Trinity or Christchurch already existed in the area prior to St. Mary's church being established at the Priory. However, the exact location of this earlier church is still open to much debate with several suggestions as to locations both within and outside the town. The location of the Teifi bridge at this point is also open to some debate. Some point to the current bridging point as the only convenient bridging point due to a narrowing in the river and its protection underneath the castle, others suggest it was c.250m further upstream roughly at the end of Gloster Row, at a point where the current is weaker and historic map sources may suggest a ferry crossing. If this crossing location is correct, remains of the bridge could survive within or in

close proximity to the proposed line of the defences along both the northern and southern banks of the Afon Teifi.

- 4.1.14 Under Rhys Cardigan cemented its newly acquired position as the centre of power for this part of Wales. It was also the place in 1176 that was witness to what many regard as the first national Eisteddfod. After the death of Rhys in 1197 the castle was sold back to the English crown in 1199, but was also subsequently granted its first royal charter bestowing various privileges on the burgesses to further consolidate power and encourage settlement expansion. By the beginning of the 13th century Griffiths (1990, p113) regards the settlement at Cardigan as a "privileged, fortified island of commercial activity, broad horizons, administrative autonomy and strategic importance".
- 4.1.15 The town and castle continued to change hands during the 13th century, falling to Llewellyn ap Iorwerth in 1216, and then to William Marshall the younger in 1223, attacked and burnt by Maelgwyn Fychan in 1231 with direct royal control finally re-established in 1241.
- 4.1.16 Despite this Cardigan appears to have continued its steady growth. Several charters are recorded throughout the 13th century granting Cardigan a weekly market and a yearly fair, later increased to 2 yearly fairs. In the 1240s both Walter Marshall and then Robert Waleran are responsible for extensive repairs to the castle, remains of which are still visible today. This work also extended to establishing a stone wall and ditch defence around the main part of the town. Although only small sections of the wall are still visible the line is still traceable along modern property boundaries, and it may be at this time that town boundaries were extended northwards to take in urban growth along High Street as far College Row.
- 4.1.17 In 1268 a town survey records the town being divided into c.130 burgages (c.110 burgesses), with at least 15 beyond the East (Wolf's) Gate on the road to the Priory, three presumably on the quayside area beyond the Bridge Gate and another four on "Fenny" street, presumably near the Mwldan. The town area also included 2 mills. The establishment of direct royal control in the mid-13th century indicated Cardigan was to become a major centre of royal power in West Wales.
- 4.1.18 In 1284 Edward I had made the castle the administrative centre for the newly founded county of Cardiganshire and granted the town a charter to strengthen the burgesses control over the town's commerce and attract further settlement. A survey of 1302 records a relatively densely packed urban area, with burgages in the Fenny Street area rising to 34, although growth in the rest of the town was fairly static. Chancery Lane, then known as Souters Street, appears to have formed the industrial quarter of the town (S. Cunanne, pers comm.), and settlement may even have been extending northwards along Pendre.
- 4.1.19 The late 13th and early 14th century appears to have been the height of Medieval urban activity at Cardigan. The subsequent history of Medieval Cardigan was one of slow decline, in common with many towns throughout late 14th and 15th century Wales and England. Maritime trade appears to have been dwindling, contact with Bristol and Ireland lessening, accompanied by a general economic slump and disruptive military activity. A survey for the Black Prince in 1343 records the castle as the worst of all Royal castles and pleas sent to Richard II in the late 14th century show the town had lost many of its privileges, although a charter in 1395 restores their right to hold the courts at Cardigan, and the right to choose their own Bailiff and Mayor. Following the Owain Glyndwr rebellion in 1400 Cardigan was to return no revenue to the crown for 5 years, and the disruption meant no fairs were being held. By the 1530s Leland reports that

Aberystwyth is now a 'better market then Cairdigan" and by 1540 the town is said to be a third the size of Carmarthen, and half that of Tenby.

Post Medieval

- 4.1.20 The first cartographic evidence of the layout of Cardigan comes from Speeds map of 1610 (Figure 3). This map helps illustrate the decline Cardigan had suffered over the past two centuries, but also much of the layout of the Medieval town. Within the town walls development is marked along the length of Bridge Street and High Street, and along Quay Street, but there appears to be a great deal of undeveloped land behind these properties and Souters Street now appears undeveloped. The map does show that the urban development had extended along both sides of St. Marys Street up to and almost beyond the Priory, and up both side of Pendre, possible as far as Feidr Fawr, with a mill site on the Mwldan just outside the town.



Figure 3: Inset of Cardigan Town Layout from John Speed Map of 1610

- 4.1.21 The castle was pressed into service again during the Civil War, initially held by Royalist forces. After a 3- day bombardment, Parliamentary forces forced a breach in the wall and took the castle, presumably also destroying much of the castles defensive capabilities.
- 4.1.22 By this time the castle had declined in importance within Cardigan. It still held the occasional court session and mayors parlour until the early 18th century and various recorded owners and occupiers indicate that some level of accommodation continued, but the town gaol was moved into the town and the site redeveloped into a bowling green in 1732.
- 4.2.23 Cardigan's fortunes were recovering during the 17th century, due mainly to an increase in maritime activity. The 18th century was to be Cardigan's golden

age of maritime activity as general maritime trade was increasing mainly in agricultural produce, limestone and general merchandise, but the expanding herring fishing industry also increased. The port had jurisdiction over Newport, Fishguard, Aberaeron, Aberporth and Newquay by the 18th century, with a combined fleet of nearly 300 vessels by 1833. By this time the busy quayside area had developed, probably divided into several separate quays, and had also expanded onto the south banks of the Teifi by at least the 1740s, no doubt encouraging settlement in Bridgend too. The town also had a thriving ship building industry, located on Netpool Bank, west of the Mwldan.

4.1.24 The importance of the maritime trade is also evidenced by the numerous Ropewalks, block makers, sail lofts, warehouses and associated iron foundries that were recorded within Cardigan by the 18th/19th century, as well as the Customs House established on St. Mary's Street by the early 19th century. The Teifi was also noted for its salmon fishery, recorded as early as 1188 by Gerald of Wales, and by 1833 Lewis describes how an 'extensive and lucrative salmon fishery is carried on in the Teivy', fished by a 'vast number of coracles'.

4.1.25 This emerging prosperity also saw the construction of large civic buildings within Cardigan, especially as administrative and civil functions were now moving away from the deteriorating Medieval castle remains. By the later 18th century a centrally located Shire Hall was built, to take over functions formerly held in the castle, such as the mayors parlour and assize court, as well as a corn market. A Market Hall was also built at the end of Market Lane in c.1822 and a large Nash designed gaol was constructed on the edge of the town in the 1790s. Urban expansion had now taken the limits of the town up to North Street. Pwllhai and Feidr Fawr were being developed as was settlement at Bridgend, and the Mwldan was becoming the focus of industrial activity, with iron foundries, a tannery, warehouses, a mill and malhouses all recorded during the 18th and early 19th century. This expansion was however still fairly limited, not expanding a great deal beyond the limits visible on Speeds map.

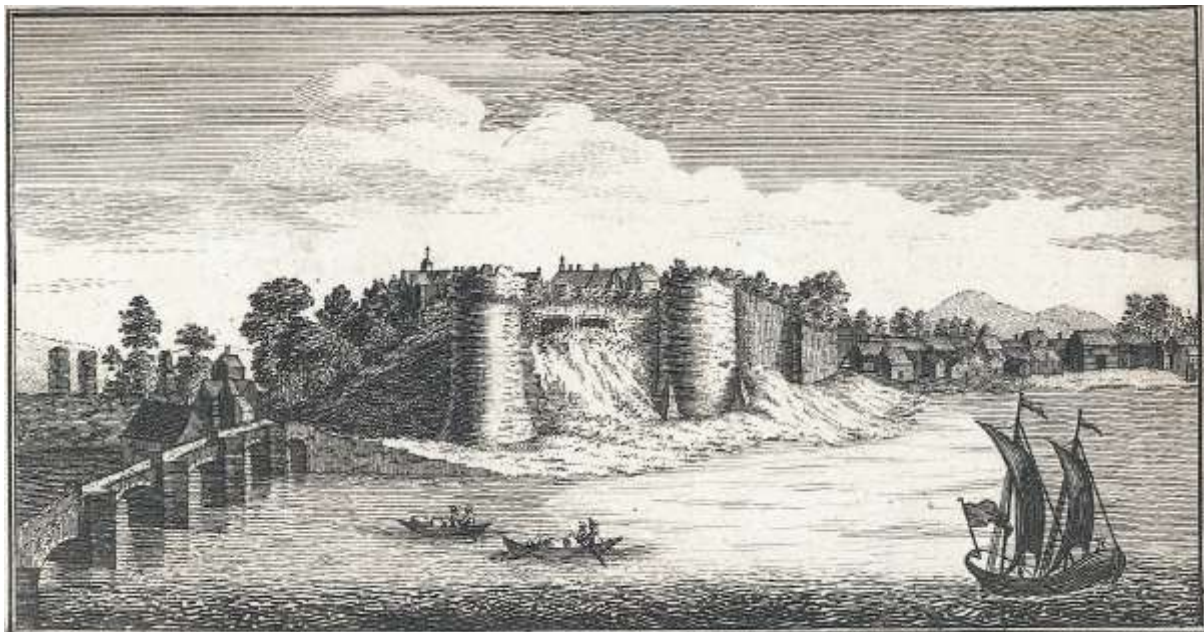


Figure 4: Illustration based on the Nathaniel and Samuel Buck print of 1741

4.1.26 One of the earliest relevant depictions of Cardigan is that of Nathaniel and Samuel Buck of around 1841, showing the southern side of the castle and the area to the rear of St Mary's (Figure 4). The illustration shows Cardigan Bridge

crossing the Teifi, with an incline leading down to the east. It clearly does not show a road continuing around the southeastern side of the castle or any stone built wharfs along the river's edge. The implication from the illustration (which would have been stylised), is that the tidal range of the Teifi extended as far as the base of the castle walls. It also suggests that in the first half of the 18th century that no structures lay between the properties on St Mary's Street and the river. No riverside structures such as wharfs or jetties are shown. The James Newton illustration from 1786 (not illustrated) also implies that the tide waters reached the base of the castle, with a slipway leading from the bridge to the water's edge on its eastern side, but with no further road around the southeastern side of the castle.

19th century

- 4.1.27 An illustration from 1812 of the port at Cardigan (Figure 5) shows it at the end of its heyday, the view looking northwest from the south bank of the Teifi.. The print is a view towards Quay Street on the right hand side, with the Afon Mwdan joining the Teifi in the centre of the print. Numerous wharfs are visible along the southern bank of the Teifi in the area which is now Quay Street car park.

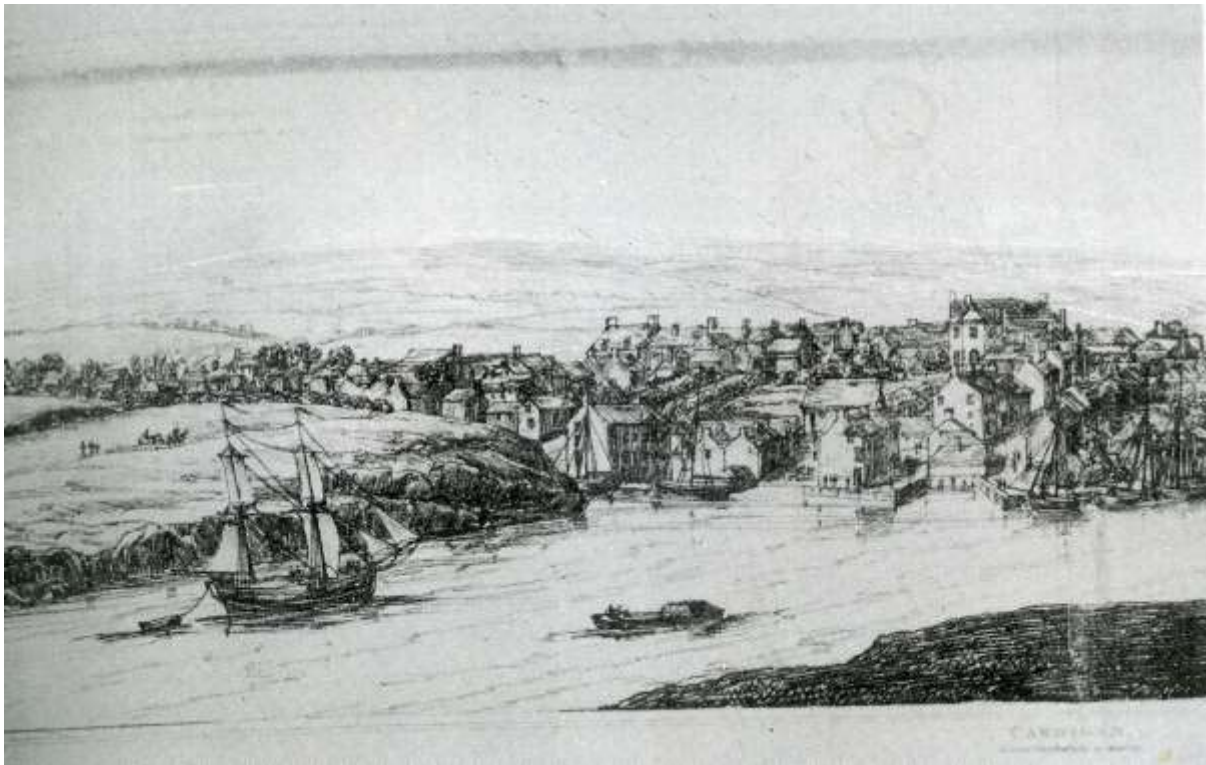


Figure 5: Print of Cardigan Port from 1812

- 4.1.28 The earliest detailed map of Cardigan showing its development by the early 19th century is the John Wood map of 1834 (Figure 6). This shows the plan of the layout of Cardigan Port on the western side of the illustrated map extract, the area of Cambrian Quay at the end of Quay Street, with the line of the River Mwdan running down from the north to join the Teifi. On the eastern side of the map, The Strand is now present, although follows the line of Carrier's lane to the north as opposed to east behind St Mary's as it presently runs. There are a series of structures on its southern side against the edge of the river labelled as Castle Terrace, possibly indicating they were constructed on stone wharfs.



Figure 6: Extract from John Wood Map of Cardigan 1834

- 4.1.29 To the east of Castle Terrace is a large U shaped building projecting into the line of the river, presumably some form of warehouse on a former wharf (this building is no longer present, although the wharf on which it stood probably is). The area to the south of St Mary's Street is undeveloped, although a slipway is suggested at its eastern end running into the Teifi possibly corresponding with that which still exists on the eastern side of Teifi House, Gloster Row.
- 4.1.30 To the south bank of the Afon Teifi is shown as undeveloped on the 1834 Wood map, excluding the structures at the end of Cardigan Bridge and along Bridge End. A timber yard is marked in roughly the same location as the Jewson's yard. Further storehouses and other buildings line the western end of the 'proposed' Bridge End Terrace. A number of limekilns and storehouses are shown on the western side of Bridge End.
- 4.1.31 The 1838 Tithe Map of St Dogmaels includes the Bridge End area and south bank of the Afon Teifi (Figure 7), but indicates little change from the 1834 Wood map. The 1846 Cardigan Tithe Map is also very similar to the 1834 Wood map (Figure 8).
- 4.1.32 From the mid-19th century onwards Cardigans maritime industries began to decline it is soon overtaken by Aberystwyth as the main county town. Trade within the town however does not seem to have diminished, the lack of maritime trade appears to have been compensated by the arrival of the train in 1885, the station being located on the south bank of the Teifi in the area to the east of Bridge End, as can be seen on the first and second edition ordnance Survey maps of the area dating from 1890 and 1906 respectively (Figures 9 & 10). It appears that the proposed Bridge End Terrace of Wood's map of 1834 was never built, but instead Station Road is constructed leading from Castle Street to the railway station.
- 4.1.33 By the later 19th century Cardigan's traditional market and commercial areas were spreading north along High Street and St Mary's Street. A cattle market was established outside the town at Pwll Pensarnau, a new slaughter house was set up at the edge of town (now incorporated into Theatre Mwldan) and a new larger market hall was built on College Row. The market hall was part of a set of new Civic buildings built in 1858 on the site of Cardigans first grammar school (established in the 17th century), including a new Guild Hall, Grammar School, Reading Room and Corn Exchange and store.
- 4.1.34 Industry continued to flourish, the two main iron foundries at Mwldan and Bridgend (Figures 9 & 10) successfully shifting focus from the fading maritime industry to agriculture, general ironwork and, more recently, engineering. A gas works was established at the southern end of the Mwldan in the 1860s to provide the expanding town with lighting and gas (Figures 9 & 10). At the north end of the town the Cardigan Brickworks were established in the 1850s, becoming a vital source of employment and building material to aid in the expanding town.
- 4.1.35 By 1890 the northern bank of the Afon Teifi to the east of Cardigan bridge had become developed, with the line of The Strand running through to Gloster Row to the east, and a number of buildings constructed on its southern side (Figures 9 & 10). A 'smithy' is indicated on both the 1890 and 1906 maps on the southern side of The Strand, the boundary of which survives today. As with many of the buildings along the south side of The Strand, stone wharves would have been constructed to raise the ground above the level of the tidal flood water creating a river edge similar to that which now exists. Also of note on both the Ordnance Survey maps is the presence of a ferry running between the slipway at the end of Gloster Row across the Teifi to another slipway on the south bank, which also survives today. Whether this crossing was associated with the development of the railway or replaced an earlier crossing or bridging point is uncertain.

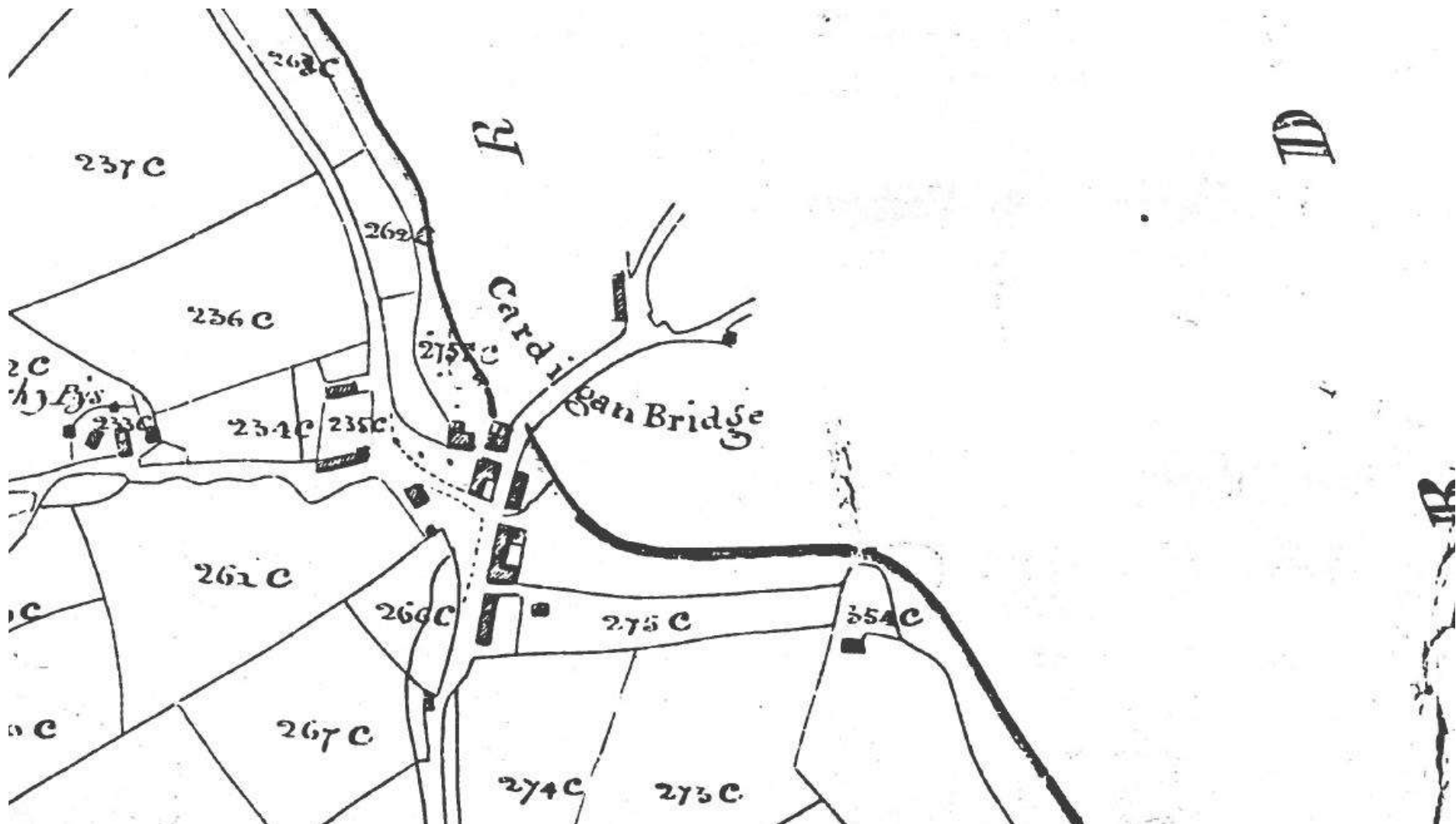


Figure 7: Extract of 1838 St Dogmaels Tithe Map

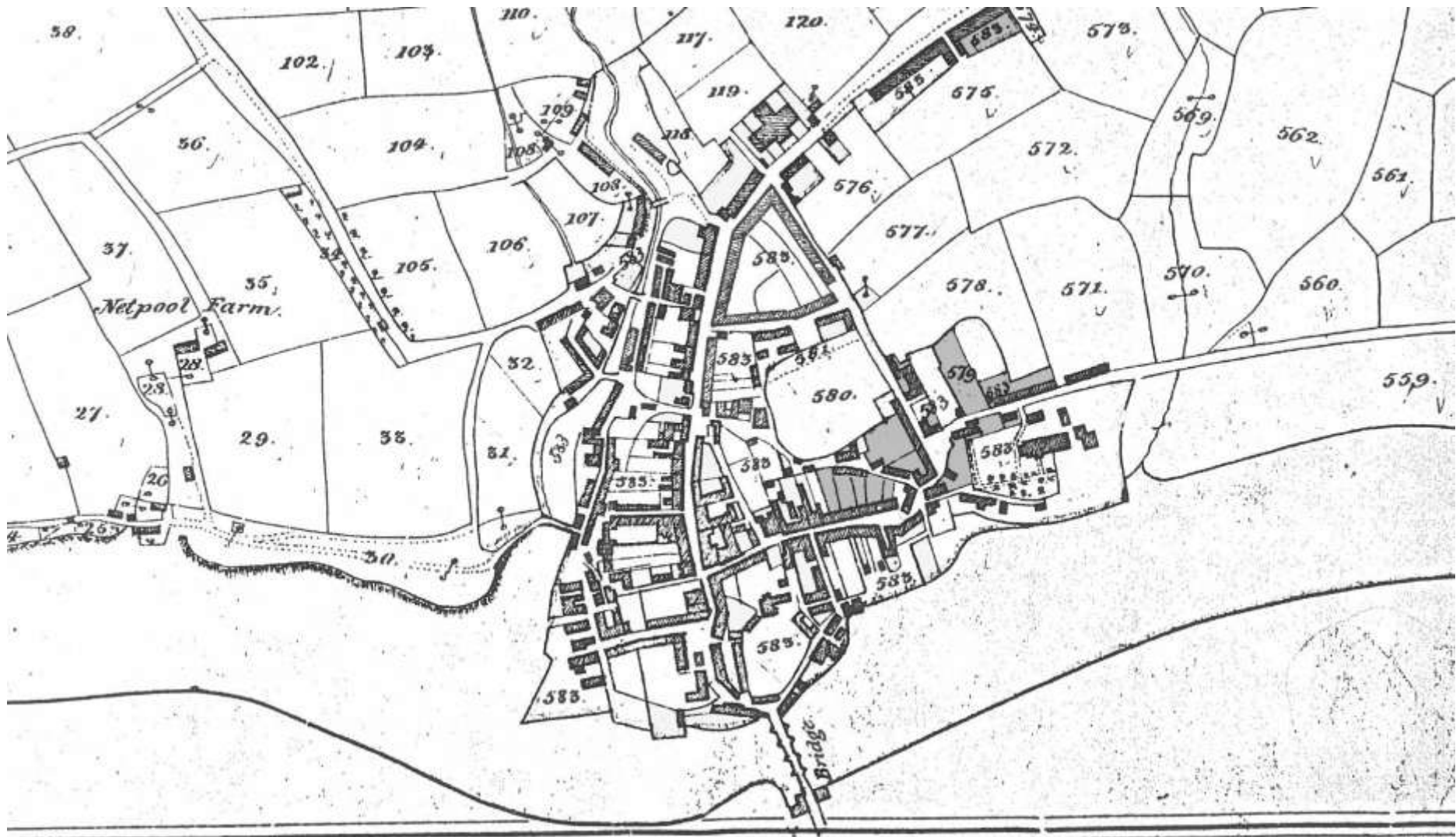


Figure 8: Extract of 1846 Cardigan Tithe Map

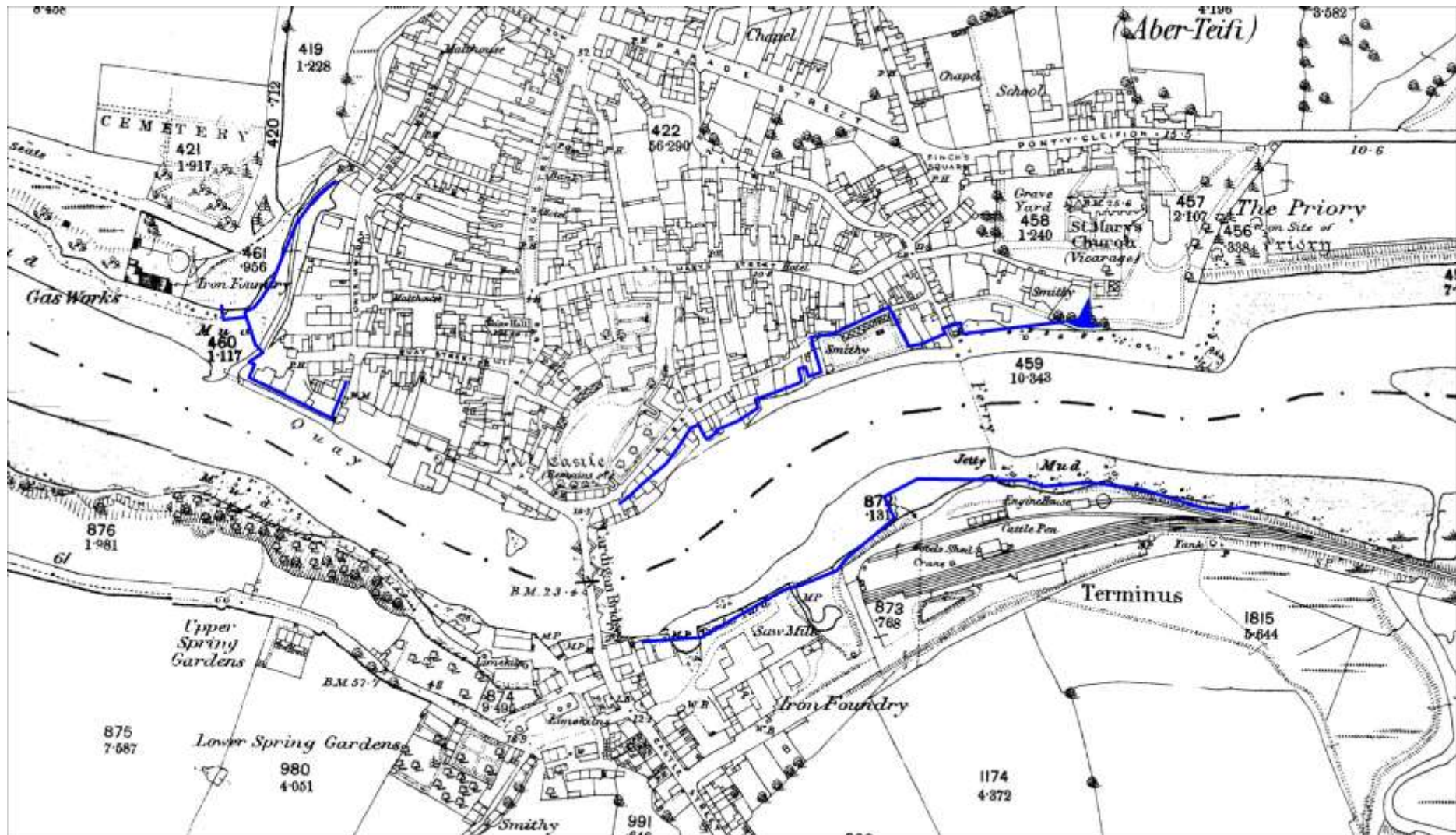


Figure 9: Extract of First Edition Ordnance Survey Map of Cardigan (1890) with Proposed Tidal Flood Defence Lines in Blue

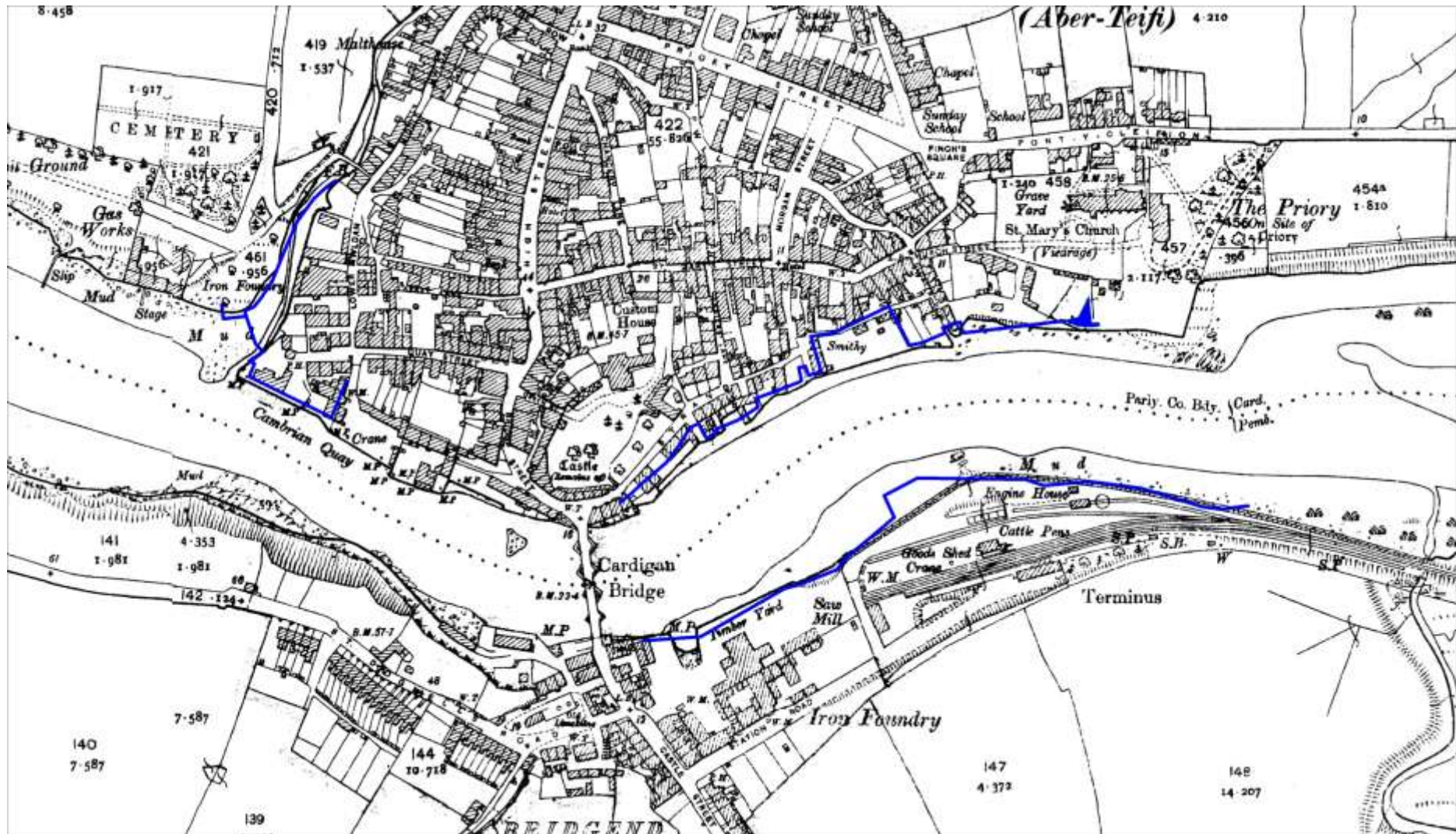


Figure 10: Extract of Second Edition Ordnance Survey Map of Cardigan (1906) with Proposed Tidal Flood Defence Lines in Blue

- 4.1.36 The late 19th century saw an increase in the numbers of new houses being built, most notably to the north-east of the traditional centre of the town. This expansion is still clearly visible today in the rows of terraced housing, many of which built from local bricks, expanding along North Street, and along newly laid out streets such as Priory street and Napier Street. The increasing number of chapels, and their subsequent enlargement and embellishments are also testament to both the increasing populations and prosperity but also to the religious temperament of this period.

20th century

- 4.1.37 The 1st half of the 20th century saw a continued gradual expansion of the urban area of Cardigan but it wasn't until the major urban development plans of the late 20th century that Cardigan saw any significant change. The large area of former open common land that had bordered the town to the north-east since the Medieval period had already been enclosed and had seen limited development by the early 20th century. During the late 20th century the entire area was given over to development, which also extended further into the former agricultural hinterland to the north. New housing estates were also established around the periphery of Bridgend. Industrial activity, always on the periphery of urban development, gradually also moved out to new estates on the edge of the expanding town with former industrial sites along Mwldan being redeveloped.

4.2 Historic Landscape Character Areas

- 4.2.1 Cardigan town forms an integral part of the Lower Teifi Valley Historic Landscape Character Area (HLCA). The description of the historic background of this specific HLCA is included in the archaeological and historical background above. The description and essential historic landscape components were assessed within The Historic Town Survey of Cardigan (Cook & Poucher 2007; Part 2) resulting in the identification of 24 separate Urban Character Areas for the town. The summaries of the relevant areas to the proposed cardigan Tidal Flood Defence Scheme are included below in Table 2 and illustrated in Figure 2.

No	Character Area Name	Summary Description
1	Cardigan Castle	The known remains of the Medieval castle and house and grounds of the 19th century manor house
2	Cardigan Walled Town	The extent of Cardigan contained within the limits of the 13th century town walls
3	The Priory	The former Medieval Priory. This now includes the land around the surviving Medieval church of St. Mary's long with the adjacent hospital and grounds
4	St. Marys Street/Pont y Cleiffion	Medieval urban spread to the east of the walled Medieval town of Cardigan
6	Mwldan	Area of industrial activity focused on the line of the Mwldan brook running down the western side of Cardigan

7	Netpool/Cambrian Quay	A riverside area of Cardigan along the north banks of the Teifi stretching downstream from the bridge
8	The Strand	A riverside area along the northern banks of the Teifi upstream of Cardigan Bridge
9	North Road/Napier Street	This area is centred on North Road, Napier Street, parts of Feidr Fawr and Priory Street and is characterised by terraced rows of similar late 19th and early 20th century dwellings
13	Western Cardigan	An area of undeveloped land on the western side of Cardigan, in use mainly as a sports playing field and a cemetery
19	Bridgend	The late Post Medieval settlement core of Bridgend, on the south bank of the Teifi opposite Cardigan
20	Mercantile Wharf	Former quayside area known as 'Mercantile Wharf', situated on the south bank of the Teifi on the downstream side of Cardigan Bridge
21	Bridgend Timber Yard & Foundry	A riverside area on the south bank of the Teifi upstream of Cardigan Bridge
22	Pentood Industrial Estate	Late 20th century industrial estate

Table 2: Relevant Cardigan Urban Character Areas for the proposed Cardigan Tidal Flood Alleviation Scheme

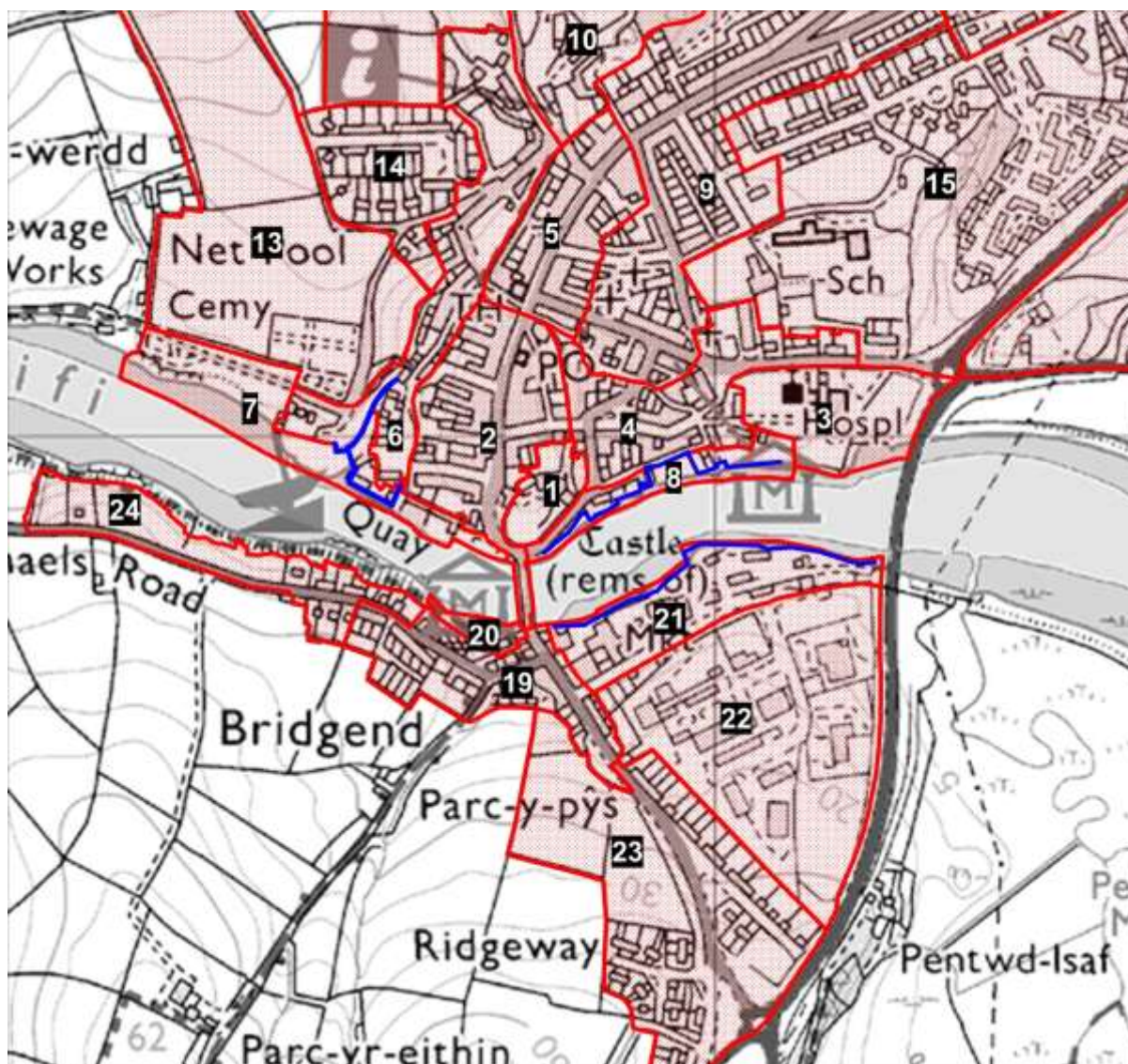


Figure 11: Urban Character Areas within Cardigan

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5. TIDAL FLOOD ALLEVIATION SCHEME OUTLINE PROPOSALS, SITE WALKOVER INFORMATION AND POTENTIAL ARCHAEOLOGICAL ISSUES

The route of the Tidal Flood Alleviation Scheme is described for each of its three main elements:

- 1) The Afon Mwldan / Cambrian Quay Area;
- 2) The North Bank of the Afon Teifi: from Castle Street/Cardigan Bridge along the Strand to the hospital; and
- 3) The South Bank of the Afon Teifi: from Cardigan Bridge to the A487 bridge through Jewson's yard and the cattle market.

Site visit information is also included, as well known archaeological sites and the identification of potential archaeological sites / areas as yet not recorded on the HER.

5.1 The Afon Mwldan / Cambrian Quay Area (Figure 12)

Approximate length	Description	General Photographs
c.250m	<i>The Afon Mwldan / Cambrian Quay Area</i>	
100m	The proposed route of the defences will include the construction of a flood wall starting from the rear of the properties along Royal Oak (including Key Crafts and Abdul's Restaurant). The route runs southwards on the western side of the slipway to the east of Cambrian Quay, then west along the Quay itself to its western extremity. It then turns to the north along the large slipway on the western side of the Fisherman's Rest café.	Photo 1
10m	The defences will pass along the top of the slipway, where it will be in the form of flood gates.	Photos 2 & 3
15m	From the end of the slipway the defence will pass to the northwest across the existing Quay Street car park. Here the defences will be in the form of demountable defences across the car park entrance.	Photos 2 & 3
125m	The final stretch of the defences will again be in the form of a flood defence wall which will pass around the end of the River Mwldan where it is presently held in the form of sluice gates and channelled below the car park. The wall will run along the eastern bank of the Mwldan as far as the rear of No 32 Lower Mwldan.	Photos 4, 5 & 6

Table 3: Proposed Route of Tidal Flood Alleviation Scheme Defences in the Afon Mwldan / Cambrian Quay area



Photo 1: View east along the front of Cambrian Quay,
and the Fisherman's rest café



Photo 2: View northeast across Quay Street Car Park with Cambrian Quay edge to right; Cambrian Quay slipway gates (right of centre) with the potential line of the demountable flood defences passing straight across the car park through middle of photograph



Photo 3: View west across Quay Street Car Park with potential lines of flood defences indicated; Cambrian Quay slipway to left (flood gates, red) and the potential line of demountable flood defences (blue), and flood wall along Afon Mwldan (green)



Photo 4: Southern end of Afon Mwldan where it passes through sluice gates and channels below Quay Street Car Park



Photo 5: View north-northeast along Afon Mwldan. The proposed flood wall will be located along eastern bank (left side of photograph)



Photo 6: View south-southwest along Afon Mwldan. The proposed flood wall will be located along eastern bank (right side of photograph)

5.1.1 There are no Scheduled Ancient Monuments within the 100m study area around the proposed defences around the Afon Mwldan and Cambrian Quay area.

5.1.2 There are 23 listed buildings within the study area, all Grade II Listed, the majority being post-medieval structures along Quay Street, Bridge Street and Rook Terrace (Table 4). These buildings would be associated with the maritime

heyday of the town and the associated expansion in its development during the 18th and 19th centuries. The Old Sail Loft and Cambrian Quay directly relate to the development of the port.

5.1.3 The Historic Environment Record (HER) lists 34 sites within the 100m study area, which includes all of the 23 listed buildings (Table 5). A number of sites recorded date to the medieval period, including the original line of the medieval town defences (PRN 8371). This ran along the eastern side of Middle and Lower Mwldan roads, across the southern end of Quay Street and then eastwards along the southern side of the property boundaries on Rook Terrace. A former town gate was present at the western end of Quay Street (PRN 13167) and also further to the north at Eben's Lane, Eben's Lane Gate (PRN 13,166). The site of the medieval Holy Trinity Church (PRN 13172) may possibly have been located to the south of Quay Street adjacent to the line of the town defences. Two additional medieval sites are recorded on the HER: one associated with human bone found at the rear of 23 Quay Street (PRN 102824), possibly from a mass burial pit; the other a possible ditch running parallel with the line of Market Street (PRN 102826). None of these medieval sites lies within the projected line of the Tidal Flood Alleviation Scheme defences.

5.1.4 The eastern part of the proposed Tidal Flood Alleviation Scheme defences runs along Cambrian Quay, a grade II listed building (Ref 87485; PRN 31959; NPRN 404842). The quay was probably built in the 18th century, and is shown on the Wood's map of 1834 (Figure 6). The original shape of the Quay ran along the eastern side of the large slipway leading into Quay Street car park. The Quay is said to have comprised four different wharfs, including Lloyd's Wharf (PRNs 31957/31958) which lay at the angle of its western extremity, as labelled on the Wood's Map of 1834 (Figure 6). The proposed defences within this area will have to have listed building consent.

5.1.5 The National Monuments Record (NMR) records two further sites not recorded on the HER (Table 6): Baillie's or Mwldan Foundry, located on the higher ground on the western side of the Afon Mwldan (NPRN 40384); and an unnamed wreck site within the Afon Teifi estuary, although no further details of the wreck are known (NPRN 507237).

5.1.6 All of the lower part of the land on which the car park is located is reclaimed land which formerly lay within the mouth of the Afon Mwldan where it met the Teifi. This area was built up and levelled in the latter part of the 20th century (possibly during the 1970s). The channel of the Afon Mwldan was altered and was controlled via sluice gates to channels running beneath the car park area into the Teifi, with overflow channels running further to the west.

5.1.7 It is uncertain what material was deposited within the area to construct the car park, but the upper levels are unlikely to be of archaeological significance. Estuarine silts may well survive at lower levels, which could contain significant archaeological material, including preserved timber (wrecks/quay side structures/artefacts) or palaeo-environmental evidence.

5.1.8 The channel of the Afon Mwldan has been altered along the entire route in which the Tidal Flood Alleviation Scheme is proposed. Gabion baskets can be seen along its eastern edge indicating that the channel has been altered in recent years, possibly at the same time as the supermarket was built. Depending upon the depth of ground works required for the Tidal Flood Alleviation Scheme defences in this part, it is unlikely that significant archaeological remains would be present except at lower levels.

5.1.9 The geotechnical works undertaken within this part of the proposed Tidal Flood Alleviation Scheme comprised boreholes and no hand dug test pits were excavated or observed.

Listed Building	Building Name	Grade	Grid Reference
10463	The Grosvenor Hotel, Bridge Street	II	SN 17718 45898
10464	Castle Chambers (Previously Listed With The Grosvenor Hotel) Bridge Street	II	SN 17720 45909
10465	No. 6 Bridge Street (Known As Glenroy House)	II	SN 17721 45921
10466	No. 7 Bridge Street (Known As Dudley House)	II	SN 17721 45927
10467	Manchester House, Bridge Street	II	SN 17723 45941
10468	No. 1 Cambrian Quay, Including Area Railings	II	SN 17671 45910
10469	Pantwylan, Cambrian Quay	II	SN 17693 45890
10514	No. 16 Quay Street	II	SN 17650 45969
10515	No. 17 Quay Street	II	SN 17660 45971
10516	No. 20 Quay Street	II	SN 17689 45966
10517	No. 20a Quay Street	II	SN 17694 45966
10518	No. 21 Quay Street	II	SN 17699 45964
10519	No. 22 Quay Street	II	SN 17705 45963
10520	No. 23 Quay Street	II	SN 17710 45962
10521	No. 24 Quay Street	II	SN 17718 45961
10522	No. 25 Quay Street	II	SN 17724 45960
10524	No. 1 Quay Street	II	SN 17709 45948
10525	No. 1 Rook Terrace, Including Forecourt Walls, Railings & Gates, Quay Street	II	SN 17676 45952
10526	No. 2 Rook Terrace, Including Forecourt Walls, Railings & Gates, Quay Street	II	SN 17671 45952
10527	No. 3 Rook Terrace, Including Forecourt Walls, Railings & Gates, Quay Street	II	SN 17664 45952
10528	No. 4 Rook Terrace, Including Forecourt Walls, Railings & Gates, Quay Street	II	SN 17659 45954
21391	Old Sail Loft (Drawbridge Warehouse On E side of street, built into slope, almost opposite footbridge over Afon Mwldan.)	II	SN 17662 46070
87485	Cambrian Quay: Quay Walls The walls form the SE side of a slipway at the W end of Cambrian Quay, and thence run SE for a distance of some 60m alongside the river to the projecting section of a further quay. The slipway is accessed from the car park at the end of Quay Street.	II	SN 17575 45943

Table 4: Listed Buildings within 100m of the proposed defences on the Afon Mwldan / Cambrian Quay area of the proposed Tidal Flood Alleviation Scheme

HER PRN	Site Name	Description	Period	Grid Reference
6493	Grosvenor Hotel	Grade II Listed Building. NPRN 5549	Post-Medieval	SN 17718 45898
6494	Glenroy House; Dudley House	Grade II Listed Building. NPRN 5475 & 5382	Post-Medieval	SN 17721 45921
6601	Quay Street	Grade II Listed Buildings (Terrace)	Post-Medieval	SN 17650 45969
8371	Cardigan Town Defences	The line of the town defences ran along the eastern side of Upper and Middle Mwldan roads. It is partly a Scheduled Ancient Monument CD141, although not within this study area.	Medieval	SN 177 460
13166	Ebens Lane Gate	Ebens Town Gate, based on documentary evidence , but no above ground evidence remains	Medieval	SN 1766 4606
13167	Quay Street Gate	Quay Street Gate, based on documentary evidence , but no above ground evidence remains	Medieval	SN 1764 4596
13172	Holy Trinity Chapel	The church of Holy Trinity, formerly located within Cardigan and possibly once the parish church. It is referred to in various documents. No evidence for the building survives above ground; the last documentary mention of it was in 1684.	Medieval	SN 177 459
31515	Gasworks Wharf	West of the Mwldan Brook was the gasworks wharf (Maritime Heritage 63) which served the gasworks to the north. A wharf ran out into the river (local information). Gasworks shown on 1st & 2nd edition 6" map. A possible jetty at the west of the gasworks	Post-Medieval	SN 1750 4597
31516	Cardigan Gasworks	Gasworks formerly served by coal wharf 31516. Seen on 1st & 2nd edition 6" maps. Access not good. Apparently modernised.	Post-Medieval	SN 17512 46019
31957	Lloyd's Wharf	4 wharves are located between the estuary of the Mwldan Brook and Cardigan Bridge. Three are mentioned by Jenkins and it appears two are completed by him as Lloyds Wharf. He mentions Lloyds Wharf as being the first above the confluence of the Mwldan and Teifi	Post-Medieval	SN 1758 4594
31958	Lloyd's Wharf	See 31957.	Post-Medieval	SN 1761 4593
31959	Cambrian Quay	See 31957. The warehouse and one of the adjacent houses are listed. Quay wall along the north bank of the River Teifi, constructed of coursed slate slabs. Grade II Listed Building. NPRN 404842	Post-Medieval	SN 1768 4589
38320	Old Sail Loft; Drawbridge Warehouse	An early 19th century sail loft in Cardigan. Grade II Listed Building. NPRN 302021	Post-Medieval	SN 17662 46070
57349	Castle Chambers Bridge Street	Grade II listed house, previously listed with the Grosvenor Hotel. NPRN 408688	Post-Medieval	SN 17720 45909
57350	No. 7 Bridge Street (Dudley House)	Grade II listed house	Post-Medieval	SN 17721 45927

57351	Manchester House, Bridge Street	Grade II listed house	Post-Medieval	SN 17723 45941
57352	No. 1 Cambrian Quay	Grade II listed house and railings	Post-Medieval	SN 17671 45910
57353	Pantwylan, Cambrian Quay	Grade II listed warehouse	Post-Medieval	SN 17693 45890
57384	No. 17 Quay Street	Grade II listed house	Post-Medieval	SN 17660 45971
57385	No. 20 Quay Street	Grade II listed house. NPRN 302977	Post-Medieval	SN 17689 45966
57386	No. 20a Quay Street	Grade II listed house	Post-Medieval	SN 17694 45966
57387	No. 21 Quay Street	Grade II listed house	Post-Medieval	SN 17699 45964
57388	No. 22 Quay Street	Grade II listed house	Post-Medieval	SN 17705 45963
57389	No. 23 Quay Street	Grade II listed house	Post-Medieval	SN 17710 45962
57390	No. 24 Quay Street	Grade II listed house. NPRN 35171	Post-Medieval	SN 17718 45961
57391	No. 25 Quay Street	Grade II listed house. NPRN 35171	Post-Medieval	SN 17724 45960
57392	No. 26 Quay Street	Grade II listed house. NPRN 35171	Post-Medieval	SN 17730 45959
57393	No. 1 Quay Street	Grade II listed house. NPRN 309466	Post-Medieval	SN 17709 45948
57394	No. 1 Rook Terrace,	Grade II listed house, including forecourt walls, railings and gates	Post-Medieval	SN 17676 45952
57395	No. 2 Rock Terrace, Quay Street	Grade II listed house, including forecourt walls, railings and gates	Post-Medieval	SN 17671 45952
57396	No. 3 Rook Terrace, Quay Street	Grade II listed house, including forecourt walls, railings and gates	Post-Medieval	SN 17664 45952

57397	No. 4 Rook Terrace, Quay Street	Grade II listed house, including forecourt walls, railings and gates	Post-Medieval	SN 17659 45954
102824	23 Quay Street, Cardigan	A quantity of human bone disturbed during repairs to a leaking drain at the rear of 23 Quay Street, Cardigan. According to the report the remains of at least three individuals, including a young child, were recovered from what may be a mass burial in a pit.	Medieval	SN 17707 45969
102826	Quay Street, Cardigan	A large gulley or hollow running east-west, parallel with the line of Market Lane, Cardigan. The gulley is in excess of 2m wide and 1.65m deep, possibly with a level floor. This may be a large natural ditch, a former hollow-way or part of the town defence.	Medieval	SN 1768 4598

Table 5: Historic Environment Record entries within 100m of the proposed defences on the Afon Mwldan / Cambrian Quay area of the proposed Tidal Flood Alleviation Scheme

NPRN	Site Name	Description	Period	Grid Reference
40384	Baillie's Foundry; Mwldan Foundry	Established pre-1860 by Thomas Lloyd of Coedmore in partnership with Thomas & Wyers ironmongers. It specialised in marine work. Closed in 1912. Demolished.	Post Medieval	SN1761846013
507237	Unnamed Wreck	A stranded yacht. The craft was recorded at this location from aerial photographs dating to April 1990.	Post Medieval	SN1750345893

Table 6: Additional records held on the National Monuments Record (not on the HER) within 100m of the proposed defences on the Afon Mwldan / Cambrian Quay area of the proposed Tidal Flood Alleviation Scheme

Character Areas:

2	Walled Town	This area extends into the western part of the study area and includes properties and gardens fronting Quay Street and east side of lower and Middle Mwldan. Includes the sites of two town gates. The proposed scheme does not project into this character area.
6	Mwldan –	The northern part of the Mwldan / Cambrian Quay Tidal Flood Alleviation Scheme lies almost entirely within this character area which comprises industrial activity focused on the line of the Mwldan brook running down the western side of Cardigan. Part of the area was formerly the confluence of the Mwldan and Teifi / the main waterway of Cardigan Port. Much is reclaimed land.
7	Netpool / Cambrian Quay	This character area covers the north bank of the Afon Teifi in the area of the Tidal Flood Alleviation Scheme defences within the Mwldan / Cambrian Quay area. The proposed scheme runs along part of the listed Cambrian Quay in the area of the former Lloyd's Wharf.
13	Western Cardigan	This urban character area just projects into the northwestern part of Mwldan / Cambrian Quay study area. This is mostly undeveloped land excluding the cemetery and a series of playing fields. The proposed scheme does not lie within this area.

Table 7: The defences on the Afon Mwldan / Cambrian Quay area of the proposed Tidal Flood Alleviation Scheme

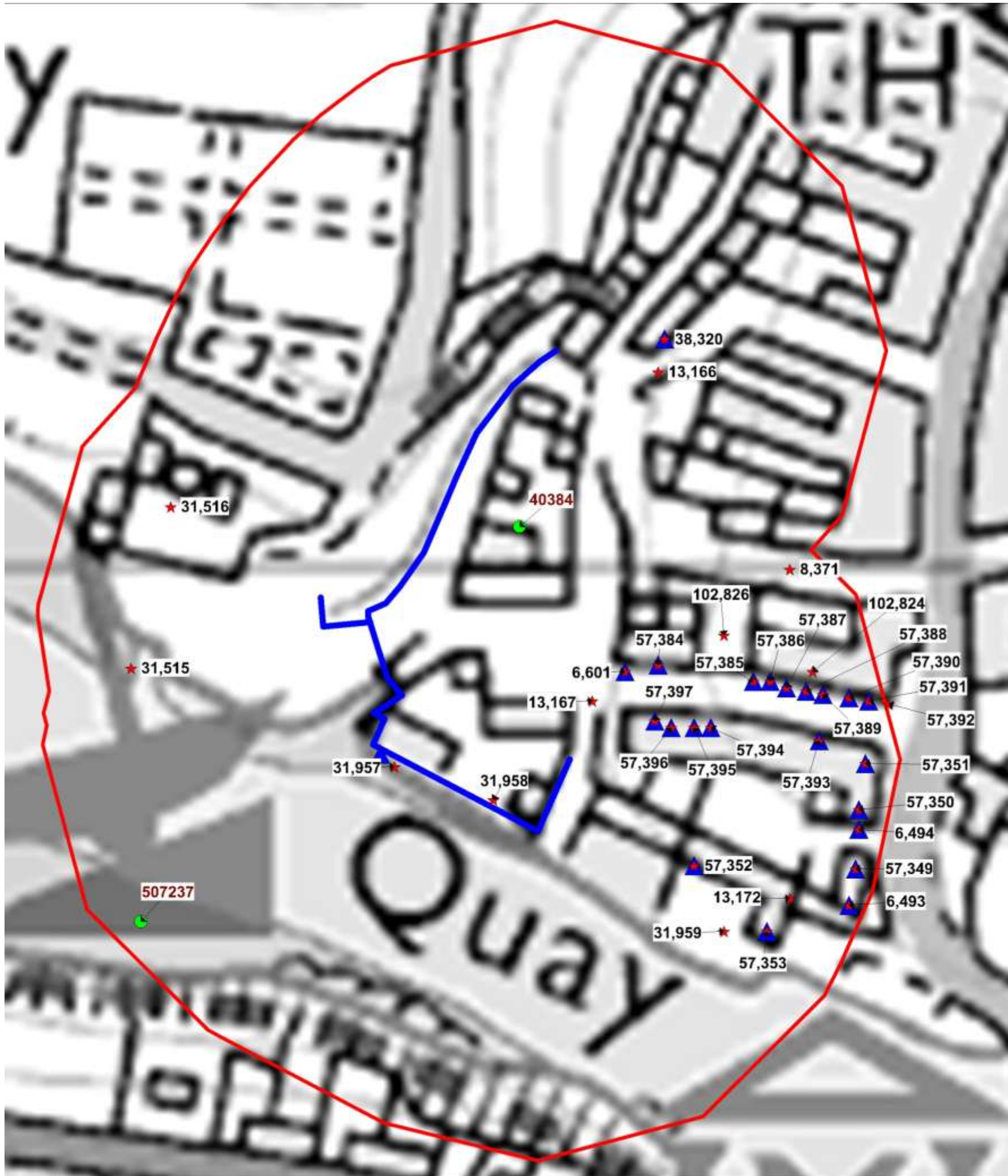


Figure 12: Known historic environment assets within 100m (red boundary) of the proposed defences within 100m of the proposed defences on the Afon Mwldan / Cambrian Quay area of the proposed Tidal Flood Alleviation Scheme (blue line).

Blue triangles – listed buildings; Red stars – HER data; Green circles – NMR data

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5.2 The North Bank of the Afon Teifi (Figure 13)

Approximate length	Description	General photos
c.390m	<i>The North Bank of the Afon Teifi:</i>	
West end – 70m	A new flood defence wall is proposed to replace the existing wall which runs along the south side of The Strand from Cardigan Bridge. The wall will run all the way to the Cardigan Bathroom Centre	Photos 7 & 8
35m	The proposed defences will then involve flood proofing the raised area on which the Cardigan Bathroom Centre lies – presumably by enhancing the existing stone wall of the former wharf adjacent to the Afon Teifi.	Photo 9
30m	The flood defences will then revert back to being a flood defence wall to the south of The Old Presbytery and adjacent property.	Photo 9
20m	The J & M Vehicle Repairs and Servicing workshop building will be flood proofed on its southern edge alongside the Afon Teifi.	Photos 9 & 10
20m	The defences will pass north along the slipway to the east of the mechanics workshop, then pass across the top of the slipway, where it will be in the form of flood gates. The defences will then pass southward down the opposite side of the slipway adjacent to the Sea Scouts Shed.	Photo 10
10m	The defensive wall will continue along the southern side of the Sea Scouts Hut	Photos 10 & 11
100m	The defensive wall will then run around the inside of the walls defining the former foundry/blacksmiths yard. This area now contains a modern shed used by the scouts.	Photo 11
25m	The exact line of the defences to the east of the former foundry is not confirmed, but will take the form of a flood defence wall close to the existing river edge to the rear of the properties at the eastern end of The Strand as far as Teifi House.	Photo 12
10m	The defences will then be in the form of a flood gate across the slipway to the east of Teifi House.	Photo 12
East end – 65m	Beyond the floodgate a flood defence wall will be built along the southern edge of the car park area, and into the hospital grounds, before terminating in a proposed earthwork bund which will merge with the higher ground to the east.	Photos 13 & 14

Table 8: Proposed Route of Tidal Flood Alleviation Scheme Defences on the North Bank of the Afon Teifi;
from Castle Street/Cardigan Bridge along the Strand to the hospital



Photo 7: Western end of proposed flood defence line on north bank of Afon Teifi, with castle behind and Cardigan Bridge to left



Photo 8: View of raised wharf with Cardigan Bathroom Centre building to right, slipway visible in centre of photograph



Photo 9: Stretch of route of proposed north bank tidal flood defence from Cardigan Bathroom Centre to left, The Old Presbytery centre and J & M Vehicle Repairs and Servicing Building to right



Photo 10: J & M Vehicle Repairs and Servicing Building with slipway and Sea Scout shed to right



Photo 11: View of former foundry / blacksmith's workshop with modern Scout Hut within and Sea Scout shed to left



Photo 12: Centred on Teifi House, with slipway to east



Photo 13: Car park area with St Mary's Church behind



Photo 14: Eastern end of proposed northern tidal flood defences with St Mary's Church in centre of photograph and Cardigan Hospital

5.2.1 There are three Scheduled Ancient Monuments within the study area, which are: Cardigan Castle (CD123); Cardigan Bridge (CD003) and parts of the Cardigan Town Walls (CD141) (Table 9). Cardigan Castle is also a Grade I Listed

Building and the remains of the Regency period garden within its grounds are a Grade II Historic Park and Garden (Reference PGW (Dy) 72 (CER). The castle is also recorded on the HER and NMR (PRN 1082; NMR 92314). The development of the castle is discussed above within the Archaeological and Historic Background. The western part of the North Bank of the Afon Teifi Tidal Flood Alleviation Scheme pass close to the southern wall of the castle, although outside of the Scheduled Area. The defences will be in clear view of the castle and the potential visual impact of the tidal flood defence on the setting of the castle will be a material consideration in the assessment of any planning application for the scheme.

5.2.2 Cardigan Bridge is also a Grade II* Listed Building (PRN 5303; NPRN 23850). As with the castle, the western part of the North Bank of the Afon Teifi Tidal Flood Alleviation Scheme will be clearly visible from the bridge and potential visual impacts will be a material consideration in the assessment of any planning application for the scheme.

5.2.3 The scheduled parts line of the medieval town defences run to the north and west of the castle (PRN 8371), the majority of the town's defences lying outside of the study area for this part of the proposed Tidal Flood Alleviation Scheme. A small stretch of the north to south aligned town wall lies in the northern part of the study area. This will not be visible from the proposed scheme, and no physical impacts will occur to it or any other part of the medieval town walls. The site of the former Bridge Street gate on the town walls lay at the southern end of Bridge Street to the west of the proposed scheme.

5.2.4 There are 31 listed buildings within this study area (Table 10). As noted above, Cardigan Castle is a Grade I Listed building CD123; PRN 1082; NPRN 92314). Castle Green House, within the castle grounds, is also Grade I Listed (PRN 20917). Cardigan Bridge is Grade II* Listed (PRN 5303), as is the Parish Church of St Mary's at the eastern end of this study area (PRN 5303). No. 40 St Mary's Street is a further Grade II* Listed Building, an early 18th century house containing many contemporary internal features on the corner of Carrier's Lane and St Mary's Street (PRN 6487). The visual impacts on the setting of each of these listed buildings (as noted above in some cases where they are also Scheduled Ancient Monuments) will be a material in the assessment of any planning application for the scheme.

5.2.5 The remainder of the listed buildings are Grade II Listed, the majority being post-medieval structures along Bridge Street, St Mary's Street and Church Street associated with the expansion in the town during the 18th and 19th centuries. It is possible that some of these buildings have medieval origins and still contain earlier fabric, although hidden by later facades. A number of other Grade II Listed Buildings are associated with the post-medieval development of the castle and specifically with Castle Green House, such as the gate piers and walls on the northern side of the Strand leading up to Castle Green House and the adjacent stable outbuildings. A number of these buildings lie in close proximity to the proposed line of the Tidal Flood Alleviation Scheme route and impacts on the setting of these building will be a material in the assessment of any planning application for the scheme.

5.2.6 The Historic Environment Record (HER) lists 39 sites within the 100m study area, which includes all of the above listed buildings (Table 11). Medieval sites include the Castle and town gate on Bridge Street, as discussed above. There is also a potential earlier bridge pre-dating the existing Cardigan Bridge, but in a different location, possibly upstream from the castle (PRNs 8506 & 32015). As noted in the Archaeological and Historical Background section above, the possibility that a bridge formerly crossed the river between an area near the Gloster Row slipway to the one almost directly opposite to the south has been

postulated. This would follow earlier road alignments although no firm archaeological evidence has ever been recorded. If the bridge is located in this area, the proposed Tidal Flood Alleviation Scheme could pass directly through its location. It should be noted that upright timbers recorded in 1977 during the construction of the footbridge on the western side of Cardigan Bridge could also indicate that the earlier bridge crossing was located in roughly the same place as the existing, and which form the basis of the HER records. A further medieval occupation site was identified at Volk's Bakery (Bridge Street) within the walled town (PRN 7782).

5.2.7 Further buildings associated with the post-medieval maritime development of the town are recorded on the HER, such as Bridge or Edward's Warehouse which was formerly situated on Cambrian Quay to the west of Cardigan Bridge on the south bank of the Teifi (PRN 5301). Teifi Quay (now called Prince Charles Quay) on the western side Cardigan Bridge on the north bank (PRN 31960) and Mercantile Wharf on the south bank (PRN 32009) are also recorded. These will not be affected by the proposed Tidal Flood Alleviation Scheme.

5.2.8 A single modern site is recorded on the HER, a De Havilland Queen Bee P4761 Air Crash Site, although its precise location is not known (PRN 105222).

5.2.9 The NMR records a further 10 sites within the study area, again mostly of post-medieval date associated with the later development of Cardigan. Of particular interest is the site of St Mary's Street Foundry (NPRN 40392) which is located on the northern bank of the Teifi, and around which the proposed scheme will run. Few details can be found on the foundry. It is first shown on the Ordnance Survey map of 1890 (Figure 9) so must have been built between the Wood's map of 1834 and 1890. The NMR suggests it closed around 1950. The NMR also records Teifi House, which is located on Gloster Row adjacent to the slipway (NPRN 35284).

5.2.10 The present edge of the Teifi directly west of Cardigan Bridge comprises a raised paved area directly next to the Teifi, with a wall running along the southern edge of the footpath around the Strand. This was constructed in the 1970s, replacing a small row of buildings, possibly the former Castle Terrace indicated on earlier maps. The Strand was slightly widened after the buildings were demolished and the existing wall built. During the geotechnical works undertaken in this area the paving slabs were seen to lie on a thick layer of concrete, although the full depth of the concrete was not established. It is uncertain what lies beneath this concrete layer, but will presumably be levelling material used for the bases of the previous buildings that stood on the site. At lower depths estuarine silts may be present.

5.2.11 The wall along the south of The Strand ran to the east as far as the Cardigan Bathroom Centre and a former stone wharf structure on which it is built. A small slipway lies to the west of this wharf which appears to align with a slope leading down from within the yard area of the outbuildings and stable blocks within the castle grounds to the north of The Strand, which had a cobbled surface, as noted during works previously undertaken here (Meek 2011). During the geotechnical investigations by WYG it was evident that no surface for the slipway survived, having been removed during installation of the wall and service runs. The wall on its southern side was 1.78m deep (1m was visible above ground level) down to a slightly offset concrete footing of 0.18m depth (Photo 15). On the northern side of the wall it was 0.72m down to the footpath. The area was backfilled with modern debris.



Photo 15: Test pit excavated adjacent to wall on south side of The Strand, showing foundations of 1970s built wall viewing north

5.2.12 A test pit was excavated against the western side of the stone wharf on which the Cardigan Bathroom Centre was built. The test pit was located some midway along its side (Photo 15). The wall of the wharf had a number of different phases of construction and repair, as could be seen in the different styles of construction and joints in the stonework (Photo 16). It was evident that the upper 1.5m of the wall in this part of the wharf had been rebuilt (or repointed) presumably at the same time as the bathroom centre was constructed. The wall of the wharf was raised some 2.49m above ground level on its western side, with 0.86m depth below ground level to a stone built offset footing of 0.11m depth. A further test pit was excavated on the southern side of this stone wharf (Photo 17), which indicated a possible footing at some 0.92m depth below the top of the estuarine silts (although this could not be clearly seen). The height of the wall in this area was only around 1.8m from the top of the estuarine silts, somewhat lower than that to the west.



Photo 16: Test pit excavated adjacent to Cardigan Bathroom Centre wharf, showing different phases in construction



Photo 17: Excavation of test pit on southern side of Cardigan Bathroom Centre

5.2.13 A geotechnical test pit was excavated adjacent to the J & M Vehicle Repairs and Servicing Building, located on the southeastern corner of the stone wharf, and adjacent to the slipway on its eastern side (Photo . Hand excavation of the test pit through the estuarine silts was observed, but the test pit was not completed due to the depth of material to be removed and the speed of water ingress. The silts removed from the test pit contained numerous fragments of 19th and 20th century debris (pottery, glass, metal etc), presumably derived from silt deposition and waste disposal. The test pit was excavated to a depth of c.1.3m, but no clear indication of the base of the wharf wall could be seen. This test pit was excavated further with a machine to expose the depth of the wall, but due to the nature of the material it was not observed by an archaeologist. Information on the depths of the wharf foundations etc is awaited. Another test pit was excavated on top of the wharf adjacent to the southeastern corner of the building which revealed a substantial concrete slab for the garage was present directly beneath the ground surface between the wharf wall and the building.



Photo 18: Excavation of test pit to south of J & M Vehicle Servicing and Repairs building, showing stone wharf and slipway

5.2.14 Looking to the west from the slipway it was possible to see the various stone wharfs that had been built along the north bank of the Teifi from the bathroom centre, past the former Old Presbytery and to the J & M Serving and Repairs building. Several phases of construction, repair and patching were visible (Photo 19). Looking to the west, a small wharf was present beneath the Sea Scout hut directly east of the slipway (Photo 18) of rough stone construction. Beyond this was a further wharf running along the southern side of the former St Mary's Street Foundry (Photo 20). This appeared to comprise a single phase of construction, using neatly cut slate blocks, very different in comparison to the neighbouring stone wharfs. Also of note in this area was the fact that the estuarine silts were at a lower level for the length of the wharf, with far fewer stones than in other places on the foreshore. This may indicate that it had been

cleared or dredged far more recently than elsewhere (possibly in the 1950s before it closed).



Photo 19: View of stone wharfs to the west of the slipway



Photo 20: View east from the slipway showing the wharf in front of the former St Mary's Street Foundry, and the lower silt level

5.2.15 A test pit was also excavated on the southern side of the St Mary's Street Foundry wall (Photo 21). This was excavated to a depth of 1.13m below ground level. It exposed a slight slate slab offset at the base of the surviving walls on The Strand frontage at a depth of 0.97m, which was 0.11m in depth. Surprisingly no floors were found associated with the interior of the foundry building, although this may have been as a result of only a small area being excavated and floors could survive in other parts of the former buildings.



Photo 21: Excavation of test pit on inside of former St Mary's Street Foundry wall

5.2.16 The façade of the St Mary's Street Foundry Wall on The Strand indicated that they were formerly the street frontage of buildings, with doorways, windows and other features visible on both sides of the existing gated entrance through the walls (Photos 22 & 23). These structures are of archaeological and historical significance, and as such the proposed Tidal Flood Alleviation Scheme wall will be constructed on the inside of the walls to retain the facades as presently exist.

5.2.17 Beyond the St Mary's Street Foundry wharf, further quite roughly built small wharfs were present, now forming gardens for properties on St Mary's Street and Teifi House on Gloster Row. The adjacent slipway to the east is where there is a possibility of an earlier river crossing (although not proven). The slipway is now concreted. Potentially earlier slipway surfaces could be present beneath the concrete, or timber elements associated with the former ferry that crossed here or even associated with an earlier bridge.

5.2.18 To the east of this until the end of the Tidal Flood Alleviation Scheme defence route, lies a modern car park area which was constructed in recent years. The river's edge is formed by numerous stone filled gabion baskets and it is unlikely that any archaeological deposits would be present here, except at depth where estuarine silts may be encountered.



Photo 22: St Mary's Street Foundry Wall façade on The Strand, east of gateway



Photo 23: St Mary's Street Foundry Wall façade on The Strand, west of gateway

SAM No.	Site Name	Period	Grid Reference
CD123	Cardigan Castle: Grade I Listed Building. Presently being subject to extensive restoration. The remains of the Regency Period garden within the grounds are a Grade II Registered Historic Park and Garden (Ref PGW (Dy) 72 (CER))	Medieval	SN 17795 45911
CD003	Cardigan Bridge: Replaced medieval bridges (possibly on the same site or further upstream). A Grade II* Listed Building. Also HER PRN 5303	Post-Medieval / Modern	SN 17778 45819
CD141	Cardigan Town Walls: Former town walls surrounding the main walled town to the north of the Castle.	Medieval	SN 17800 46100

Table 9: Scheduled Ancient Monuments within 100m of the proposed defences on the North Bank of the Afon Teifi

Listed Building:	Building Name	Grade	Grid Reference
10456	Cardigan Bridge, Bridge Street	II*	SN 17778 45818
10457	Ty Castell, Bridge Street	II	SN 17757 45920
10458	Cardigan Castle Situated on promontory overlooking Cardigan Bridge.	I	SN 17792 45907
10459	Castle Green House, Bridge Street	II*	SN 17798 45947
10460	Gatepiers & Gates To Castle Green House, Bridge Street	II	SN 17763 45924
10461	Outbuildings At Castle Green House Stable Yard, Bridge Street	II	SN 17823 45927
10462	Retaining Wall In Castle Green Grounds To E. Of House, Bridge Street	II	SN 17833 45954
10463	The Grosvenor Hotel, Bridge Street	II	SN 17718 45898
10464	Castle Chambers (Previously Listed With The Grosvenor Hotel) Bridge Street	II	SN 17720 45909
10465	No. 6 Bridge Street (Known As Glenroy House)	II	SN 17721 45921
10470	Former Hope Chapel, Carrier's Lane	II	SN 17865 45986
10471	Boundary Wall To Castle Green House, Carrier's Lane	II	SN 17853 45953
10472	No. 1 Castle Street (The Castle Inn P.H.)	II	SN 17796 45775
10475	Imperial House, Church Street	II	SN 17997 46023
10476	Parish Church Of St. Mary, Church Street	II*	SN 18102 46043
10477	Gates & Gatepiers To St. Mary's Churchyard, Church Street	II	SN 18032 46018
10531	No. 9 St. Mary's Street	II	SN 17836 46017

10532	No. 19 St. Mary's Street	II	SN 17923 46016
10533	No. 20 St. Mary's Street (Cemaes)	II	SN 17930 46014
10534	No. 21 St. Mary's Street	II	SN 17937 46012
10535	No. 22 St. Mary's Street	II	SN 17942 46011
10536	No. 32 St. Mary's Street	II	SN 17922 45997
10537	The Angel Hotel, St. Mary's Street	II	SN 17900 46001
10538	No. 39 St. Mary's Street (Cardigan & Tivyside Advertiser)	II	SN 17876 46005
10539	No. 40 St. Mary's Street (Avondale)	II*	SN 17864 46005
10540	Pedestrian Gate Between No. 43 & The Old Stables, St. Mary's Street	II	SN 17834 46001
10541	The Old Stables, St. Mary's Street	II	SN 17831 46005
10542	No. 44 St. Mary's Street (The Old Custom House)	II	SN 17806 46001
10543	No. 45 St. Mary's Street (The Old Custom House)	II	SN 17800 45998
10747	No. 43 St. Mary's Street	II	SN 17838 46005
87473	1 & 2 Green Street, including attached stable and boundary wall Prominently sited on the approach to Cardigan Castle. The buildings front directly on to Green Street, but have a rear yard (containing detached former brewhouse) which has modern wall and railings, incorporating gates relocated from Cardigan goal.	II	SN 17760 45932

Table 10: Listed Buildings within 100m of the proposed defences on the North Bank of the Afon Teifi

HER PRN	Site Name	Description	Period	Grid Reference
1082	Cardigan Castle	Castle. Scheduled Ancient Monument CD123 and Grade I Listed Building. NPRN 92314	Medieval	SN 17792 45907
5301	Bridge or Edward's Warehouse	Old warehouse associated with the Port of Cardigan. Formerly Grade 2 listed building, but apparently delisted.	Post-Medieval	SN 1779 4577
5302	Cardigan Parish Church; Cardigan Priory; St Mary's	Medieval parish church, formerly also a priory church. The church was extensively rebuilt in 1711 and 1748 but some medieval stonework survives. Grade II* Listed Building. NPRN 120061 / 35163 / 306605	Medieval; Post-Medieval	SN 18102 46043
5303	Cardigan Bridge	Various authorities disagree as to the date of the bridge and some unsolved problems remain. There was a bridge on the site before the end of the 12th century PRN 32015 (CADW SAM form). The bridge was destroyed in the 13th and 16th century. Scheduled Ancient Monument CD003 and	Post-Medieval	SN 17778 45818

		Grade II* Listed Building. NPRN 23850		
6486	Angel Hotel	Hotel. NPRN 5074	Post-Medieval	SN 17900 46001
6487	Avondale	Dwelling in Cardigan town. No 40 St Mary's Street, Grade II* Listed Building. NPRN 5082	Post-Medieval	SN 17864 46005
6493	Grosvenor Hotel	Hotel. NPRN 5549	Post-Medieval	SN 17718 45898
6494	Glenroy House; Dudley House	Dwelling at 6 Bridge Street, Cardigan. NPRN 5475	Post-Medieval	SN 17721 45921
6600	Castle Inn	Old inn, formerly a Grade 2 listed building but now delisted. NPRN 5268	Post-Medieval	SN 17796 45775
7782	Volk's Bakery	Volk's Bakery Occupation Site	Medieval	SN 1774 4594
8506	Cardigan Bridge	Information from the owner of Ynys Boat Yard, Cardigan. Two pieces of timber were recovered in 1977 during construction of Foot Bridge on west side of Cardigan Bridge. One piece formerly lay behind Warehouse 5300 and has now been removed.	Post-Medieval, Medieval	SN 1776 4584
13168	Bridge Street Gate	Town Gate	Medieval	SN 1773 4588
20917	Castle Green House	Mansion within the walls of Cardigan Castle. Now in a derelict condition. Grade II* Listed Building. NPRN 31483 / 5249	Post-Medieval	SN 17798 45947
25745	No 43 Saint Mary's Street	Marked on Wood's 1834 map of Cardigan. Grade II Listed. It is a late 18th century, stone-built, 2-storey house of two units with rendered front and later, 19th century rear unit. It has an end-chimney, central entry plan with stair and kitchen/services to rear. The front façade has raised voussoirs to sash windows and inscribed imitation ashlar walls. At the rear the original sash windows have dressed voussoirs. The pair of trusses over the front unit have 2 pairs of side purlins and a diagonally set ridge-piece. They also have floor tie-beams and their collars have been removed to provide a loft room. The front unit has been remodelled and the rear unit has been altered in the late 19th century, with inserted windows and a doorway characterised by brick surrounds. The roof-trusses of this rear unit and all the red brick stacks to the chimneys are probably also of the late 19th century.	Post-Medieval	SN 17838 46005
31960	Teifi Quay; Prince Charles Quay	Wharf.	Post-Medieval	SN 1774 4590
32009	Mercantile Wharf	On the south of the river Teifi, just below Cardigan Bridge, was the mercantile wharf, fronting the Bridge and Bridgend Warehouses. While only one wharf is recognised in the literature (Maritime Heritage & Ceredigion VII). There are two separate wharfs.	Post-Medieval	SN 1775 4579
32011	No 1 Castle Street; The Castle Inn	Described in Cardigan : Buildings of Special Architectural & Historic Interest. Two storeys and attic. Continuous ? lintels on first and originally ground floor windows, but later altered.	Post-Medieval	SN 1780 4578
32015	Cardigan Bridge	See 5303 & 8506. Incorrectly thought to be upriver from site of present Bridge. Timbers from this or a post med wooden bridge recovered from river (PRN 8506).	Medieval	SN 1778 4583

46373	Bridge Street Cottages	Cottages	Post-Medieval	SN 1773 4588
56494	The Old Stables, St. Mary's Street	Grade II listed house. NPRN 407372	Post-Medieval	SN 17831 46005
56500	Gatepiers & Gates To Castle Green House	Grade II listed house; Gatepiers & Gates To Castle Green House, Bridge Street	Post-Medieval	SN 17763 45924
56524	Boundary Wall To Castle Green House	Grade II listed house. Boundary Wall To Castle Green House, Carrier's Lane	Post-Medieval	SN 17853 45953
57346	Ty Castell, Bridge Street	Grade II listed house	Post-Medieval	SN 17757 45920
57347	Outbuildings At Castle Green House	Outbuildings At Castle Green House Stable Yard, Bridge Street Grade II listed outbuildings	Post-Medieval	SN 17823 45927
57348	Retaining Wall In Castle Green Grounds	Grade II listed retaining wall to east of Castle Green House, Bridge Street	Post-Medieval	SN 17833 45954
57349	Castle Chambers	Grade II listed house. Previously Listed With The Grosvenor Hotel, Bridge Street NPRN 408688	Post-Medieval	SN 17720 45909
57354	Former Hope Chapel	Grade II listed former chapel, Carrier's Lane. NPRN 14943	Post-Medieval	SN 17865 45986
57356	Imperial House	Imperial House, Church Street. Grade II listed flats	Post-Medieval	SN 17997 46023
57357	Gates And Gatepiers	Grade II listed gates and gatepiers to St.Mary's Churchyard, Church Street	Post-Medieval	SN 18032 46018
57399	No. 9 St. Mary's Street	Grade II listed house. NPRN 35217	Post-Medieval	SN 17836 46017
57400	No. 19 St. Mary's Street	Grade II listed house	Post-Medieval	SN 17923 46016
57401	No. 20 St. Mary's Street (Cemaes)	Grade II listed house	Post-Medieval	SN 17930 46014
57402	No. 21 St. Mary's Street	Grade II listed house	Post-Medieval	SN 17937 46012

57403	No. 22 St. Mary's Street	Grade II listed house	Post-Medieval	SN 17942 46011
57404	No. 32 St. Mary's Street	Grade II listed house	Post-Medieval	SN 17922 45997
57405	No. 39 St. Mary's Street	Grade II listed office. Cardigan And Tivyside Advertiser. NPRN 35218	Post-Medieval	SN 17876 46005
57406	Pedestrian Gate	Grade II listed Pedestrian Gate between No. 43 And The Old Stables, St Mary's Street	Post-Medieval	SN 17834 46001
57407	No. 44 St. Mary's Street	The Old Custom House, Grade II listed shop. NPRN 35221	Post-Medieval	SN 17806 46001
57408	No. 45 St. Mary's Street	The Old Custom House, Grade II listed shop. NPRN 35221	Post-Medieval	SN 17800 45998
105222	De Havilland Queen Bee P4761 Air Crash Site	This Queen Bee was one of 110 delivered to the RAF by De Havilland, Hatfield, to contract 962680/38 between February and May 1939. It was assigned to Pilotless Aircraft Unit & 1 Anti-Aircraft Co-operation Unit/1618 FLIGHT/Pilotless Aircraft Unit/1621	Modern	SN 18 46
6602	Cardigan Benedictine Priory	Site of medieval Benedictine priory. The site is now occupied by Cardigan hospital. Earlier house 17th century was residence of Catherine Phillips 1631-1664. On the grounds of a Benedictine priory, the large country house was designed by John Nash and built by John Bowes in 1805. The building is essentially rectangular in shape. It was enlarged 1922 when it became Cardigan hospital and is 2 to 3 storeys high with a basement. A hipped slate roof with eaves and a number of bricked chimney stacks. The windows are mainly sash and mixed in shape, either rectangular or arched. NPRN 35163	Post-Medieval, Medieval	SN 18140 46029

Table 11: Historic Environment Record entries within 100m of the proposed defences on the North Bank of the Afon Teifi

NPRN	Site Name	Description	Period	Grid Reference
5250	Cardigan Castle House-Gardener's Cottage	Situated in Cardigan Castle (NPRN 92314) as a part of Cardigan Castle House (NPRN 5249). Currently in a poor state of repair. Half of the roof has collapsed. The house contains 4 rooms and a staircase.	Post Medieval	SN1781845966
5823	Morgan Street (Boundary Wall)	Post-medieval boundary wall	Post Medieval	SN1788246033
35219	St Mary's Street, 42	An early 19th century house, with a slate roof. It is double fronted with unpainted stucco. Two storeys high: On the second floor are two 12-paned sash windows, with slate sills. On the ground floor are two 16-paned sash windows, also with slate sills. At the centre of the floor is a six panelled door in a moulded doorcase, above which is a timber hood.	Post Medieval?	SN1784546005
35284	Teifi House, Gloster Row	An 18th century stone 2 storey attic. slated central ped semi circular. Hooded doorcase.	Post-Medieval	SN 17990 46009

		railed forecourt. slate paved.		
35298	Territorial Hall, Church Street, Cardigan	18th century stone. 2 storey. Rear door 6 panelled with hood. E door has canopied hood & pointed window. Ground floor 3 semi circular headed windows in arched recesses.	Post Medieval?	SN1799446014
40392	St. Mary Street Foundry	Circa 1950. Location unknown.	Post Medieval	SN1794345958
106548	St Mary's Street	Post-medieval terrace	Post Medieval	SN1788646012
270394	Pillbox (Type FW3-24), Cardigan	Type 24 'bullet proof' pillbox with narrow splay embrasures. Located within the grounds of Cardigan Castle, built against the south curtain, covering Cardigan Bridge from elevated position to the north.	Post Medieval	SN1776745873
305482	Castle Cottages; Half Moon Inn; 1-2 Green Street, Cardigan	A pair of Georgian vernacular cottages, built at the side of the C18th gateway into Castle Green. Both cottages are said to have been former inns; the west cottage was apparently called The Half Moon, and a much altered detached building at the rear was possibly a brew-house. The contemporary stone-built storeyed cottages are of symmetrical central-entry type with end chimneys heating parlour and kitchen and with services-rooms in a rear lean-to. The plan-type and timber detail suggest a date of c. 1800, but several oddly angled walls hint that the cottages incorporate sections of earlier walling or are respecting earlier boundaries. The exterior is mostly rendered but at the rear there are exposed sections of distinctive 'banded' walling in the localised masonry style. This interesting pair of cottages stands derelict and unroofed but has been purchased by the Cardigan Building Preservation Trust. 2002.06.13/RCAHWW/RFS	Post Medieval	SN1776045932
414093	Cardigan Harbour	Cardigan Harbour is set three miles up the from the mouth of the River Teifi and it is in the form of riverside wharves. Upstream of the medieval bridge (NPRN 23850) there are two stone warehouses. The area produced cloth from local mills, slate and tin-plate. The old railway station (NPRN 41370) is located on the south bank.	Medieval	SN178458

Table 12: Additional records held on the National Monuments Record (not on the HER) within 100m of the proposed defences on the North Bank of the Afon Teifi

Character Areas:

1	The Castle	Specifically covers the scheduled area of the castle itself, which will not be directly affected by the propose Tidal Flood Alleviation Scheme. Potential visible impacts will occur to elements of the character area.
2	Walled Town	The proposed scheme does not project into this character area within the town wall, although it does lie in the western part of the 100m study area. It includes the bridge as well as Castle Street, and the area just north of the Castle itself.
3	Site of medieval priory / St Mary's Church	The site of St Mary's Church lies within the eastern part of the study area, although the proposed scheme will not directly impact it. Visual impacts on the church could occur, although the proposed height of the tidal flood scheme and the property boundary walls in the area are such that views of the new defences would only be possible from the roof and tower of the church.
4	St Mary's / Pont Y Cleiffion	This urban character area lies on the north side of the river, covering the northern part of the defence area.
8	The Strand	This area runs directly along the Afon Teifi north bank as far as the hospital grounds, through which the proposed defences

		will run.
9	North Road / Napier Street	This character area just encroaches inside the northern part of the 100m study area and will not be affected by the proposals.
19	Bridgend –	The Bridgend area covers the southern bank of the river, directly south of Cardigan Bridge. It only just encroaches into this 100m study area, although is discussed further for the southern defence proposals.
20	Mercantile Wharf	The Mercantile Wharf character area lies on the very southeastern edge of this study area and well outside of the North Bank of the Afon Teifi proposed Tidal Flood Alleviation Scheme.
21	Bridgend Timber Yard and Foundry	This character area covers the southern part of this 100m study area where it encroaches onto the south bank of the Afon Teifi. It is discussed further for the South Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme.

Table 13: The Urban Character Areas within 100m of the North Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme

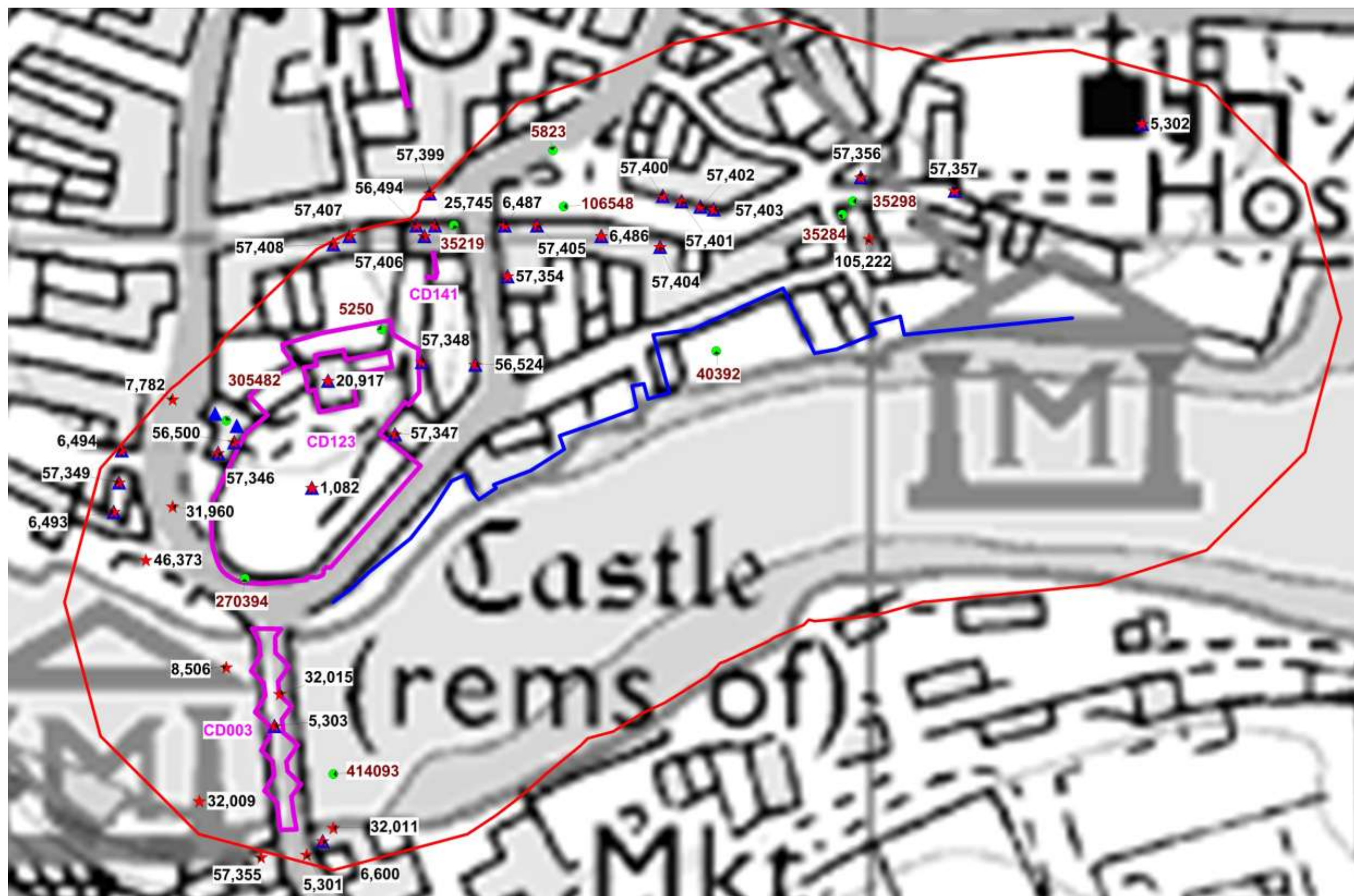


Figure 13: Known historic environment assets within 100m (red boundary) of the proposed defences on the North Bank of the Afon Teifi (defence line in blue).

Magenta – Scheduled Ancient Monuments; Blue triangles – listed buildings; red stars – HER data; Green circles – NMR data

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5.3 The South Bank of the Afon Teifi (Figure 14)

Approximate length	Description	General photos
c.420m	<i>The South Bank of the Afon Teifi</i>	
70m	It is proposed that a new flood defence wall will be erected from the buildings to the rear of the Castle Inn on Castle Street (southern end of Cardigan Bridge) and will replace the existing red concrete wall along the northern side of the Jewson's yard.	Photos 24 & 25
80m	The proposed defences are proposed to be constructed through the line of the existing dilapidated sheds and barns which run along the northern edge of the cattle market in the form of an earthwork bund. This will continue along the northern edge of the cattle market.	Photos 25 & 26
70m	The flood defences will run around the northern edge of Ynys Marine boat building yard with a flood gate across the slipway.	Photo 26 & 27
200m	The proposed earthwork bund flood defence will then run along the northern edge of the other properties and businesses on the south bank of the Afon Teifi all the way to the car parking area just to the west of Priory Bridge where the defence will terminate.	Photo 28

Table 14: Proposed Route of Tidal Flood Alleviation Scheme Defences on the North Bank of the Afon Teifi



Photo 24: West end of proposed northern tidal flood defence line from buildings to the rear of Castle Inn following the line of the red concrete wall



Photo 25: Line of proposed defences to follow the red concrete wall behind the Jewson's yard and through the structures across the remainder of the photograph



Photo 26: Line of proposed defences to run along south side of footpath, through cattle market area to right and Ynys Marine in centre of photograph



Photo 27: Line of proposed defences to run along south side of footpath, around Ynys Marine to right and other buildings



Photo 28: Eastern end of proposed line of proposed defences on south bank of Afon Teifi to run along south side of footpath, to location just west of the Prior Bridge

5.3.1 There is a single Scheduled Ancient Monuments within the study area, Cardigan Bridge (CD003) (Table 15). Cardigan Bridge is also a Grade II* Listed Building (PRN 5303; NPRN 23850). The South Bank of the Afon Teifi Tidal Flood

Alleviation Scheme will be clearly visible from the bridge and potential visual impacts will be a material consideration in the assessment of any planning application for the scheme. Although outside of the study area, the impacts on the setting of the scheduled Cardigan Castle will also need to be considered.

5.3.2 There are 4 listed buildings within this study area (Table 16). As noted above, Cardigan Bridge is Grade II* Listed (PRN 5303). The other buildings are Grade II Listed and include the Castle Inn and the Bridge and Bridgend Warehouses at the western end of the proposed flood scheme (partially visible on Photo 23; note that Bridge Warehouse is recorded as now being delisted). Although not within the 100m study area the Grade II* Listed Church of St Mary's will be visible from the South Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme (Photos 13 & 14). The Grade I Listed Castle Green House (PRN 20917) also lies outside of the 100m study area, but there will be views from the upper parts of the building across the proposed South Bank of the Afon Teifi area of the scheme (Photos 7 & 8).

5.3.3 The HER lists 18 known sites within the 100m search area, including Cardigan Bridge (PRN 5303), the Bridge and Bridgend warehouses mentioned above (PRNs 5301/57355 & PRN 5300 respectively) and Castle Inn (PRNs 6600/32011).

5.3.4 There is a single site pre-dating the post-medieval period, the site of a possible St Julian's Chapel, which was possibly situated in a similar place to the later railway station (PRN 40376). During bridge repair works on Cardigan Bridge remains of an earlier 18th century bridge and associated road line (PRN 36878) were also encountered at its southern end (PRN 35297).

5.3.5 All of the remaining sites on the HER and NMR are associated with 18th and 19th century trade and industry, including the warehouses mentioned above, as well as the Mercantile Wharf itself on the south bank of the Teifi (PRN 32009) and its associated company offices (NPRN 306719); Bridgend Quarry (PRN 32012); lime kilns (PRNs 30808, 30809 & 32013); St Mary's Street Foundry (NPRN 40392 discussed in the last section); Bridgend Foundry (NPRN 40385); a sawmill (NPRN 96447); and Cardigan Harbour itself (NPRN 414093).

5.3.6 The railway station in Cardigan, the original site of which lies very close to the proposed route of the North Bank of the Afon Teifi Flood Alleviation Scheme route, was opened in 1866 and formed the terminus of the Whitland and Cardigan Railway. The station was closed in the 1960s. An associated goods shed survives in the area, but the station building has been previously demolished and replaced with industrial units.

5.3.7 The existing Jewson's yard is built on top of a former timber yard recorded on earlier maps. The farmer's livestock market was built on the former land associated with the railway. The majority of other buildings, excluding the railway goods shed mentioned above, are of modern date associated with light industrial development during the latter part of the 20th century and beyond.

5.3.8 It is evident that the river bank is formed by a mix of modern walling and stone filled gabions, presumably constructed during the 20th century and later. As discussed in the Archaeological and Historical Background the south bank of the Afon Teifi in this area was developed in the post-medieval period as the port of Cardigan prospered. Prior to this it is likely the area was low lying on the flood plain of the river. The land was built up in the 18th and 19th centuries to enable its development as industrial land, for trade and the railway. Geotechnical boreholes were sunk in this area (not archaeologically observed) which indicated a substantial depth of made ground over the majority of the proposed route of the South Bank of the Afon Teifi Tidal Flood Alleviation Scheme.

SAM No.	Site Name	Period	Grid Reference
CD003	Cardigan Bridge: Replaced medieval bridges (possibly on the same site or further upstream). A Grade II* Listed Building. Also HER PRN 5303	Post-Medieval / Modern	SN 17778 45819

Table 15: Scheduled Ancient Monuments within 100m of the proposed defences on the South Bank of the Afon Teifi

Listed Building Ref:	Building Name	Grade	Grid Reference
10456	Cardigan Bridge, Bridge Street	II*	SN 17778 45818
10472	No.1 Castle Street (The Castle Inn P.H.)	II	SN 17796 45775
10473	Bridge Warehouse, Castle Street	II	SN 17773 45769
10474	Bridgend Warehouse, Castle Street	II	SN 17731 45781

Table 16: Listed Buildings within 100m of the proposed defences on the South Bank of the Afon Teifi

HER PRN	Site Name	Description	Period	Grid Reference
5300	Bridgend Warehouse	'The Granary', Formerly a warehouse associated with Cardigan port. Stone-built warehouse, 4 storeys, 4 windows, central doorway & loading doorways to each floor; West of Bridge Warehouse. A plaque on the east gable-end reads "This granary was erected by David Parry Esq of Noyadd in Cardiganshire March y 26 174?". In 'The Gatehouse To Wales' by W J Lewis, page 79, the date given is 1775. NPRN 34179	Post-Medieval	SN 17731 45781
5301	Bridge Warehouse; Edwards Warehouse	Old warehouse associated with the Port of Cardigan. Formerly Grade II listed building, but apparently delisted. Bridge Warehouse is situated on the south side of the river Teifi, parallel to the quay-side, immediately below Cardigan bridge with its east gable against the road. It was formerly known as Edward's Warehouse. John Edwards is recorded as a sail-maker at Bridgend in the 1830s. It is a early to mid 19th century, stone-built, five storey building which has a 5-bay north elevation, a hip slate roof, decorative bands of grey stone to all elevations and flat eaves with paired brackets. The ground-floor has a central entry to the north elevation with loading doorways flanked by two-pairs of windows to each floor; the windows are original 3-light timber casements. The ground-floor openings have stone voussoirs with raised key and arched drip stones. The first and second floors have continuous timber lintels to openings, while the third and attic-floors have individual lintels. There are drawings of masted ships and writings on internal plaster walls. NPRN 34177	Post-Medieval	SN 1779 4577
5303	Cardigan Bridge	Various authorities disagree as to the date of the bridge and some unsolved problems remain. There was a bridge on the site before the end of the 12th century PRN 32015 (CADW SAM form). The bridge was destroyed in the 13th and 16th century. Scheduled Ancient monument CD003 and	Post-Medieval	SN 17778 45818

		Grade II* Listed Building		
6499	Bridgend Terrace	A terraced row of cottages. Formerly listed buildings, now de-listed. Mislocated – should be at SN 17754 45755; equates to Nos 30, 31 and 32 Bridgend, NPRNs 5148, 5149 and 5150 respectively	Post-Medieval	SN 1773 4578
6600	Castle Inn	Old inn, formerly a Grade 2 listed building but now delisted. NPRN 5268	Post-Medieval	SN 17796 45775
8506	Cardigan Bridge	Information from the owner of Ynys Boat Yard, Cardigan. Two pieces of timber were recovered in 1977 during construction of Fort Bridge on west side of Cardigan Bridge. One piece formerly lay behind Warehouse 5300 and has now been removed. NPRN 23850	Post-Medieval, Medieval	SN 1776 4584
15550	Cardigan Railway Station	Site of Cardigan Railway station, which was closed during the 1960's. Few traces of the station now survive and the area is now an industrial estate and farmers market. NPRN 41370	Post-Medieval	SN 1805 4582
30808	Bridgend Lime Kiln	Site of 19th century lime kiln. Now either badly damaged or destroyed.	Post-Medieval	SN 17716 45774
30809	Bridgend Lime Kiln	On the 1889 Ordnance Survey map, three lime kilns are marked with associated buildings. There was a single kiln, on the west and apparently paired kilns on the east. On the 1905 Ordnance Survey map the single kiln is missing and the pair were marked as	Post-Medieval	SN 17730 45730
32009	Mercantile Wharf	On the south of the river Teifi, just below Cardigan Bridge, was the mercantile wharf, fronting the Bridge and Bridgend Warehouses. While only one wharf is recognised in the literature (Maritime Heritage & Ceredigion VII). There are two separate wharfs	Post-Medieval	SN 1775 4579
32011	No 1 Castle Street; The Castle Inn	Described in Cardigan : Buildings of Special Architectural & Historic Interest. Two storeys and attic. Continuous ? lintels on first and originally ground floor windows, but later altered. Grade II Listed Building. NPRN 5268	Post-Medieval	SN 1780 4578
32012	Bridgend Quarry	Site of former quarry	Post-Medieval	SN 1773 4575
32013	Bridgend Lime Kiln	Site of former lime kiln	Post-Medieval	SN 1775 4575
32015	Cardigan Bridge	See 5303 & 8506. Incorrectly thought to be upriver from site of present Bridge. Timbers from this or a post med wooden bridge recovered from river (PRN 8506).	Medieval	SN 1778 4583
35297	Castle Street, Bridge	18th century stone bridge discovered during flooding alleviation work. The associated road of washed (water rolled?) stone was approximately 5 feet below the present road.	Post-Medieval	SN 178 457
36878	Castle Street	Cobbled road associated with 18th century stone bridge discovered during flooding alleviation work. The road was constructed of washed (water rolled?) stones of sizes up to 18 inches. The road was approximately 5 feet below the present road	Post-Medieval	SN 178 457
40376	Capel Sidan; St Julian's Chapel	Site of chapel which, according to Giraldus Cambrensis (Gerald of Wales), was built after 1188 on the site of Archbishop Baldwin's sermon (Thorpe 1978, 172). It had gone by 1800, but according to Richard Colt Hoare the site was still called 'Park y Capel	Medieval	SN 1805 4582
57355	Bridge Warehouse, Castle Street	Grade II listed warehouse	Post-Medieval	SN 17773 45769

Table 17: Historic Environment Record entries within 100m of the proposed defences on the South Bank of the Afon Teifi

NPRN	Site Name	Description	Period	Grid Reference
40385	Bridgend Foundry; Kelly's Foundry, Bridgend, Cardigan	Foundry established circa 1840 and worked until 1945; demolished circa 1980. Established by David Davies, sold to T.W.Thomas in 1854, purchased by S.F.Kelly in 1870, then passed to W.E.Matthews in 1894. The foundry produced all sorts of machinery: steam engines, ploughs, waterwheels and marine equipment. In 1945 the foundry became a motor engineering works.	Post Medieval	SN 17881 45733
40392	St. Mary Street Foundry	Circa 1950.	Post Medieval	SN 17943 45958
96447	Sawmill, Cardigan	Post-medieval; saw mill	Post Medieval	SN 17907 45778
306719	Cardigan Mercantile Company	A 2 storey building, with a slate pitched roof and 2 gable ended brick chimneys. The building has been modernised, groundfloor has 2 large 'mimic' sash windows and a door with a painted keystone at the top of the doorcase. The second floor also has the "mimic" sash windows. The building is signed as "Cardigan Mercantile Company" established in 1785.	Post Medieval	SN 17816 45745
414093	Cardigan Harbour	Cardigan Harbour is set three miles up the from the mouth of the River Teifi and it is in the form of riverside wharves. Upstream of the medieval bridge (NPRN 23850) there are two stone warehouses. The area produced cloth from local mills, slate and tin-plate. The old railway station (NPRN 41370) is located on the south bank.	Medieval	SN 178 458

Table 18: Additional records held on the National Monuments Record (not on the HER) within 100m of the proposed defences on the South Bank of the Afon Teifi

Character Areas:

2	Walled Town	This character area projects into the 100m study area for this part of the proposed scheme in the area of Cardigan Bridge.
8	The Strand	This urban character area lies on the north side of the river, and just encroaches into the northern part of this 100m study area although will not be impacted on by this part of the scheme.
19	Bridgend –	The Bridgend area covers the southern bank of the river, directly south of Cardigan Bridge. It lies directly to the west of the proposed scheme, although should not be directly affected by it. Potentially earlier settlement close to the bridge could encroach into the area, just on the western edge of the Jewson's yard.
20	Mercantile Wharf	The Mercantile Wharf character area lies on the western side of this study area, but outside of the area to be directly affected by the scheme.
21	Bridgend Timber Yard and Foundry	This character area on the south bank of the Teifi upstream of Cardigan Bridge will be directly affected by the South Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme, as the route will pass directly through it. As noted above, much appears to be reclaimed land built up to allow 19 th and 20 th century development, including the railway.
22	Pentood Industrial Estate	Industrial estate developed in the later 20 th century south of the former railway area. Lies in the southern part of this study area and will not be directly affected by the scheme.

Table 19: The Urban Character Areas within 100m of the South Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme

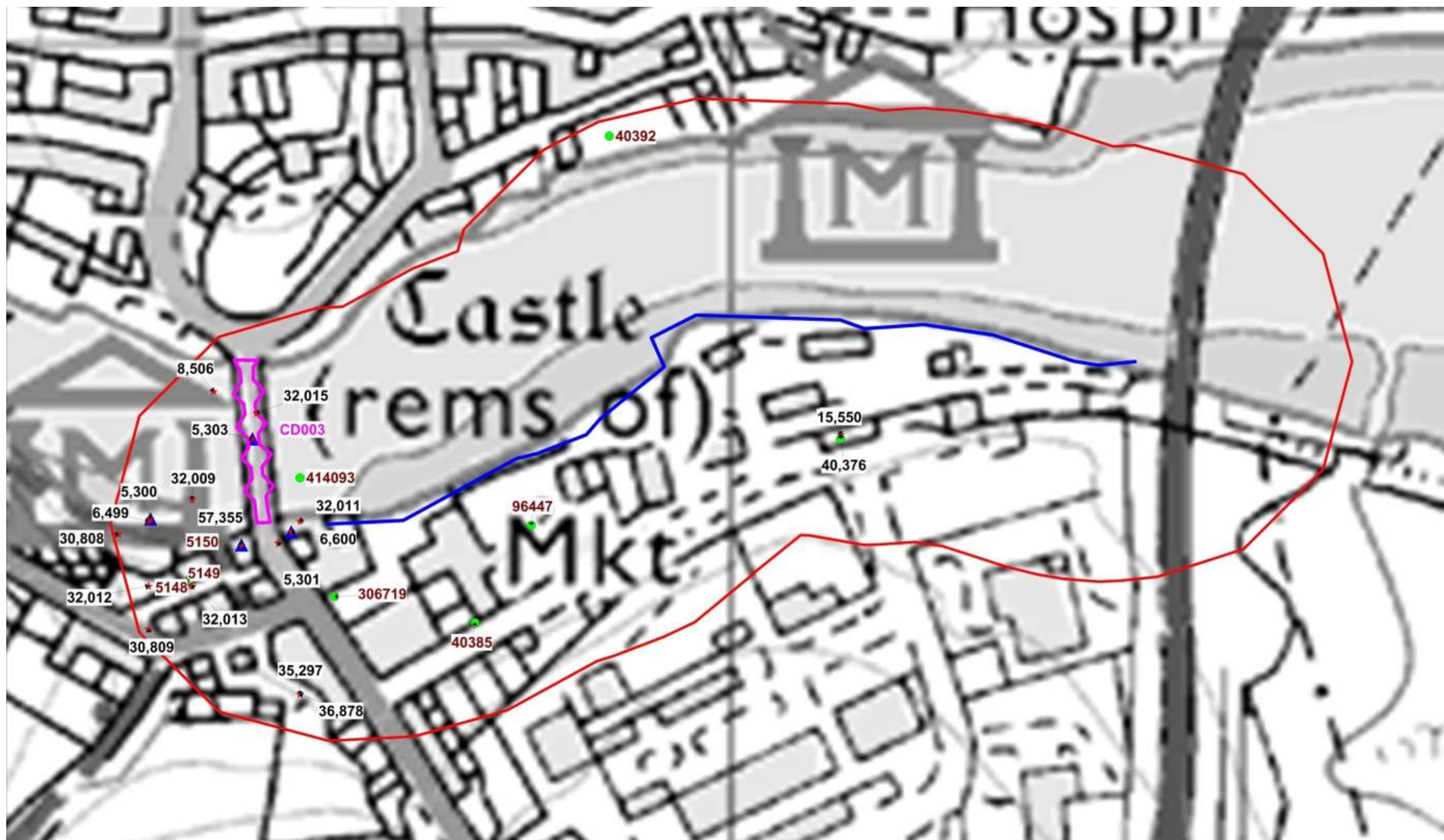


Figure 14: Known historic environment assets within 100m (red boundary) of the proposed defences on the South Bank of the Afon Teifi (defence line in blue).

Magenta – Scheduled Ancient Monuments; Blue triangles – listed buildings; red stars – HER data; Green circles – NMR data

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6. POTENTIAL IMPACTS OF THE PROPOSED TIDAL FLOOD ALLEVIATION SCHEME ON THE HISTORIC ENVIRONMENT

6.1 Previous Impacts to Development Site

- 6.1.1 As discussed above, much of the river front of Cardigan has been subject to change and alteration since the post-medieval period. Some of this would be considered archaeologically significant, in the case of stone wharfs and other features associated with the development of Cardigan as a port, but some of the more recent alterations would not (such as the reinforcing of the banks with stone filled gabion baskets). Modern services are also known to be present in many places along the proposed scheme routes.

Afon Mwldan / Cambrian Quay area

- 6.1.2 The Mwldan / Cambrian Quay areas partially contains the remains of the stone built Lloyd's Wharf and associated features, but also covers much of the land across Quay Street Car Park and the eastern bank of the Afon Mwldan which has been built up in the 1970s and later.

North Bank of the Afon Teifi area

- 6.1.3 The western end of the proposed North Bank of the Afon Teifi area of the scheme crosses through land that was originally built up in the late 18th or 19th centuries, but which was subject to further landscaping and rebuilding in the 1970s. This includes the paved area and wall along the southern side of The Strand, which geotechnical investigations suggest has been disturbed at least to the base of the existing wall, some 1m below ground surface.
- 6.1.4 To the east of this are various phases of stone built wharfs along the river's edge, many of which originate in the late 18th or 19th centuries, but may have been subject to more recent rebuilding and repair, although probably limited in nature. The Cardigan Bathroom Centre and the J & M Servicing and Repairs Building are modern buildings built on earlier stone wharfs which will have altered the make-up of the original wharfs themselves through concrete reinforcement or sheet piling. There is no evidence that significant disturbance was carried out on the river side of these structures though.
- 6.1.5 The area of the former St Mary's Street Foundry on The Strand has been subject to demolition and clearance, although the façade walls have been retained. A new Scout hut has been built within the area in the later 20th century. Much of the rest of the area may be relatively undisturbed.
- 6.1.6 The slipway to the east of Teifi House has a modern concrete surface and has presumably been subject to repair and alteration over recent years. To the east of this to the end of the North Bank of the Afon Teifi scheme route, the modern car parking area is present. This has been significantly altered in recent years with the build-up of the river's edge with layers of stone filled Gabion baskets.

South Bank of the Afon Teifi area

- 6.1.7 As noted above, the majority of this area of the proposed scheme lies on land that has been built up and raised in the 19th century for the railway and other industrial buildings. Geotechnical information suggests this may be present to some depth, below which it is possible undisturbed archaeological remains could be present.
- 6.1.8 It is possible that less made up ground is present at the western end of this part of the proposed scheme within the Jewson's yard. This area lies

close to the southern end of Cardigan Bridge and the settlement area at Bridgend. This area may have already been at a higher level than the land to the east, and the reason why the settlement was developed here.

6.2 The Potential Impacts of the Proposed Development

- 6.2.1 Outline details of the proposed scheme are included in the route description tables above (Tables 3, 8 & 14).
- 6.2.2 In summary, where a tidal flood wall is proposed, this will stand an average of 1.3m in height (range will be between 1.0m and 1.9m) above ground, but will be constructed on an underlying concrete T-shaped footing of around 1m width and 2m depth. The excavation of the footing in most parts of the scheme could expose, damage or destroy underlying archaeological remains. This could be the case in areas of the scheme where ground levels have been raised (Quay Street Car Park or in the car park at the eastern end of the North Bank scheme). The large depth of the foundations for the wall is to provide a 'cut off wall' beneath the main defence to prevent tidal groundwater movement which is known to be a problem, especially in the St Mary's area of Cardigan.
- 6.2.3 Where flood gates are proposed, significant footings for gate posts will be required which could impact on any underlying remains at depth. Flood gates are proposed across the slipway adjacent to Cambrian Quay, the slipway adjacent to Teifi House and probably also adjacent to the boatyard on the south bank of the Teifi. The gate posts will need to be substantial to enable them to function correctly. Flood barriers are also proposed across the Quay Street Car Park, the nature of which is not certain, but again will require substantial posts on which they would affix.
- 6.2.4 Where buildings are to be flood proofed, the exact nature of these works is yet to be determined. Where alteration to existing stone wharfs is proposed this could impact on earlier historic fabric.
- 6.2.5 On the proposed South Bank of the Afon Teifi area of the proposed Tidal Flood Alleviation Scheme an earthwork bund is to be constructed. This will be formed from material in the vicinity, so will involve some depth of groundworks, although from initial borehole information, this will mostly comprise 19th and 20th century levelling material.
- 6.2.6 Full details of the proposals and construction techniques will be developed in the future, but in general the above items will be the main elements of the scheme. The following works could also be required to facilitate development and may also impact upon below ground archaeological remains or standing structures:
- Construction of contractor's compound and materials storage areas;
 - Construction of access tracks; and
 - Other ancillary infrastructure (fencing, lights, stores, landscaping).
- 6.2.7 At this stage the only structures that are anticipated to be removed will be the 1970's wall along the southern side of The Strand, the modern concrete wall around Jewson's Yard, and a few buildings associated with the farmer's market.
- 6.2.8 The visual impacts on the settings of various heritage features could also occur from the development.
- 6.2.9 A new surface water pumping station is also proposed behind the new defences, although the exact location is uncertain.

7. ASSESSMENT OF ARCHAEOLOGICAL SIGNIFICANCE AND IMPORTANCE

7.1 Archaeological Significance

7.1.1 Archaeological and historical significance is ascribed to the sites according to the following criteria:

Site Category (SC)	Definition of Site Category
A	Features of national importance - Scheduled Ancient Monuments, Listed buildings Grade I and II*, well preserved historic landscapes, registered parks and gardens and historic battlefields
B	Non-scheduled sites of regional or county importance. Listed Buildings Grade II, reasonably preserved historic landscapes
C	Features of district or local importance but generally common features at a national or regional level
D	Minor sites or sites so badly damaged that too little now remains to justify their inclusion in a higher grade
E	Features about which insufficient is known to attribute them to a higher rank, or which cannot be sufficiently accurately located to justify their consideration

Table 20: Site category definitions

Site Category A

7.1.2 There are no Site Category A sites within the proposed routes of the Tidal Flood Alleviation scheme areas, but there are a number within the study areas:

- Cardigan Castle:
 - Scheduled Ancient Monument CD123
 - Grade I Listed Building
 - Grade II Historic Park and Garden (Ref PGW (Dy) 72 (CER))
- Cardigan Bridge
 - Scheduled Ancient Monument CD003
 - Grade II* Listed Building
- Cardigan Town Walls
 - Scheduled Ancient Monument CD141
- Castle Green House
 - Grade I Listed Building
- Parish Church of St Mary
 - Grade II* Listed Building
- No. 40 St Mary's Street
 - Grade II* Listed Building

7.1.3 As noted above, although the Tidal Flood Alleviation Scheme will have no direct impacts upon these features, the visual impacts on their settings will need to be considered in the design. The scheme will be most visible from Cardigan Castle, Bridge and Castle Green House. Views of the scheme will be possible from the upper parts of St Mary's Church. It is not considered

that any visual impacts will occur to the scheduled areas of the Cardigan Town Walls or No 40 St Mary's Street.

- 7.1.4 The scheme lies within the Historic Landscape Character Area (HLC) of the Lower Teifi Estuary, specifically Cardigan. Urban character areas have been defined for the town and discussed above. The proposed Tidal Flood Alleviation Scheme will have a minimal impact upon the overall HLC area. In terms of the individual Urban Character Areas, the proposals will also cause minimal overall impact, assuming the design of the defences is sympathetic to their surroundings and will fit in visually.

Site Category B

- 7.1.5 There are numerous Grade II Listed Buildings within the study areas around the proposed Tidal Flood Alleviation Scheme, which would be considered to be Site Category B in terms of significance. No listed building will be directly affected by the proposals, except for the wharf walls of Cambrian Quay. Listed Building consent would be needed for any alteration to these walls and consideration in the design of the scheme to minimise visual impact upon them will also be required.
- 7.1.6 Visual impacts to the settings of numerous of these buildings is likely, although it is considered that due to the nature of the scheme, the urban setting of the structures and the fact they lie in close proximity to a waterway (and therefore at risk of flood damage), any impacts upon their settings would be considered minimal or acceptable.

Site Category C

- 7.1.7 Many of the HER and NMR recorded structures relating to Cardigan Port (Cambrian Quay, Mercantile Wharf, Bridgend warehouses etc) would be considered as Category C features (a number of these features already included as Category B - Grade II Listed Buildings). This would also include the limekilns and quarry at Bridgend and the foundry sites.
- 7.1.8 Although not recorded as specific features on the HER or NMR a number of the stone wharfs along the north bank of the Afon Teifi could also be considered as Category C features, again associated with the development of Cardigan as an important port in the 18th and 19th centuries. For the most part these will be unaffected by the proposals, but in some areas it is proposed that flood-proofing of the buildings on top of them will be carried out, although how this will be done is yet to be decided.
- 7.1.9 The site of Cardigan Railway station and its surviving associated goods shed would also be considered as Category C features.
- 7.1.10 Archaeological sites of potential medieval date would also be Category C features, such as evidence for occupation on Bridge Street and features in the Mwldan/Quay Street area, non-scheduled elements of the medieval town walls, and the possible site of St Julian's Chapel on the south bank of the Teifi.

Site Category D

- 7.1.11 Few of features of this category are recorded in the area, but could include the stretch of post-medieval walling recorded on the NMR in the St Mary's area.
- 7.1.12 Modern elements of the town and Afon Teifi water front could be considered as Category D features, where they are associated with the continuing development of the waterfront and town, but are of modern date and possess little character. The wall to the south of The Strand and the adjacent paved area would be considered in this Category.

Site Category E

- 7.1.13 The potential site of the medieval river crossing at the end of Gloster Row could be considered a Category E feature at this stage as there is no proof of its existence at this time. Should evidence for the bridge be revealed, then its significance would greatly increase.
- 7.1.14 A further Category E feature is the aircraft crash site for which the location is not known. In the event that the site was located, then its status would be greatly increased.

7.2 Archaeological Potential

7.2.1 The archaeological potential of the three Tidal Flood Alleviation Scheme areas is summarised below based on the information laid out above.

Afon Mwldan / Cambrian Quay

- Definite archaeological potential along the post-medieval Cambrian Quay / Lloyd's Wharf, a listed building of significance to the development of the port of Cardigan;
- Moderate potential for archaeological deposits of all periods within silts on the southern side of the wharf – including timber structures and palaeo-environmental remains;
- Limited archaeological potential across the car park area, which was raised and constructed during the 1970s, but some potential for archaeological remains at depth, including post-medieval wrecks and timber structures associated with the port, as well as palaeo-environmental remains of all periods;
- Limited archaeological potential along the eastern bank of the Afon Mwldan, but some potential at depth including structures associated with medieval and post-medieval activity on the banks of the Afon Mwldan, including timber structures, as well as palaeo-environmental remains of all periods.

North bank of the Afon Teifi

- Definite archaeological potential along the surviving post-medieval wharf fronts where proposals will 'flood proof' existing structures;
- Definite archaeological potential within the site of the former 19th century St Mary's Foundry site, to include building and industrial archaeological remains;
- Moderate archaeological potential for archaeological deposits of most periods within silts on the southern side of the water front where works are proposed, including timber structures and palaeo-environmental remains;
- Moderate potential for surviving remains, below concrete slab and wall footings along the western end of the scheme along The Strand, which could include remains of former post-medieval structures on Castle Terrace;
- Moderate potential for remains associated with the former post-medieval ferry crossing at the slipway east of Teifi House, with lower potential for remains associated with the possible medieval bridge crossing in this area;

- Moderate to low potential for remains associated with medieval activity and waterfront structures within the St Mary's area;
- Limited archaeological potential for archaeological remains of all periods between the Gloster Row slipway and hospital site.

South Bank of the Afon Teifi

- Moderate to low potential for remains associated with medieval and post-medieval settlement at Bridgend on the western extent of the proposals, which could include remains of settlement and other activity;
- Limited archaeological potential for remains associated with the medieval St Julian's Chapel, which may have been located towards the eastern end of the scheme, possibly including structural remains or burials;
- Very limited archaeological potential along the majority of the southern bank of the Afon Teifi for archaeological remains pre-dating the 19th century which could survive beneath the imported material used to raise the ground level, remains could include waterfront structures and palaeo-environmental remains (although the proposals in this area are very unlikely to cause a significant depth of disturbance).

8 DISCUSSION

8.1 General Conclusions

- 8.1.1 The archaeological assessment has shown that the proposed Tidal Flood Alleviation Scheme lies within an archaeologically and historically significant area of Cardigan, with known remains associated with the medieval Castle and settlement, as well as development of the port and economic prosperity and expansion of the town in the 18th and 19th centuries.
- 8.1.2 There is limited archaeological information for the prehistoric, Roman or early medieval (pre-1086) periods for the area. This does not preclude the fact that remains of this date could exist, but no evidence has as yet been recorded. Potential information on former land use and river courses could survive in waterlogged palaeo-environmental deposits, where seeds, pollen or insect remains could survive within the estuarine silts providing an indication of past environments.
- 8.1.3 Cardigan Castle, the town walls and much of the road layout of Cardigan was developed in the medieval period and still survive today. The area of St Mary's was first developed in the medieval period and the banks of the Afon Teifi could have been utilised at this time to provide access to the river with timber jetties or wharfs, the remains of which could survive within the waterlogged estuarine silts. The site of a possible earlier bridge crossing running from the Gloster Row slipway to the south across the Teifi has been mooted, as yet unproved, and possible evidence for this could survive in the area, again including preserved timbers.
- 8.1.4 The post-medieval period became prosperous for Cardigan, culminating in the large scale development of the port in the 18th and early 19th centuries. The majority of archaeological and historical remains in the area relate to this, including the stone wharfs, quays and warehouses along the banks of the Afon Teifi. It is only in the later 19th century that the southern bank of the Afon Teifi to the east of Cardigan Bridge becomes developed, with reclaimed ground being built up to allow the construction of the Whitland and Cardigan Railway and associated station and goods shed.
- 8.1.5 In the later 20th century the water front areas have been partially redeveloped and the former confluence of the Mwldan and Teifi being reclaimed. Quay Street car park is built after this date and the course of the Afon Mwldan controlled through sluices and man-made channels.
- 8.1.5 In the Afon Mwldan / Cambrian Quay area, the scheme will run along the surviving river front of Cambrian Quay, a grade II listed building. Any works here will need listed building consent and should be designed to cause minimal impact upon the structure or its appearance. The Quay Street car park area is reclaimed ground as is much of the east bank of the Afon Mwldan. Where groundworks will be shallow (less than 1m) it is unlikely that significant archaeological remains will be encountered, but they may be exposed, damaged or destroyed where deeper.
- 8.1.6 For the north bank of the Afon Teifi the land is almost entirely formed of wharfs developed in the later 18th and 19th centuries, which are of historical significance. The scheme will include large areas of a tidal flood wall, which will be between 1.0m and 1.9m in height, with a substantial footing. The excavation of the footings could expose, damage or destroy archaeological remains at depth. The design of the finished wall will need to consider the impact on the setting of surrounding designated archaeological and historical features (Scheduled Ancient Monuments,

Listed Buildings, Registered Parks and Gardens). NRW have already been in consultation with Cadw regarding what would be considered acceptable in terms of the finish of the wall. It is intended that the Cilgerran slate stone used in the existing wall along The Strand will be reclaimed and reused to face the wall in order that it fits in with the recently renovated Cardigan Castle and Castle Green House and also Cardigan Bridge.

- 8.1.7 The North Bank of the Afon Teifi scheme could also encounter archaeological remains associated with the St Mary's Street Foundry and former river crossings near the slipway on the end of Gloster Row.
- 8.1.8 For the South Bank of the Afon Teifi, the scheme will almost totally run through land that was reclaimed during the latter part of the 19th century. The area has been developed and redeveloped throughout the 20th century. The likelihood of encountering significant archaeological remains in this part of the scheme is considered low, although slightly higher at its western end behind the Castle Inn / Jewson's Yard. The proposed earthwork bund is unlikely to cause any setting issues to the surrounding designated archaeological and historical features.

8.2 Archaeological Mitigation

- 8.2.1 Further archaeological mitigation will be required for the proposed Cardigan Tidal Flood Alleviation Scheme. Pre-commencement works could include evaluation and recording within the area of the St Mary's Street Foundry site on the southern side of The Strand. Archaeological trenching could be undertaken along the route of the proposed tidal flood wall covering the width of the proposed footings, to record any surviving archaeological remains within the route. Recording of the upstanding walls could also be undertaken at this time. Any such works would need to take into account health and safety considerations of working in close proximity to the upstanding walls. If significant remains were encountered a detailed scheme of excavation may need to be implemented.
- 8.2.3 Where the works will alter any surviving wharfs, including the Grade II Listed Cambrian Quay, an appropriate scheme of initial building recording may be required. Such works would need to take into account the nature of the estuarine silts on the southern sides of the wharfs and tidal conditions.
- 8.2.4 For the majority of the proposed Tidal Flood Alleviation Scheme archaeological mitigation would need to be in the form of an archaeological watching brief during initial groundworks associated with construction. This could be targeted at areas with higher archaeological potential, such as along the Strand, the area of St Mary's Street Foundry (assuming it has not already been excavated), in the area of the Gloster Row slipway, the western end of the southern route adjacent to Bridgend and also in the area of the possible location of St Julian's Church. Intermittent watching briefs could be carried out in other areas of the scheme.
- 8.2.5 Should the watching brief reveal significant archaeological remains, more detailed schemes of archaeological recording may need to be implemented. A report on and archive of the results would also be necessary. The decision regarding the requirement for any further archaeological works at the site, whether prior to or following planning permission lies with Ceredigion County Council, following advice from their archaeological advisors (Planning Services at Dyfed Archaeological Trust). Such decisions or recommendations will be based on the findings of this desk-based assessment.

9 SOURCES

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Cartographic

John Wood Map of Cardigan 1834

St Dogmaels Parish Tithe map of 1838

Cardigan Parish Tithe map 1846

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**PROPOSED TIDAL FLOOD ALLEVIATION SCHEME,
CARDIGAN, CEREDIGION:
ARCHAEOLOGICAL DESK-BASED ASSESSMENT 2015
DYFED ARCHAEOLOGICAL TRUST**

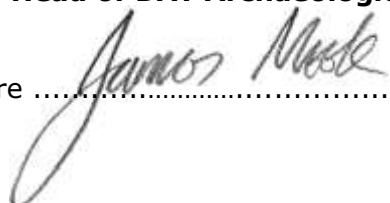
**RHIF YR ADRODDIAD / REPORT NO. 2015/08
RHIF Y DIGWILLIAD / EVENT RECORD NO. 107904**

**Mawrth 2015
March 2015**

Paratowyd yr adroddiad hwn gan / This report has been prepared by

James Meek

Swydd / Position: **Head of DAT Archaeological Services**

Llofnod / Signature  Dyddiad / Date 19/03/15

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith
This report has been checked and approved by

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.
on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position:

Llofnod / Signature Dyddiad / Date

Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau
sydd gennych ar gynnwys neu strwythur yr adroddiad hwn

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

