CPAT Report No. 1622

Prestatyn Coastal Flood Defence Scheme, Denbighshire

Desk-based Assessment

YMDDIRIEDOLAETH ARCHAEOLEGOL CLWYD-POWYS

CLWYD-POWYS ARCHAEOLOGICAL TRUST

Client name:	JBA Consulting
CPAT Project No:	2335
Project Name:	Central Rhyl & Prestatyn Flood Defence Schemes
Grid Reference:	SJ 0334 8264 to SJ 0690 8406
County/LPA:	Denbighshire
Planning Application:	N/A
CPAT Report No:	1621
HER Enquiry No:	E6418
Event PRN:	140268
Report status:	Final
Confidential until:	30 November 2019

Prepared by:	**Checked by:**	**Approved by:**
		
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13 November 2018	14 November 2018	15 November 2018

Bibliographic reference:

Jones, N. W., 2018. Prestatyn Coastal Flood Defence Scheme, Denbighshire: Desk-based Assessment. Unpublished report. CPAT Report No. 1622

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The Clwyd-Powys Archaeological Trust is a Registered Organisation with the Chartered Institute for Archaeologists

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Summary

A desk-based assessment has been undertaken by the Clwyd-Powys Archaeological Trust in connection with proposals for a coastal flood scheme at Prestatyn in Denbighshire.

The assessment has identified a small number of heritage assets along the foreshore and coastal edge which could be affected by such as scheme. These include two aircraft crash sites, two ship wrecks and, perhaps most significantly, a series of peat and sediment deposits relating to prehistoric land surfaces which were submerged by rising sea-levels.

The assessment concludes that further stages of investigation would be required in order to define further the extent, significance and potential impacts on heritage assets.

Crynodeb

Bu Ymddiriedolaeth Archaeolegol Clwyd-Powys yn cynnal asesiad wrth ddesg mewn cysylltiad â chynigion ar gyfer cynllun rheoli llifogydd arfordirol ym Mhrestatyn yn Sir Ddinbych.

Mae'r asesiad wedi nodi nifer fach o asedau treftadaeth ar hyd y blaen traeth ac ymyl yr arfordir y gallai cynllun o'r fath effeithio arnyn nhw. Mae'r rhain yn cynnwys dau safle damweiniau awyrennau, dau longddrylliad ac, yn anad dim o bosibl, cyfres o ddyddodion mawn a gwaddodion yn ymwneud ag arwynebau tir cynhanesyddol a foddwyd wrth i lefel y môr godi.

Daw'r asesiad i'r casgliad y byddai galw am gyfnodau ymchwilio pellach er mwyn diffinio ymhellach graddau, arwyddocâd ac effeithiau posibl ar asedau treftadaeth.

1 Introduction

1.1. The Clwyd-Powys Archaeological Trust (CPAT) was invited by JBA Consulting to conduct a desk-based assessment in connection with proposals for a new coastal flood defence scheme at Prestatyn, Denbighshire (Fig. 1; SJ 0334 8264 to SJ 0690 8406).

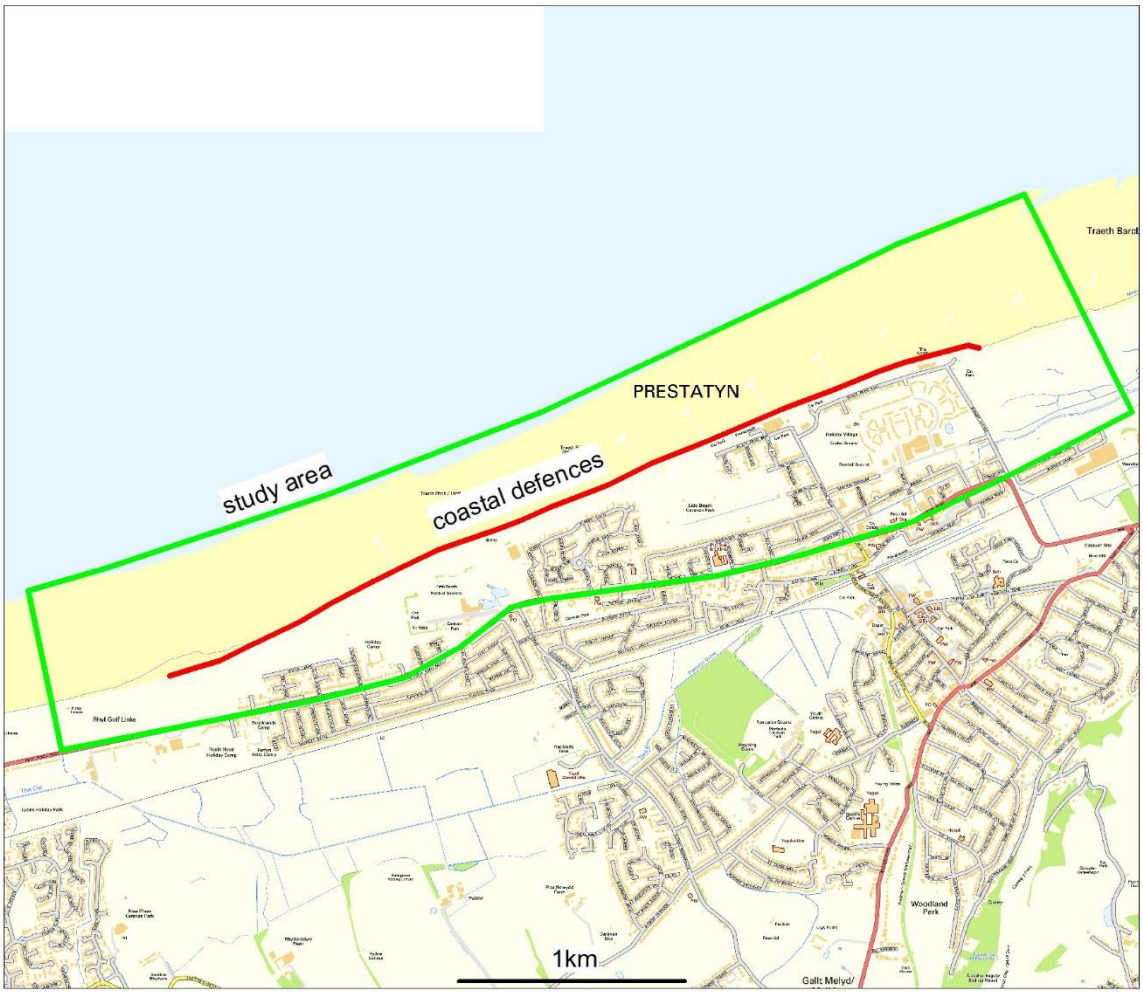

Fig. 1 Location of the proposed coastal defence scheme at Prestatyn

2 Methodology

2.1. The assessment consisted of a desk-based study of readily available primary and secondary sources in order to provide a historical framework for any surviving archaeological remains. This included relevant records held at the following repositories: the regional Historic Environment Record (HER), maintained by CPAT in Welshpool; the National Monument Record (NMR), maintained by RCAHMW in Aberystwyth; the National Library of Wales, Aberystwyth; Flintshire Record Office, Hawarden; Denbighshire Record Office, Ruthin.

2.2. The study area has been defined to incorporate the whole of the foreshore within the area of the proposed new coastal defences, together with an inland buffer, the extent of which is designed to assist in determining potential visual impacts.

3 Sources of Information & Guidance

3.1. Cultural heritage is deemed to include the complete range of man-made features that have been introduced into the landscape from the Palaeolithic, more than two hundred and fifty thousand years ago, up to and including the 20th century. Some of these features will be visible as upstanding remains on the ground; others will be buried and only become apparent during ground disturbance, whilst others may be objects that have been discarded, lost or deliberately deposited. Some will have an archaeological interest and importance; others will be more historical in their origin. In addition, some natural features will be relevant because of the information they contain; peat bogs, for instance, hold pollen that can throw light on past human activity in the area. Collectively, all these features are known as heritage assets.

3.2. The revised Design Manual for Roads and Bridges (DMRB), Volume 11 Section 3 Part 2, HA 208/07 (August 2007), though not specifically focused on developments of this nature, provides a suitable, general framework for assessing the cultural heritage. The approach to the cultural heritage which it promotes, although designed for road developments, is relevant as a methodology for the proposed development and has been adopted here. The relevant sections relating to determining the value of assets and the magnitude and significance of potential impacts is reproduced in Appendix 2.

3.3. The desk-based assessment was undertaken with reference to the principles and methods for assessing heritage assets laid out in the *Standard and Guidance for Archaeological Desk-based Assessments* (2014, revised 2017) produced by the Chartered Institute for Archaeologists (CIfA), the regulatory body for the profession.

Administration

3.4. At a national level, it is Cadw, the historic environment service within Welsh Government, which holds the remit for the cultural heritage resource. Another national body, Natural Resources Wales, has a particular interest in historic landscapes.

3.5. At a regional level, the cultural heritage resource is monitored by the Heritage Sections of the regional archaeological trusts. The Clwyd-Powys Archaeological Trust (CPAT) act as archaeological advisers to Denbighshire County Council.

3.6. While the broad concern of all these bodies is with the preservation of the cultural heritage, there are inevitably differences in emphasis between regional and national organisations, and in the laws and regulations that govern the ways in which they operate.

3.7. The legislative framework for the historic environment in Wales was revised by The Historic Environment (Wales) Act 2016. The 2016 Act amended the Ancient Monuments and Archaeological Areas Act 1979 and the Planning (Listed Buildings and Conservation Areas) Act 1990. It extended the definition of scheduled

monuments and enhanced their protection, as well as making changes to the process of scheduled monument consent. Changes were also made to the protection of listed buildings. The 2016 Act also provided for a statutory register of historic landscapes, a statutory list of place names, and imposed a statutory duty on Welsh Ministers to compile and maintain Historic Environment Records (HERs).

3.8. Chapter 6 of Planning Policy Wales was revised and re-issued in November 2016. Technical Advice Note 24: The Historic Environment (TAN 24) came into force on 31 May 2017, and replaced previous Welsh Office Circulars 60/96 Planning and the Historic Environment: Archaeology; 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas; and 1/98 Planning and the Historic Environment: Directions by the Secretary of State for Wales.

3.9. The revised Design Manual for Roads and Bridges (DMRB), Volume 11 Section 3 Part 2, HA 208/07 (August 2007), though not specifically focused on developments of this nature, provides a suitable, general framework for assessing the cultural heritage. The approach to the cultural heritage which it promotes, although designed for road developments, is relevant as a methodology for the proposed development and has been adopted here.

3.10. Welsh Government's (2017) *Heritage Impact Assessments in Wales* sets out the general principles to consider when planning changes to historic assets and applying for listed building, conservation area and scheduled monument consent. This document, together with Cadw's (2011) *Conservation Principles for the Sustainable Management of the Historic Environment in Wales*, provides guidance on understanding historic assets, their significance and assessing potential impacts on them. The results of a heritage impact assessment should be summarised in a heritage impact statement and this process must be adopted in all cases where your proposals require listed building consent or conservation area consent.

3.11. At a local level the Denbighshire Local Development Plan 2006-2021 was adopted in 2013. The theme of 'Valuing Our Environment' is concerned with the protection and enhancement of those assets, both natural and man-made, that make up Denbighshire's unique environment. Policy VOE 1 states that 'The following areas will be protected from development that would adversely affect them. Development proposals should maintain and, wherever possible, enhance these areas for their characteristics, local distinctiveness, and value to local communities in Denbighshire: … Sites of built heritage; and Historic Landscape, Parks and Gardens.' Policy VOE 3 - Pontcysyllte Aqueduct and Canal World Heritage Site, states that 'development which would harm the attributes which justified the designation of the Pontcysyllte Aqueduct and Canal as a World Heritage Site and the site's Outstanding Universal Value will not be permitted.'

The categorisation and conservation of the cultural heritage resource

3.12. The cultural heritage resource is not a single body of equally significant assets, but an infinitely complex set of individual assets, the number of which increases and alters in form and relationships on a continual basis. They range in importance from internationally significant sites to features of minor and even negligible value. Those perceived to be of greater importance are categorised by designation (statutory) or

registration (which may be statutory or non-statutory), while those of lesser importance remain undesignated.

Setting

3.13. Planning Policy Wales (9th edition, 2016) identifies the desirability of preserving the setting of a World Heritage Site, a nationally important ancient monument (whether scheduled or unscheduled), a listed building, a Conservation Area and a site on the Register of Historic Parks and Gardens in Wales. This desirability will be a material consideration when assessing the potential impact of a development proposal on the historic environment. Recent guidance published by Welsh Government (2017) in *Setting of Historic Assets in Wales* defines the setting of a historic asset as including 'the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive, negative or neutral contribution to the significance of an asset. Setting is not itself a historic asset, though land within a setting may contain other historic assets. The importance of setting lies in what it contributes to the significance of a historic asset. The setting of a historic asset can also include less tangible elements. These may include function, sensory perceptions or historical, artistic, literary and scenic associations'.

4 Historical Background

4.1. This section provides a brief summary of the archaeology and history of the study area and its immediate surrounds, to enable the findings of the assessment to be placed in a wider context.

Prehistoric Era (10,000BC – AD 43)

4.2. During the Mesolithic Liverpool Bay was a dynamic and constantly changing landscape. Soils within the bay area would have been thin and immature during the Early Holocene, but as they developed, woodland would have colonised the areas previously occupied by pioneering vegetation. As sea-level increased the lowest areas would have been affected by salinity, and the area as a whole was transformed from dry-land to areas of fen, brackish vegetation, reed swamps and saltmarsh (Fitch and Gaffney 2011, 96).

4.3. When early Mesolithic activity took place at Rhuddlan *c* 7600 cal BC, sea level was at about 9m below Ordnance Datum, thus the main coast was about 10km to the north (see Fig. 2). By the time a Mesolithic mattock (PRN 33099) was deposited at Splash Point, Rhyl (*c* 5400 cal. BC) marine/estuarine influence was lapping at the edge of a boulder clay island or promontory at Rhyl and the estuary extended up the Vale of Clwyd probably to St Asaph. Splash Point was therefore at one side of the mouth of the extensive Clwyd estuary. Further east, around Prestatyn, lithic artefacts, together with the find of a skeleton known as 'Prestatyn Woman', indicate that Mesolithic/Neolithic activity covered an extensive area, perhaps 3km by 800m along the wetland edge, within which there were a number of distinct foci (Bell 2007, 308-9). Small-scale excavations at Nant Hall Road, Prestatyn, have revealed important evidence for settlement during the Mesolithic and Neolithic, between about 4,200-

2,500 BC, associated with shell middens, indicating the exploitation of coastal resources.

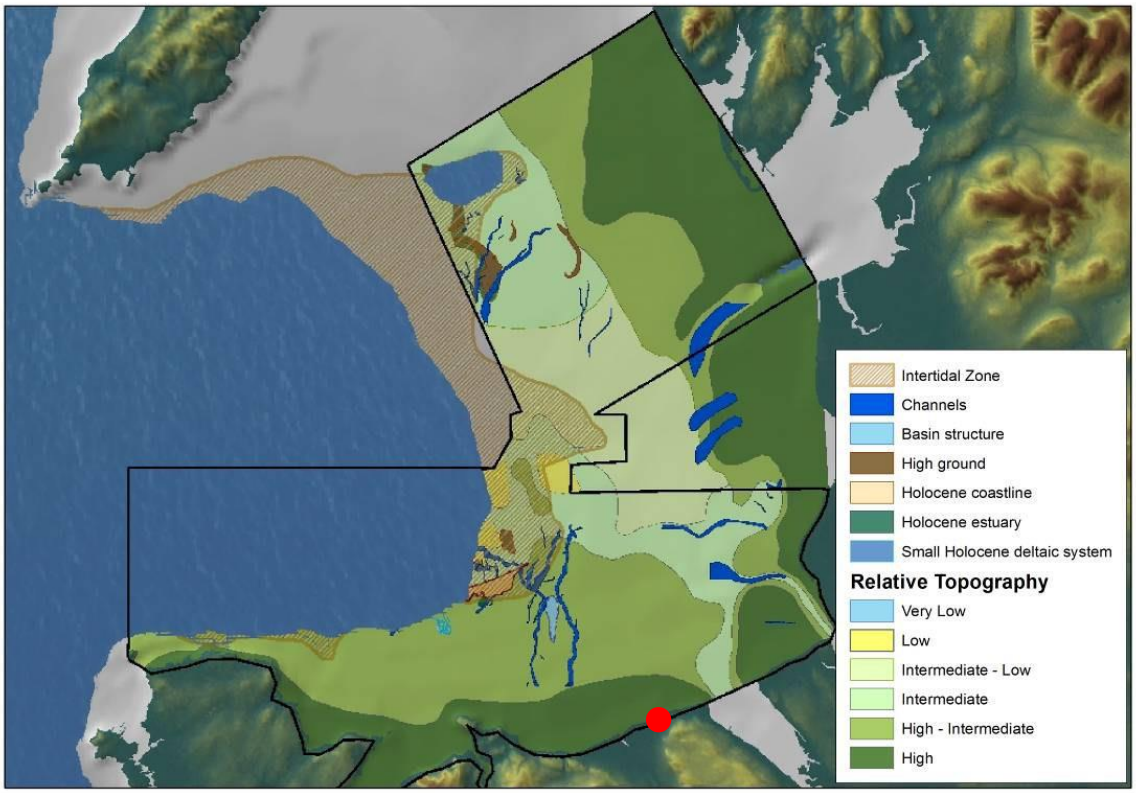

Fig. 2 Liverpool Bay in the Mesolithic, with Prestatyn marked in red (after Fitch and Gaffney 2011, fig. 59)

4.4. A survey of the foreshore between Rhyl and Prestatyn in September 2014 identified disparate evidence for exposed peat and/or clayey peat deposits, associated with former land surfaces, since inundated. Four small exposures were noted, each associated with the presence of runnels which were roughly parallel with the sea defences. Each exposure has only a thin exposed face on the seaward side, but continued beneath the sand towards the shore. All of the four deposits were visibly no more than 150mm in thickness at their exposed edges (Weigel 2015). To the east of Prestatyn, around the mouth of the Prestatyn Gutter, chert artefacts have been identified on the foreshore (Smith 1924), while in 2006 small exposures of grey Holocene clay were identified at the foot of the shingle beach where it gives way to a level sandy foreshore. The date of this sediment is at present unknown but it is of significance because the sediment surfaces were marked by the footprint-tracks of a bird and a two-toed animal (Bell 2007, 308).

Fig. 3 One of the peat exposures identified in 2014 (Weigel 2015, plate 5)

Roman Period (AD 43 – 410)

4.5. A pre-Roman and Roman settlement at Melyd Avenue, Prestatyn, was excavated during the 1980s and produced evidence for occupation from the 1st or 2nd century BC until the later 3rd or 4th century AD, including bronze workshops and a bath-house (Blockley 1989). The site was located inland, but close to the Prestatyn Gutter, which may have been used for transport and trade.

Medieval Period (410 - 1500)

4.6. Very little is known of the origins of the medieval predecessor of the present town. Although Prestatyn is mentioned in the Domesday Survey of 1087, the location of the early settlement is uncertain. It seems most probable that the settlement lay in the vicinity of the castle (PRN 102226) which, according to Soulsby, was already standing before the time of the Domesday Survey. The castle is reputed to have been 'erected at a very early period by the native British inhabitants of the district' and its construction is sometimes ascribed to Llywelyn ap Seisyllt in the early 11th century; Cathcart-King, however, describes it as an English castle.

4.7. There is also little evidence for the medieval settlement, although is possible that it lay on the line of the modern High Street.

Post-medieval and Modern Periods

4.8. Prior to the development and reclamation of the foreshore initiated by H. D. Pochin of Bodnant in the late 1800s, Prestatyn was no more than a small village of cottages straggling up the High Street. In 1833, it is described by Lewis as a hamlet, which has 'some vestiges of an ancient castle on an elevated spot called Plas Prestatyn in a meadow below the mill'. Like Meliden, the area around the settlement was highly cultivated and richly productive of all types of grain, but particularly wheat.

4.9. There was a short-lived alkali works along the Prestatyn Gutter (PRN 26568-26570), the only visible remains of which are low earthworks associated with a track approaching a landing stage.

4.10. The town developed as a tourist resort following the arrival of the Chester and Holyhead Railway in 1848. It was known particularly for the holiday camps which developed at the rear of the dunes during the early 20th century, including a Warrington Summer Camp (NPRN 132172), Pontins (NPRN 300218) and Prestatyn Sands (NPRN 2300218).

5 The Baseline Assessment

5.1. Details of designated and undesignated heritage assets within the study area are provided in Appendix 1.

Designated and Registered Heritage Assets within the Study Area

5.2. The only designated heritage assets within the study area are two aircraft crash sites, listed in Table 1. There are no registered heritage assets.

5.3. All military aircraft crash sites in the United Kingdom, its territorial waters, or British aircraft in international waters, are controlled by the Protection of Military Remains Act 1986. Under this act it is an offence to tamper with, damage, move, or unearth any remains without a licence from the Ministry of Defence.

Table 1: Aircraft Crash Sites within the Study Area.

NPRN	Name	NGR
515564	Supermarine Spitfire IIA P7692	SJ0578884047
515851	Supermarine Spitfire I K9994	SJ0556683929

NPRN 515564 Supermarine Spitfire IIA P7692

5.4. The Spitfire was one of 1000 delivered to the RAF by Castle Bromwich Aircraft Factory between June and July 1941. The aircraft flew into a target and crashed on Prestatyn Beach on 26 July 1943. It seems likely that the wreckage was recovered.

NPRN 515851 Supermarine Spitfire I K9994

5.5. The Spitfire was one of a first production batch of 310 spitfires delivered between July 1938 and April 1939. It hit the sea during a forced landing at Prestatyn on 8 June 1941. It is not recorded whether the wreckage was recovered.

Undesignated Assets

5.6. The assessment has identified 16 undesignated assets within the Study Area, two of which are ship wrecks. These are listed in Table 2 and their distribution shown in Fig. 5.

Table 2: Undesignated Assets within the Study Area.

PRN	Name	Period	NGR
17103	Rhyl foreshore submerged landscape	Prehistoric	SJ023824
26568	Prestatyn Alkali Works Trackway	Modern	SJ07138365
26569	Prestatyn Alkali Works Landing Stage (site of)	Modern	SJ07138370
26570	Prestatyn Alkali Works Engine House (site of)	Modern	SJ07138365
103580	Green Lanes Boundary Stone	Post-medieval	SJ0378582526
103581	Ffrith Beach Golf Course boundary stone (site of)	Post-medieval	SJ0370582818
132172	Prestatyn, Warrington Summer Camp	Modern	SJ0485583150
NPRN	**Name**	**Period**	**NGR**
97343	Calvary Church, Victoria Road, Prestatyn	Post-medieval	SJ0539283087
300218	Prestatyn Holiday Camp; Tower Beach Holiday Village, Pontins	Modern	SJ0520783281
300219	Prestatyn Sands Holiday Camp, Barkby Avenue, Prestatyn	Modern	SJ0655583721
415291	Bastion Road Football Ground	20th Century	SJ0633483542
415292	Prestatyn Cricket Club	19th Century	SJ0631483644
416241	Open-air Swimming Baths, Prestatyn	20th Century	SJ0600083713
416369	Earthworks of Farms and Fields, Rhyl Sea Front	Post-medieval	SJ0293782440
518558	Flint (Wreck)	Post-medieval	SJ0646584362

525173	Ranger (Wreck)	Post-medieval	SJ0720384453

5.7. The Prestatyn foreshore, at its western end, contains evidence for former land surfaces (PRN 17103) which were inundated during the prehistoric period as a result of rising sea-levels after the last glaciation. The peat and clay deposits, which are mostly associated with the Rhyl foreshore, contain the remains of substantial trees, as well as human and animal footprints and are likely to preserve significant palaeoenvironmental evidence.

5.8. While these deposits are known to extend into the study area, and similar, thin deposits of peat have been identified further east within the study area, an analysis of data produced as part of assessments relating to off-shore wind farms (Fitch and Gaffney 2011) suggests that the potential for surviving archaeological deposits at Prestatyn is perhaps medium (Fig. 4), although further assessment would be required to elucidate this further.

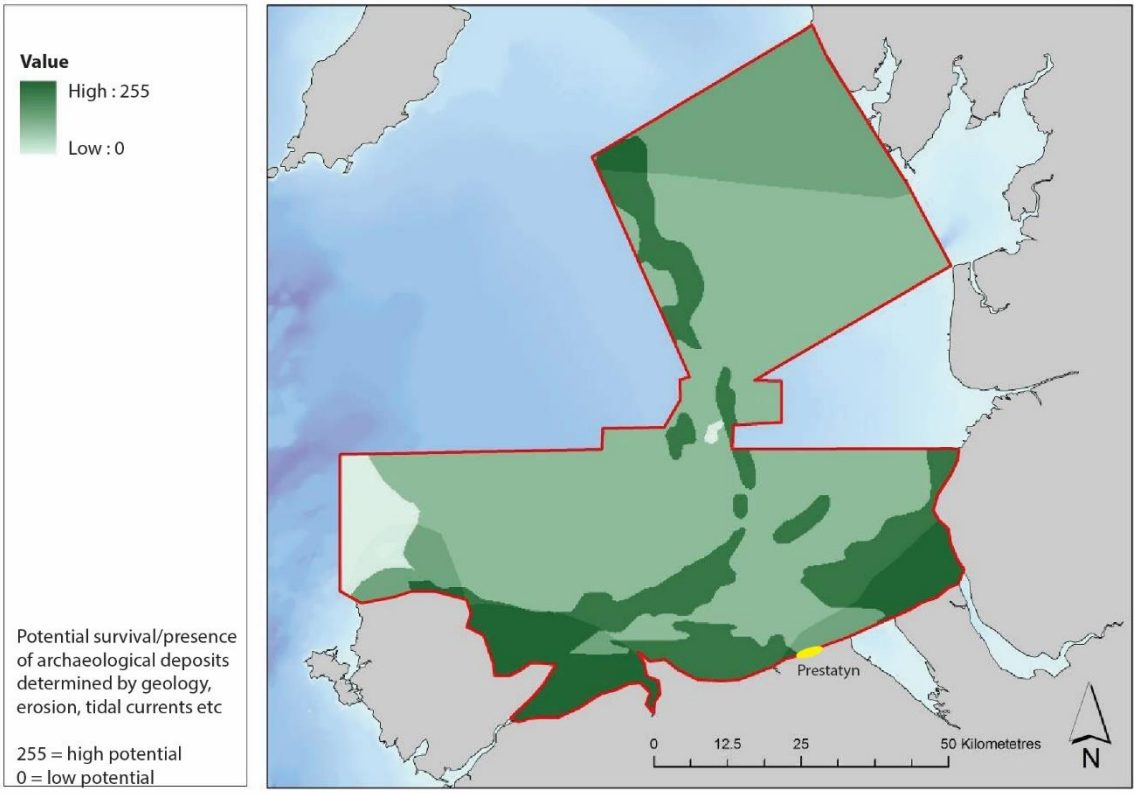

Fig. 4 Potential survival of archaeological deposits (combination of tidal stress, erosion, geology etc) within the Liverpool Bay (after Fitch and Gaffney 2011, fig. 53)

6 Potential Impacts

6.1. At this stage it is only possible to discuss potential direct and indirect impacts in general terms. A more detailed assessment would be required as part of an Environmental Impact Assessment, which would inform an Environmental Statement. The potential direct impacts on known heritage assets are summarised in Table 3.

6.2. The desk-based assessment has identified potential direct impacts on a series of deposits (PRN 17103) on the foreshore which are associated with sea level changes since the last glaciation and have the potential to contain significant palaeoenvironmental evidence, as well as artefactual and other evidence for human activity from the Mesolithic to the Bronze Age.

6.3. Two aircraft crash sites, both spitfires, are recorded, although it is not clear whether any of the wreckage remains on the foreshore.

6.4. The foreshore also includes the site of two undesignated ship wrecks which may have significant structural remains, although their locations have not been confirmed.

6.5. The proposals also have the potential to impact on earthworks associated with a post-medieval field system which survives as earthworks on the golf course, elements of which may extend onto the foreshore.

Table 3 Potential direct impacts on known heritage assets

NPRN/ *PRN*	**Name**	**Value**	**NGR**
17103	Rhyl foreshore submerged landscape	High	SJ023824
515564	Supermarine Spitfire IIA P7692	Unknown	SJ0578884047
515851	Supermarine Spitfire I K9994	Unknown	SJ0556683929
416369	Earthworks of Farms and Fields, Rhyl Sea Front	Low	SJ0293782440
518558	Flint (Wreck)	Unknown	SJ0646584362
525173	Ranger (Wreck)	Unknown	SJ0720384453

6.6. The proposals are unlikely to have any long-term visual impacts on listed buildings within the town, or the Prestatyn Conservation area, although short-term, temporary impacts could arise, depending on the location of site compounds or other infrastructure during the construction period.

7 Further Stages of Assessment

7.1. A programme of field investigation and assessment would be required to determine whether any wreckage survives relating to the two aircraft crash sites, the exact location and survival of the two ship wrecks, and the extent and potential deposits relating to inundated prehistoric landsurfaces.

7.2. The results from archaeological mitigation associated with a programme of coastal defence works at Borth, Ceredigion (Meek 2012), provide a useful strategy in relation to potential further stages of assessment at Prestatyn.

7.3. The conclusions from the work at Borth were that 'the method of construction for the coastal defence structures was not one that was ideal for archaeological recording. The excavation of the footings of the structures was undertaken using a number of large machines to enable rapid excavation and laying of foundations between the receding and incoming tides. This window of opportunity was smaller depending on the height of the tides and reduced the further to the west the works were undertaken. The excavated areas were also often unstable and filled with water.' The situation at Prestatyn is likely to be very similar.

7.4. Following on from the work at Borth discussions were held with the Archaeological Coastal Forum Group, which included representation from Cadw, the National Trust, RCAHMW, the four Welsh Archaeological Trusts and UWTSD, which resulted in suggestions as to how archaeological mitigation might be implemented on similar intertidal developments on areas of peat beds and submerged forests in the future. It was recognised, however, that in some cases this methodology for mitigation may not be possible.

- The presence of peat beds and submerged forests should be identified at the outset of the project;
- Coastal monitoring should be undertaken over a period of at least 6 months to observe and define possible extents of peat beds and submerged forests, with the results feeding in to the design of the development or coastal defences scheme;
- In all cases where intertidal development is proposed, it is recommended that some form of detailed geophysical survey of the sea bed is carried out at the early design stage of identify wreck sites or the presence of fish traps.
- Where possible, structures to be constructed on the foreshore should be designed to avoid impacting upon these deposits, or minimising any impacts;
- Prior to the commencement of development a scheme of archaeological evaluation of the deposits should be undertaken. This could include observation of the exposed surfaces of any peat beds and initial assessment of tree stumps (identification of species and assessment for suitability for dendrochronology dating). A number of test pits should be excavated through the peats, where they will be impacted upon, to obtain palaeoenvironmental evidence for assessment. Radiocarbon dates should be obtained at this stage;
- Should significant remains be identified, such as artefacts or footprints, a scheme of detailed recording should then be implemented. This would include further

palaeoenvironmental sampling. Alternatively this information may indicate that redesign of the proposals would be appropriate;

- If few or no significant remains are identified then a scheme of intermittent watching brief may be appropriate;
- Full assessment of the palaeoenvironmental and dendrochronology samples should then be undertaken, preferably before or during the construction phase in order that if highly significant information is revealed, further sampling can be undertaken; and
- Full reporting and archiving of all results.

7.5. A programme of further assessment should be considered as part of an Environmental Impact Assessment, to assist with developing the design and construction programme for the new coastal flood defences, the results from which should also be incorporated into an Environmental Statement.

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Cartographic Sources

Map of the Common Marshes and Waste Lowlands in the several parishes of Abergele, St. Asaph,

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1815 Rhuddlan Enclosure Award CROH QS/ED/14

1819 Ordnance Survey Surveyors' Drawing 319

1839 Rhuddlan Tithe Survey

1839 Meliden Tithe Survey

1842 Enclosure of Rhyl Marsh, 1842 CROH NT/M/10-11

1870 Meliden Enclosure Award 1870 CROH QSIDE/27

1871 Ordnance Survey 1st edition 25" map, Flintshire 1.10

1871 Ordnance Survey 1st edition 25" map, Flintshire 1.11

1889 Ordnance Survey 2nd edition 25" map, Flintshire 1.10

1889 Ordnance Survey 2nd edition 25" map, Flintshire 1.11

9 Archive deposition Statement

9.1. The project archive has been prepared according to the CPAT Archive Policy and in line with the CIfA *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives guidance* (2014). The archive is entirely digital and will be deposited jointly with the Historic Environment Record, Clwyd-Powys Archaeological Trust and the National Monuments Record (RCAHMW).

Appendix 1: Gazetteer of Heritage Assets

Designated Assets

NPRN 515564 Supermarine Spitfire IIA P7692

The Spitfire was one of 1000 delivered to the RAF by Castle Bromwich Aircraft Factory between June and July 1941. The aircraft flew into a target and crashed on Prestatyn Beach on 26 July 1943. It seems likely that the wreckage was recovered.

NPRN 515851 Supermarine Spitfire I K9994

The Spitfire was one of a first production batch of 310 spitfires delivered between July 1938 and April 1939. It hit the sea during a forced landing at Prestatyn on 8 June 1941. It is not recorded whether the wreckage was recovered.

Undesignated Assets

PRN 17103 Rhyl foreshore submerged landscape

Peat and boulder clay along Rhyl foreshore from which Neolithic and Bronze Age finds have been recovered. New borings indicate the presence of a lower peat which may indicate a former coastline some 100-400m south of the present coast. Upper peat may be dated by analogy to c.4000-3000 BC (late Mesolithic/Early Neolithic).

PRN 26568 Prestatyn Alkali Works Trackway

Embanked linear feature running roughly N-S, linking the old Alkali works with a landing stage on the Prestatyn Gutter. Consists of two parallel banks, the western c.5m wide and the eatsern c.3m wide, with a flat area c.7m wide in between. Both banks are c.1.8m high and flat-topped with concrete surfacing exposed in places. Other earthworks exist to W, but their date, function andform was impossible to determine.

PRN 26569 Prestatyn Alkali Works Landing Stage (site of)

Site of landing stage for Prestatyn Alkali Works, located on Prestatyn Gutter.

PRN 26570 Prestatyn Alkali Works Engine House (site of)

Site of an engine house depicted on OS 1st ed. 1872, presumably associated with former Alkali Works. Little trace remains although there is a substantial set of earthworks within the field. Most of these are of no obvious form, but the site of the engine house may be indicated by a raised platform c.15 x 20m, with a lower area c.14 x 18m along the south side.

PRN 103580 Green Lanes Boundary Stone

Site of boundary stone.

PRN 103581 Ffrith Beach Golf Course boundary stone (site of) PRN 132172 Prestatyn, Warrington Summer Camp

Site of boundary stone.

NPRN 97343 Calvary Church, Victoria Road, Prestatyn

No further details available.

NPRN 300218 Prestatyn Holiday Camp; Tower Beach Holiday Village, Pontins

The holiday camp in Prestatyn was built by the London Midland and Scottish Railway Co. in 1939. The main buildings were in classic 1930s style, featuring rounded building ends, steel framed windows and porthole windows. Chalets showed an early form of sectionalised building method. Requisitioned as a military camp until after the Second World War, it reopened as a holiday camp in the early 1950s. The site was demolished and cleared between February and March 2001.

NPRN 300219 Prestatyn Sands Holiday Camp, Barkby Avenue, Prestatyn

Believed to date from the 1950s; the two-storey terraces of chalets have been rebuilt since. Site currently run by Pontin's.

NPRN 415291 Bastion Road Football Ground

Bastion Road Football Ground in Prestatyn opened in 1969 as a replacement for Prestatyn AFC's former ground at the rear of the Central Beach Club (Grid Ref: SJ0607883496) which was sold off in the 1960s for housing development. The latter site is now Bastion Close. Remaining very much an open field until the 1990s, Bastion Road has developed significantly in the last twenty years. In the mid-1990s, the club erected its first covered shelter - this was, in fact, several bus shelters taken from the newly renovated central bus station. A modern stand was not erected until the summer of 2008 along with a press box and other features required for promotion to the Welsh Premier League. In addition to the covering for spectators, a bar was installed in 1995.

NPRN 415292 Prestatyn Cricket Club

Cricket has been played at or near this site, the present home of Prestatyn Cricket Club, since the club's formation in 1895. The pavilion was constructed in 1971.

NPRN 416241 Open-air Swimming Baths, Prestatyn

The open-air swimming baths at Prestatyn opened in 1923. They were later refurbished and reopened, in 1960, as the Royal Lido. Further renovations in the 1980s, which included the transformation of the open-air baths into an indoor swimming pool, resulted in the present-day Nova Centre. It remains in use as a leisure centre today.

NPRN 416369 Earthworks of farms and fields, Rhyl sea front

A series of linear banks and ditches representing the remains of post-medieval farms and fields were visible as earthworks on the Rhyl seafront Golf Links. Photographed during RCAHMW aerial reconnaissance on 27 July 2011.

NPRN 518558 Flint (Wreck)

The Flint was a wooden flat built at Chester in 1810. Technical and configuration specifications are given as 42 tons burthen; 60.2ft length x 13ft breadth x 5.7ft depth; 1 deck, 1 mast, flat rigged with standing bowsprit, square sterned, carvel built. The vessel was owned by William Thomas of Bagillt, innkeeper; Nathaniel Piere of Bagillt, butcher; and the Eyton family (John Pryse Eyton, Edward Eyton, Robert Eyton and James Eyton) coal proprietors, solicitors and

lead merchants. The flat's port of Chester registry (39 in 1836) was closed with the annotation 'Lost off Prestatyn 1851'.

NPRN 525173 Ranger (Wreck)

The Ranger was a wooden schooner built at Topsham in 1827. Technical and configuration specifications are given as 44 tons burthen; 50ft length x 14.8ft breadth x 7.3ft depth in hold; 1 deck, 2 masts; schooner rigged with a standing bowsprit, square sterned, carvel built, framework and planking of wood. At the time of its loss the vessel was owned by Thomas Murphy of Holyhead. The vessel's Beaumaris Shipping Register entry is closed with the annotation 'Lost near Prestatyn 6 January 1853'.

APPENDIX 2: DMRB Assessment Criteria

Table 1: Definition of Value of Heritage Assets

Very High	World Heritage Sites (including those nominated) Assets of acknowledged international importance • Assets that can contribute significantly to acknowledged international research objectives.
High	Scheduled Ancient Monuments (including those proposed) Undesignated monuments which could potentially be worthy of scheduling Listed Buildings – Grade I, II* and II Registered Historic Landscapes, Parks and Gardens • Undesignated assets that can contribute significantly to acknowledged national research objectives.
Medium	Conservation Areas • Undesignated assets that contribute to regional research objectives.
Low	Undesignated assets of local importance Assets compromised by poor preservation and/or poor survival of contextual associations • Assets of limited value, but with the potential to contribute to local research objectives.
Negligible	• Assets with very little or no surviving cultural heritage interest.
Unknown	• Importance of the asset not ascertained.

The assessment of the magnitude of effect considers the extent to which a heritage asset may be changed or affected by the proposed development through the introduction of new structures or the infrastructure. The thresholds for assessing magnitude of effect are set out in Table 2 which is derived from the DMRB Volume 11 Section 3 Part 2, Annex 5/13, 2007, although in a slightly form for each cultural heritage sub-topic (archaeology, buildings, etc) has its own set of determining factors, which are set out in detail in the DMRB.

Table 2: Definition of Magnitude of Effect

Major	• Changes to most or all of the key cultural heritage elements such that the assets Comprehensive changes to setting • Extreme visual effects
Moderate	Changes to many key cultural heritage elements such that the asset is clearly modified Considerable changes to setting which affect the character of the asset • Visual changes to many key elements
Minor	Changes to key cultural heritage elements such that the asset is slightly altered or different Sight changes to setting • Slight visual changes to a few key elements
Negligible	Very minor changes to cultural heritage elements, or setting • Virtually unchanged visual effects
No Change	• No change

A part of the EIA process is to extrapolate the degree of significance from the predictions of impact. No formal guidance from Welsh government currently exists for the assessment of significance of effects on heritage assets, but the DMRB does provide an alternative. The severity of the effect on heritage assets depends on both the magnitude of effect and the value or importance of the asset, as exemplified in the two tables above. Table 3 illustrates how information on the value of the asset and the magnitude of effect can be combined to arrive at an assessment of the significance of effect. This process ensures consistency in assessing the significance of effect, and serves as a check to ensure that judgements regarding value, magnitude and significance of effect are balanced. While the correlation of these two sets of criteria is a mechanical process, professional judgement provides the reasoned explanation of the rationale behind the conclusions that are drawn. For example, a highly valued heritage asset may require only a limited amount of change to result in an effect that is assessed as moderate or major, whereas a greater magnitude of change is likely to be required to result in equivalent effects on a less sensitive asset.

Table 3: Matrix for assessing significance of direct and indirect impacts on heritage assets

Magnitude of Effect	**Value of Heritage Asset**				
	Very High	**High**	**Medium**	**Low**	**Negligible**
Major	Very Large	Large/ Very Large	Moderate/ Large	Slight/ Moderate	Slight
Moderate	Large or Very Large	Moderate/ Large	Moderate	Slight	Neutral/ Slight
Minor	Moderate/ Large	Moderate/ Slight	Slight	Neutral/ Slight	Neutral
Negligible	Slight	Slight	Neutral/ Slight	Neutral/ Slight	Neutral
No change	Neutral	Neutral	Neutral	Neutral	Neutral

In the context of the EIA Regulations an impact judged to be moderate or greater is deemed to be 'significant'. Any effect which is considered significant under the EIA Regulations is flagged as such in the text of the main report.

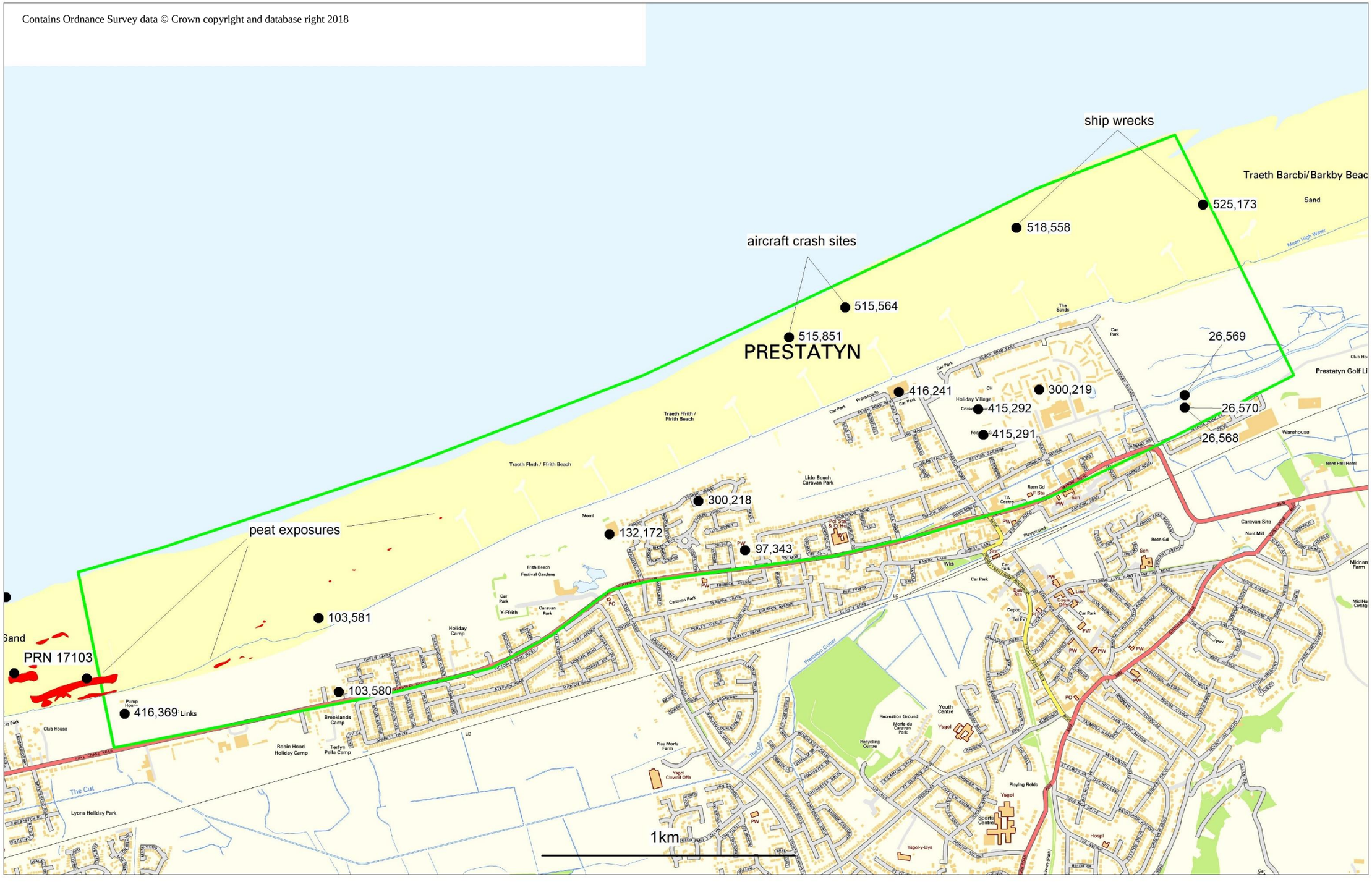

Fig. 5. Heritage Assets within the Study Area, outlined in green