



**LLYR**

# LLYR FLOATING OFFSHORE WIND PROJECT

**Llŷr 1 Floating Offshore Wind Farm**

**Environmental Statement**

**Volume 6: Appendix 9A – Historic Environment Desk-Based  
Assessment**

**August 2024**

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Prepared by: Llŷr Floating Wind Ltd



**FLOVENTIS  
ENERGY**

## Document Status

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## Approval for Issue

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Prepared for         Llŷr Floating Wind Limited  
Approved by         Jay Hilton-Miller

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## Glossary of project terms

Term	Definition
The Applicant	The developer of the Project, Llŷr Floating Wind Limited.
Array	All wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure within the Array Area, as defined, when considered collectively, excluding the offshore export cable(s).
Array Area	The area within which the wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure will be located.
Floventis Energy	A joint venture company between Cierco Ltd and SBM Offshore Ltd of which Llŷr Floating Wind Limited is a wholly owned subsidiary.
Landfall	The location where the offshore export cable(s) from the Array Area, as defined, are brought onshore and connected to the onshore export cables (as defined) via the transition joint bays.
Llŷr 1	The proposed Project, for which the Applicant is applying for Section 36 and Marine Licence consents. Including all offshore and onshore infrastructure and activities, and all project phases.
Marine Licence	A licence required under the Marine and Coastal Access Act 2009 for marine works which is administered by Natural Resources Wales (NRW) Marine Licensing Team on behalf of the Welsh Ministers.
Offshore Development Area	The footprint of the offshore infrastructure and associated temporary works, comprised of the Array Area and the Offshore Export Cable Corridor, as defined, that forms the offshore boundary for the S36 Consent and Marine Licence application.
Offshore Export Cable	The cable(s) that transmit electricity produced by the WTGs to landfall.
Offshore Export Cable Corridor (OfECC)	The area within which the offshore export cable circuit(s) will be located, from the Array Area to the Landfall.
Onshore Development Area	The footprint of the onshore infrastructure and associated temporary works, comprised of the Onshore Export Cable Corridor and the Onshore Substation, as defined, and including new access routes and visibility splays, that forms the onshore boundary for the planning application.
Onshore Export Cable(s)	The cable(s) that transmit electricity from the landfall to the onshore substation.
Onshore Export Cable Corridor (OnECC)	The area within which the onshore export cable circuit(s) will be located.
proposed Project	All aspects of the Llŷr 1 development (i.e. the onshore and offshore components).
Onshore Substation	Located within the Onshore Development Area, converts high voltage generated electricity into low voltage electricity that can be used for the grid and domestic consumption.
Section 36 consent	Consent to construct and operate an offshore generating station, under Section 36 (S.36) of the Electricity Act 1989. This includes deemed planning permission for onshore works.

# **PROJECT EREBUS, FLOATING OFFSHORE WIND DEVELOPMENT, PEMBROKESHIRE: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**



Prepared by DAT Archaeological Services  
For: ITP Energised



# DYFED ARCHAEOLOGICAL TRUST

REPORT NO. 2021-57  
PROJECT NO. 126364

June 2021  
Mehefin 2021

## PROJECT EREBUS, FLOATING OFFSHORE WIND DEVELOPMENT: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT

By

**Philip Poucher MCIfA**



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**PROJECT EREBUS, FLOATING OFFSHORE WIND DEVELOPMENT,  
PEMBROKESHIRE**

**HISTORIC ENVIRONMENT DESK BASED ASSESSMENT**

<b>Client</b>	ITP Energised
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**Event Record No** 126364

<b>Report No</b>	2021-57
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**Project Code** FS20-064

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**PROJECT EREBUS, FLOATING OFFSHORE WIND DEVELOPMENT,  
PEMBROKESHIRE:  
HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

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# **PROJECT EREBUS, FLOATING OFFSHORE WIND DEVELOPMENT, PEMBROKESHIRE**

## **HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

### **EXECUTIVE SUMMARY**

DAT Archaeological Services were commissioned to undertake an Historic Environment Desk Based Assessment on the potential onshore impacts of a proposed offshore wind farm development on the Angle Peninsula in southwest Pembrokeshire.

Assessment has identified a potential impact upon 28 individual historic assets, alongside areas of general archaeological potential, three historic landscape character areas and a Conservation Area. A further potential impact upon the setting of ten designated historic assets has been identified, comprising six Scheduled Monuments and four Listed Buildings. Mitigation measures are proposed to reduce potential impacts.

### **CRYNODEB GWEITHREDOL**

Comisiynwyd Gwasanaethau Archeolegol YAD i gynnal Aseiad Ddesg yr Amgylchedd Hanesyddol ar effeithiau posibl datblygiad fferm wynt alltraeth arfaethedig ar Benrhyn Angle yn ne-orllewin Sir Benfro.

Mae aseiad wedi nodi effaith bosibl ar 28 o asedau hanesyddol unigol, ochr yn ochr ag ardaloedd o botensial archeolegol cyffredinol, tair ardal cymeriad tirwedd hanesyddol ac Ardal Gadwraeth. Nodwyd effaith bosibl arall ar osod deg ased hanesyddol dynodedig, yn cynnwys chwe Heneb Gofrestredig a phedwar Adeilad Rhestredig. Cynigir mesurau lliniaru i leihau effeithiau posibl.

## **1. INTRODUCTION**

### **1.1 Project Proposals and Commission**

- 1.1.1 DAT Archaeological Services were commissioned by ITP Energised, on behalf of their clients, to prepare an Historic Environment Desk-Based Assessment on the proposed installation of a floating offshore wind farm (FLOW) in the Celtic Sea, approximately 44km southwest of the Pembrokeshire coastline, but connecting to a substation on the Angle Peninsula in southwest Pembrokeshire (SM 937 020).
- 1.1.2 The assessment will be used to inform the Cultural Heritage Chapter of the Environmental Statement to accompany the development proposals. The offshore impact upon the Historic Environment is assessed separately. This assessment is concerned with the potential impact of the onshore cable route corridor, the substation at the grid connection point, and ancillary works. The transition point from the off-shore impacts to on-shore impacts is the mean high-water mark.
- 1.1.3 This Historic Environment Desk-Based Assessment provides an indication of the archaeological potential of the development area and highlights possible issues in relation to the impact of the development on the historic environment.
- 1.1.4 The assessment has been a primarily desk-based study of the site area, identifying any known archaeological or historical sites within the site and its environs, identifying potential setting impacts on designated archaeological assets in the vicinity, identifying any historic landscape areas that may be affected by the proposals and assessing the potential for hitherto unknown archaeological remains to be present within the development area. Due to current restrictions related to the Covid-19 outbreak some archive sources have not been consulted, although sufficient information has been gained to provide a comprehensive assessment of the site.

### **1.2 Scope of the Project and Methodology**

- 1.2.1 The scope of the assessment follows the Standard And Guidance For Historic Environment Desk-Based Assessment as laid down by the Chartered Institute for Archaeologists (CIfA 2014). The standard is stated by CIfA as:

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

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

*.....a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the study area, including appropriate consideration of*

*the settings of historic assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.*

- 1.2.3 The desk-based study of the area identifies known archaeological sites within the site and its environs, and assesses the potential for hitherto unknown remains to be present within the proposed development area. This will help inform future decision making, design solutions and potential mitigations strategies, including the potential for further archaeological works.
- 1.2.4 The scope of the report also includes an assessment of the impact on the settings of surrounding designated historic assets, including scheduled monuments, listed buildings, historic landscape character areas, registered parks and gardens and conservation areas. This utilises the best practice guidance in *Setting of Historic Assets in Wales* (2017).
- 1.2.5 The report presents relevant information from a number of sources including:
- Dyfed Archaeological Trust Historic Environment Record data;
  - Map regression exercise using earlier cartographic sources;
  - Available and relevant reports on any archaeological work undertaken in the area that affects the site or its setting;
  - Archive records held at the County Archive, the National Library of Wales (NLW) and the Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW);
  - Aerial photography, satellite imagery and Lidar data;
  - Relevant records held by the developer;
  - Identification of any Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Historic Landscapes, Historic Landscape Character Areas or Conservation Areas within or in the vicinity of the site area (Cadw, DAT, NRW);
- 1.2.6 A Written Scheme of Investigation (WSI) has been produced by DAT Archaeological Services, detailing the methodology to be used in the assessment. This WSI was approved by Dyfed Archaeological Trust – Development Management (DAT-DM), in their capacity as archaeological advisors to the local planning authority (Pembrokeshire County Council, and Pembrokeshire Coast National Park Authority). A search area of 500m from the boundary of the development area was agreed to examine non-designated historic assets. Given the scale of the development a search area of 3km has been used to examine potential impacts upon designated assets in the surrounding landscape, following the criteria suggested within the *Setting of Historic Assets in Wales* (Cadw 2017) and initial consultation with Cadw.
- 1.2.7 For the purposes of planning policy in Wales, the historic environment is defined as:
- All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed* (Welsh Government 2017).

A historic asset is:

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

### 1.3 Abbreviations

1.3.1 All sites recorded on the regional 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 Monument (SM). Listed Buildings (LB). Altitude is expressed to a height above Ordnance Datum (aOD). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

### 1.4 Illustrations

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

### 1.5 Timeline

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

**Table 1: Archaeological and Historical Timeline for Wales**

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

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

## **2. PLANNING POLICIES AND GUIDANCE**

### **2.1 The Historic Environment (Wales) Act**

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

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

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

### **2.2 Planning Policy Wales**

2.2.1 Planning Policy Wales (Ed.11, Feb.2021) sets out the Welsh Government's land use planning policies. Its primary objective is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

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

### **2.3 Technical Advice Note 24: The Historic Environment**

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

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

- 2.3.2 The technical advice note usefully gathers together the selection criteria employed in the designation of scheduled monuments and listed buildings and the registration of historic parks and gardens and historic landscapes.
- 2.3.3. Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic environment assets) is provided by Cadw acting on behalf of Welsh Government.
- 2.3.4 This report will also make reference to other guidance documents published by Cadw, namely: Conservation Principles (March 2011); Heritage Impact Assessment in Wales (May 2017); Managing Historic Character in Wales (May 2017); and Setting of Historic Assets in Wales (May 2017).

## **2.4 Local Policies**

- 2.4.1 The proposed development area lies within both the Pembrokeshire Coast National Park Authority (between the landfall site and the road to Neath Farm) and Pembrokeshire County Council for the remainder of the route.

### ***Pembrokeshire Coast National Park Authority*** (PCNPA)

- 2.4.2 The Historic Environment is subject to the relevant policies and procedures as laid out in the Pembrokeshire Coast National Park Local Development Plan (LDP) (2020).
- 2.4.3 Policy 8 Special Qualities (Strategic Policy) includes the historic environment. The aim of which is "To conserve, enhance and promote the historic environment of the National Park, its archaeological resource, historic buildings and landscapes, parks and gardens".

### ***Pembrokeshire County Council Policies***

- 2.4.4 The Historic Environment is subject to the relevant policies and procedures as laid out in the Pembrokeshire County Council (PCC) Local Development Plan (LDP) (up to 2021) (adopted February 2013). The PCC LDP is also presently under review.
- 2.4.5 The historic environment is referenced throughout the document in numerous policies, emphasising its significance to the county. The main policy references to the Historic Environment are outlined in policy GN.38:

***GN.38 Protection and Enhancement of the Historic Environment:***  
*Development that affects sites and landscapes of architectural and/or historical merit or archaeological importance, or their setting, will only be permitted where it can be demonstrated that it would protect or enhance their character and integrity*

*6.154 Pembrokeshire has a rich and varied historic environment made up of architectural, historical and archaeological features that are integral to its quality and distinctiveness. The historic environment enhances quality of life, forging cultural identity and community cohesion and is a major asset to Pembrokeshire's visitor economy. This policy builds on national policy, to draw attention to the scale and significance of these assets within Pembrokeshire and to protect, preserve and enhance these features and designations. It ensures that Pembrokeshire's historic environment including formally designated sites together with buildings and features of local importance and interest, and their setting, are appropriately protected and enhanced. Development that may detrimentally affect the character or integrity of such areas will not be permitted.*

6.155 *The special qualities of the historic environment can be derived from numerous other factors, in addition to those listed in formal designations, such as the form, scale or grouping of buildings; vistas and visual composition of the townscape/landscape; architectural detailing; building materials; trees and other landscape features. Many of these features make an important contribution to the character and appearance of local communities.*

*Pembrokeshire's towns and villages contain many buildings that are of local importance and which make a significant contribution to the character and quality of the local area.*

*The Council will seek to ensure that necessary change is accommodated without sacrificing the essential integrity, coherence and character of the landscape and will have particular regard to potential developments that, alone or in combination, would have a significant impact on landscapes included in the Register of Landscapes of Historic Interest in Wales.*

6.156 *In assessing development that may affect archaeological remains the Council will take into account:*

1. *Information (including from the Historic Environment Record (HER), held by Dyfed Archaeological Trust) on the character, extent and importance of the remains,*
2. *The extent to which the proposed development is likely to impact upon them,*
3. *The means of mitigating the effect of the proposed development by redesign to achieve physical preservation in situ.*

6.157 *Areas and sites of national significance are protected by national policy including Listed Buildings, Conservation Areas, Scheduled Ancient Monuments, Landscapes of Historic Interest and Historic Parks and Gardens. In addition to national policy adopted Conservation Area Character Appraisals will also be a material consideration when determining planning applications.*

- 2.4.6 The PCC LDP defines cultural heritage (within which it defines the historic environment) as follows:

*Cultural Heritage*

*This encompasses the historic environment, cultural legacy and linguistic heritage. The historic environment includes archaeology, ancient monuments, listed buildings, conservation areas, historic parks, gardens and landscapes and the broad social history that has helped to shape local distinctiveness. Linguistic heritage includes the Welsh language and different dialects, recognising that the linguistic heritage of Pembrokeshire includes both Welsh and English languages, with the Landsker line representing the broad divide between these two traditions. Together the historic, cultural and linguistic heritage form cultural heritage which contributes towards a sense of cultural identity.*

### **3 LOCATION, TOPOGRAPHY AND GEOLOGY**

- 3.1 The proposed development area comprises a largely linear cable route corridor that extends for approximately 10.8km across the Castlemartin peninsula in southern Pembrokeshire. The Milford Haven Waterway runs to the north of the peninsula, the Pembroke River to the east, with the sea to the southwest. The site will run through both the planning jurisdiction of the Pembrokeshire Coast National Park Authority to the west, and Pembrokeshire County Council to the east.
- 3.2 The landfall site for the onshore cable route will be West Angle Bay (SM 852 032). There are currently two options being considered. One would come ashore across the sandy bay and onto the relatively low-lying agricultural land that backs the bay, before turning southward to cross an area of enclosed farmland comprising medium-sized amalgamated rectangular fields of mixed pasture and arable, enclosed by hedgerows with some stone walling present to the west. The route would cross the access road to West Angle Bay. The second option would come ashore to the south of the bay, where the coastline is fronted by a rocky sea cliff. The route would then travel south before turning east, through similar enclosed agricultural land.
- 3.3 From SM 8560 0225 the route takes an east to south-easterly route across an area of large straight-sided fields bounded by embankments and post-and-wire fencing (the former RAF Angle airfield), with smaller semi-regular fields bounded by hedgerows and some stone walling to the east. At around SM 8855 0090 the route crosses the B4319 and B4320 to take a northerly detour around Kilpaison Burrows, an extensive area of vegetation covered sand dunes that back Freshwater West beach. This northerly route runs through an area of regular, straight-sided fenced agricultural enclosures, surrounded by security fencing to enclose an area of oil refineries to the north.
- 3.4 To the east of the burrows/oil refinery land, the route runs to the southeast, crossing the local road to Neath Farm, and running south of Wogaston Farm through an area of medium to large irregular fields, enclosed by hedgerows, and around solar farm arrays.
- 3.5 The route then turns northeast to Wallaston Cross, a meeting of several local roads, and then continues east towards the coast at the mouth of the Pembroke River, and along the northern side of a small stream valley. The proposed substation is located on the northern side of this small valley, close to Lambeeth Farm. The substation would then connect to Pembroke Power Station which lies approximately 700m to the north.
- 3.6 The route climbs gradually to the south of West Angle Bay to approximately 60mOD at which point it turns east to south-easterly and crosses a relatively level landscape with gradual undulations. To the south the ground falls slightly to a rocky sea-cliff edge. To the north the ground falls gradually to the sand, mud and rock foreshore of Angle Bay, cut by small stream channels and valleys. East of Kilpaison Burrows the landscape undulates more sharply, but reaches its highest point of 73mOD at Green Hill Reservoir, immediately north of Wallaston Cross. East of this the land falls away to the mouth of the Pembroke River, which feeds the Milford Haven Waterway to the north, and is flanked by wide tidal mudflats along its western edge. The settlement pattern in the area comprises dispersed farmsteads and dwellings, some in relatively close proximity to one another, linked by a network of local roads, with the B4320 providing the main east – west route across the peninsula. The village of Angle lies on the west side of Angle Bay, laid out in a linear fashion along the road. The small villages, or hamlets, of Rhoscrowther and Pwllcrochan lie to the north

of the route, now largely abandoned due to the development of the adjacent oil refineries. The closest nucleated settlements comprise Pembroke, on the Pembroke River 4.5km to the east, Pembroke Dock, on the south side of the Milford Haven 2.5km to the northeast, and Milford Haven itself, on the north banks of the river 4km to the north. The north coast of the peninsula is now dominated by large oil refineries and Pembroke Power Station, and to the southeast lies the Castlemartin Artillery Range.

- 3.7 The underlying geology of the area is largely split between the rocks of the Milford Haven Group to the south, and more mixed rocks to the north. The Milford Haven Group rocks comprise a wide east-west ridge of interbedded sandstone and argillaceous rocks to the south of a line that runs from East Blockhouse at the western end of the peninsula to just south of Wallaston Cross and the edge of the Pembroke River at the eastern end of the peninsula. North of this line lie bands of conglomerate of the Ridgeway Conglomerate Group, sandstone of the Skrinkle Sandstone Formation, interbedded limestone and mudstone of the Avon Group, and limestone of the Black Rock Subgroup and Gully Oolite Formation. An area of blown sand overlies the bedrock around Kilpaison Burrows midway along the route (BGS viewer). The soil is largely described as freely draining slightly acid loamy soil with a band of fertile freely draining slightly acid but base rich soils extending between East and West Angle Bays, and sand dunes soils extending from the north of Kilpaison Burrows (Soilscapes Viewer).



**Figure 1:** Location of development area (red), showing the proposed development site and the 2km (inner circle) and 3km (outer circle) study areas.

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## 4 DESIGNATED HISTORIC ASSETS

### 4.1 General

4.1.1 A search of data held on several databases was made of historic assets within a 500m search area from the edge of the potential development boundary to fully understand the potential archaeological resources of the development area. This included both designated and non-designated assets. Due to the scale of the proposed development, and as advised during initial discussions with representatives from Cadw, the search area to assess potential impact on designated assets was extended to 3km from the boundary of the proposed development.

### 4.2 Scheduled Monuments (Table 2, Figure 2)

4.2.1 Scheduled Monuments are historic and archaeological sites considered to be of national importance. These sites are given legal protection, and consideration of the impact of development upon these sites and their settings are considerations of the planning process.

4.2.2 There are 28 Scheduled Monuments within the 3km search area surrounding the proposed development site. These Monuments cover a wide range of archaeological sites and periods, from Neolithic monuments to sites still in use during the 2<sup>nd</sup> World War.

4.2.3 To group the Scheduled sites into periods, the earliest site is probably **PE020 Devil's Quoit Burial Chamber**, a funerary monument dating to the Neolithic. This site lies close to the cable route corridor on the edge of Kilpaison Burrows.

4.2.4 There are four sites that are broadly dated to the Bronze Age, all representing burial mounds. These include **PE059 Corston Beacon Round Barrow**, **PE060 Dry Burrows Round Barrows**, **PE064 Wallaston Round Barrows** and **PE525 Round Barrow 400m N of West Orierton**. All four sites are clustered around the B4320 to the southeast of the cable route corridor.

4.2.5 Sites dated to the Iron Age, some potentially also straddling the late Bronze Age or early Romano-British period, are well represented in this area. These sites all represent defended enclosures of various sizes and forms, largely occupying coastal promontories. Along the south coast of the Castlemartin Peninsula lies **PE167 West Pickard Camp** and **PE411 Promontory Fort at Sheep Island**. Along the north coast of the peninsula, fronting Pwllcrochan Flats in front of the oil refineries, lie **PE262 West Pennar Camp**, **PE264 West Popton Camp** and **PE400 Enclosure & Earthworks at Lewiston Hall**. The search area includes one site on the opposite side of the Milford Haven Waterway, **PE416 Promontory Fort on Great Castle Head**. 1.5km to the south of the cable route corridor lies the only inland Iron Age enclosure, **PE245 Kings Mill Camp**.

4.2.6 There is one site that has been radiocarbon dated to the early medieval period. On the south side of West Angle Bay, close to the landfall site for the cable route, lies **PE554 West Angle Bay Early Medieval Settlement**, comprising largely of a former chapel and burial site.

4.2.7 At the other end of the road between West Angle Bay and Angle Bay, lies a cluster of medieval sites within the village of Angle. These include **PE067 Angle Dovecot**, **PE068 The Tower** and **PE069 Angle Castle**, all remnants of the medieval settlement here. To the southwest of the landfall point of the cable route lies the remains of **PE398 Remains of East**

**Blockhouse N of Rat Island**, a small coastal fortification. 1.2km to the north of the cable route corridor the remains of **PE263 Eastington Manor House** lies close to the village of Rhoscrowther. 2km to the south of the cable route corridor **PE166 Castlemartin Castle** overlooks the village of Castlemartin. 3km to the northeast of eastern end of the cable route corridor and substation location, within Pembroke Dock, lies **PE380 Paterchurch Tower, Pembroke Dock**.

- 4.2.8 The next major period of activity comes from the mid-19<sup>th</sup> century, when the Milford Haven Waterway was home to important naval bases and was heavily fortified against potential French invasion. A number of impressive forts were built, including **PE332 South West Dockyard Tower**, and **PE379 Defensible Barracks** within Pembroke Dock, **PE337 South Hook Fort** on the north side of the Haven, **PE333 Chapel Bay Fort** (built slightly later in the late 19<sup>th</sup> century) and **PE446 Fort Popton**, on the south side of the Haven, and **PE334 Stack Rock Fort** within the Haven. PE333 is the closest to the cable route corridor, lying within 500m of a potential landfall point.
- 4.2.9 The area once again became heavily fortified during the Second World War, and the Scheduled sites include **PE570 Bomb stores at West end of Fort Road** (built in the 1930s in anticipation of conflict) and **PE494 Gravel Bay anti-aircraft battery**.
- 4.2.10 Of these Scheduled Monuments, six lie within 500m of the proposed development area, these comprise PE020 Devil's Quoit Burial Chamber, PE064 Wallaston Round Barrows, PE167 West Pickard Camp, PE333 Chapel Bay Fort, PE494 Gravel Bay anti-aircraft battery and PE554 West Angle Bay Early Medieval Settlement.

**Table 2:** Scheduled Monuments within the 3km search area

SM No.	Name	Period	Site Type	Grid Ref
PE020	Devil's Quoit Burial Chamber	Prehistoric	Chambered tomb	188655 200841
PE059	Corston Beacon Round Barrow	Prehistoric	Round barrow	193315 199904
PE060	Dry Burrows Round Barrows	Prehistoric	Round barrow	194879 199712
PE064	Wallaston Round Barrows	Prehistoric	Round barrow	192609 200366
PE067	Angle Dovecot	Medieval	dovecote	186607 203075
PE068	The Tower	Medieval	Tower	186608 202995
PE069	Angle Castle	Medieval	Building (Unclassified)	186552 202864
PE166	Castlemartin Castle	Prehistoric	Enclosure	191513 198419
PE167	West Pickard Camp	Prehistoric	Promontory Fort - coastal	186249 201032
PE245	Kings Mill Camp	Prehistoric	Promontory Fort - inland	192417 198812

PE262	West Pennar Camp	Prehistoric	Enclosure	193369 203035
PE263	Eastington Manor House	Medieval	Manor	190083 202530
PE264	West Popton Camp	Prehistoric	Promontory Fort - coastal	190723 203792
PE332	South West Dockyard Tower	Post Medieval/Modern	Tower	195518 203606
PE333	Chapel Bay Fort	Post Medieval/Modern	Fort	185878 203638
PE334	Stack Rock Fort	Post Medieval/Modern	Fort	186434 204946
PE337	South Hook Fort	Post Medieval/Modern	Fort	187034 205473
PE379	Defensible Barracks, Pembroke Dock	Post Medieval/Modern	Barracks	196066 203082
PE380	Paterchurch Tower, Pembroke Dock	Medieval	Tower	195763 203558
PE398	Remains of East Blockhouse N of Rat Island	Medieval	Blockhouse	184117 202777
PE400	Enclosure & Earthworks at Lewiston Hall	Prehistoric	Promontory Fort - inland	192114 203101
PE411	Promontory Fort at Sheep Island	Prehistoric	Promontory Fort - coastal	184518 201797
PE416	Promontory Fort on Great Castle Head	Prehistoric	Promontory Fort - coastal	184812 206031
PE446	Fort Popton (Curtain Walls and Gun Emplacements only)	Post Medieval/Modern	Fort	189338 203773
PE494	Gravel Bay anti-aircraft battery	Post Medieval/Modern	Battery	188235 200774
PE525	Round Barrow 400m N of West Orielton	Prehistoric	Round barrow	195126 199359
PE554	West Angle Bay Early Medieval Settlement	Early Medieval	Cemetery	185181 203032
PE570	Bomb stores at West end of Fort Road	Modern	Magazine	195555 203548

### 4.3 Listed Buildings (Table 3, Figure 2)

- 4.3.1 Listed Buildings are buildings and structures of national importance given legal protection by being placed on a 'List' of Buildings of Special Architectural or Historic Interest. Buildings on the List are given one of three grades which denote their level of importance (Grade I, II\* & II), Grade I being the highest. A listed building may not be demolished, extended, or altered without special permission from the local planning authority.
- 4.3.2 There are 119 listed building within the 3km search area surrounding the proposed development site, largely as this search area includes part of Pembroke Dock with its concentration of surviving 19<sup>th</sup> century structures,

but also includes clusters of listed buildings within Angle and around West Orielton amongst others.

- 4.3.3 Six of these sites are Grade I listed, including Pele Tower (LB 5923) and Sailors' Chapel (LB 17147) within Angle, the Church of Decumanus (LB 6591) and The Tower at Eastington Manor House (LB 6594) within and near Rhoscrowther, the Church of St. Michael (LB 5948) near Castlemartin, and Paterchurch Tower (LB 14341) in Pembroke Dock. 26 sites are grade II\* listed, the remaining sites are all grade II listed.
- 4.3.4 None of these sites lie within the cable route corridor. Seven sites lie within 500m of the corridor. These include Chapel Bay Fort (LB 17165) on the coast 500m from the cable route, Nos 34 & 35 Angle Road (LB 17159 and LB 17160 respectively) towards the west end of Angle, 300m from the potential cable route, the Windmill adapted as machine-gun post (LB 5926) 410m to the north of the proposed cable route, the Rocket Cart House and Lookout Tower (LB 17166 & LB 17167 respectively) alongside the B4320 160m to the north of the proposed cable route, and the War Memorial (LB 17162) alongside the B4319 180m to the south of the proposed cable route. All of these buildings are Grade II listed.

**Table 3:** Grade I and Grade II\* buildings within 3km, along with Grade II buildings within 500m.

LB No.	Name	Grade	Grid Reference	Summary
5922	Dovecote	II*	186616 203083	15 <sup>th</sup> century dovecot
5923	Pele Tower	I	186618 203004	Late medieval pele tower, known as the Old Rectory.
5926	Windmill adapted as machine-gun post	II	186692 201953	Windmill, possibly 18 <sup>th</sup> century, adapted for use as a machine-gun post in 1941
5948	Church of St. Michael	I	191070 198889	13 <sup>th</sup> century church and tower, restored in the 19 <sup>th</sup> century.
5949	The Old Vicarage (remains)	II*	191110 198887	Ruinous structure with medieval base, used as cottage and school in the 19 <sup>th</sup> century.
6436	Former Guard House	II*	196046 203644	Guard House, circa 1840-5
6441	The Old Storehouse	II*	196036 203751.	Main dockyard storehouse, circa 1822
6448	The Defensible Barracks	II*	196078 203092	Barracks built in 1841-6 for the Royal Marines
6454	No 1, The Terrace (Formerly Listed Together With The Commodore Club),	II*	196049 203529	House built 1818 (designed by Edward Holl) for the Fleet Surgeon, with police accommodation at one end.
6455	No 2, The Terrace, The Dockyard	II*	196074 203511	Pair of houses built 1817-8 (designed by Edward Holl) for the Master Shipwright and Clerk of the Cheque of Royal Dockyard.
6458	Former Dockyard Chapel	II*	196292 203493	Georgian classical chapel, built as part fo a formal layout with The Terrace, 1844.

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6573	Orielton Field Centre	II*	195464 199044	Great country house of the Owen family, built 1656, rebuilt 1734, remodelled in 1810, east front changed in later 19 <sup>th</sup> century.
6587	Former Church of Saint Mary	II*	192060 202667	14 <sup>th</sup> to 15 <sup>th</sup> century former parish church. Restored in 1865 and 1897. Closed 1982.
6591	Church of St Decumanus	I	190406 202211	Medieval parish church, possible 13 <sup>th</sup> century nave and chancel, 14 <sup>th</sup> century SE chapel, tower and N transept. Restored mid to late 19 <sup>th</sup> century.
6594	The Tower at Eastington Manor House	I	190108 202520	18-19 <sup>th</sup> century farmhouse attached to a medieval tower. Site of 15 <sup>th</sup> century house of the Perrot family
6600	Dovecote and attached Courtyard Ranges of outbuilding Farm Buildings E of West Orielton	II*	195303 198973	17 <sup>th</sup> or 18 <sup>th</sup> century dovecot
14341	Paterchurch Tower	I	195772 203566	Medieval tower associated with medieval mansion.
14353	The South West Dockyard Tower	II*	195528 203615	Defensive tower built 1848-51 for the Board of Ordnance, known as Martello Towers
14371	Dry-Moat Walls	II*	196078 203091	Associated with the defensible barracks
14372	Barracks Platform	II*	196078 203091	Associated with the defensible barracks
14377	Dockyard Gates	II*	196038 203534	Formal dockyard entry, designed by Edward Holl, 1817-8
14378	Piers and Lodges (formerly listed with Dockyard Wall)	II*	196026 203539	Formal dockyard entry, designed by Edward Holl, 1817-8
14379	The Port Hotel (formerly listed as the Commodore Club)	II*	196008 203542	House built in 1832-4 for the Captain-Superintendent of the Royal Dockyard.
14380	Long Stable Range to South	II*	196001 203514	Stable range for above
14381	No 3, The Terrace, The Dockyard	II*	196085 203509	Pair of houses built 1817-8 (designed by Edward Holl) for the Master Shipwright and Clerk of the Cheque of Royal Dockyard.
14393	The Graving Dock including Bollards and Capstans	II*	195850 203933	Mid-19 <sup>th</sup> century dry dock.
17147	Sailors' Chapel	I	186650 202935	15 <sup>th</sup> or 16 <sup>th</sup> century single-cell chapel. Restored in the mid-19 <sup>th</sup> century.
17149	The Almshouse	II*	186572 202873	Ruinous late-medieval first floor hall. Reputedly a nunnery, used as almshouse in the 18 <sup>th</sup> century.
17159	34	II	186008 203003	Pair of cottages, improved in circa 1905 by the squire of Angle, Col. RWB Morehouse
17160	35	II	185996 203003	Pair of cottages, improved in circa 1905 by the squire of Angle, Col. RWB Morehouse

17162	War Memorial	II	188367 200741	Memorial to WWI.
17165	Chapel Bay Fort	II	185926 203616	Fort built in the late 19 <sup>th</sup> century in mass concrete.
17166	Rocket Cart House	II	187928 201319	Rocket Cart House built late-19 <sup>th</sup> century as a base for the cliff rescue team. In use until the 1930s.
17167	Lookout Tower	II	187928 201319	Associated with the Rocket Cart House.
17168	Fort Popton	II*	189459 203759	Palmerston fort, built 1859-64. Part of inner line of defence with Hubberston Fort. Occupied by RAF in WWII. Used as BP HQ from 1957, extensively renovated. Closed 1985. Now a field studies research centre.
17169	Thorne Island Fort	II*	184653 203834	Fort built 1852-4. Part of outer line of defence with Dale Point. Sold in 1932 for use as a hotel.
82592	Stack Rock Fort	II*	186445 204954	Fort built 1850-71. Initially to complement Thorn and Dale Point forts, enlarged in the 1860s.. Abandoned after 1918.
82593	The defensible barracks at South Hook Fort	II*	187056 205568	Fort built as part of the second phase of defences, the associated barracks built 1863-5. Sold in 1936, incorporated in Esso Refinery after 1960, becoming derelict.

#### 4.4 Registered Historic Landscapes (Figure 3)

- 4.4.1 Registered Historic Landscapes are landscapes of historic interest included on the Register of Landscapes of Historic Interest in Wales (Cadw 1998). The landscape boundaries and associated details have been created as non-statutory advice to assist decision makers and landscape managers to help ensure that the historic character of the landscape is sustained, and that where change is contemplated, it is well-informed.
- 4.4.2 Some sections of the proposed cable route corridor lie just within the Milford Haven Waterway Landscape of Outstanding Historic Interest (HLW(D)3). This area covers the Milford Haven Waterway and the Cleddau rivers as far as Haverfordwest to the north and Pembroke through to Carew to the east.
- 4.4.3 In order to better characterise the historic environment of the Historic Landscape it has been sub-divided into a number of Historic Landscape Character Areas (HLCA). These areas do not necessarily confine themselves to the illustrated limits of the registered Historic Landscape. The proposed cable route corridor crosses through four such areas.
- 4.4.4 To make landfall the proposed cable route will cross **HLCA 352 West Angle to Freshwater West Coastal Strip**. This comprises a strip of high, hard rock sea cliff topped by a narrow band of moor, scrub and rough ground, distinct from the cultivated land to the rear. The archaeology along this strip is varied, although military sites are prominent, including the 16<sup>th</sup> century East Blockhouse, 19<sup>th</sup> century forts, early 20<sup>th</sup> century gun battery and 2<sup>nd</sup> World War searchlight batteries and gun emplacements. Iron Age coastal enclosures and prehistoric flint working sites are also a noted feature.
- 4.4.5 One of the proposed landfall sites will take the cable route through part of **HLCA 342 Angle**. This area lies along an open valley, with cliffs and beach

at the west end, marsh, mud flats and sheltered bay at the east end. The area is centred on the linear village of Angle, with its mix of medieval, 19<sup>th</sup> and 20<sup>th</sup> century architecture. The village has the appearance of a planned post-conquest (late 11<sup>th</sup>/early 12<sup>th</sup> century) settlement, surrounded by an open field system that extends as far as the prehistoric 'Ridgeway' to the south. The village contained three high-status centres, the church on the north side of the road, 'The Castle' (a late-medieval hall house) on the south side, and The Hall to the east. North Studdock and Hubberton are post-medieval farmsteads. The area remained largely agricultural since the medieval period, although its strategic location has led to the Chapel Bay Fort to the north from the 1860s. The medieval architecture of church, hall-house, tower-house and dovecote, clusters around the east end of the village, a Georgian tradition predominating elsewhere. Some outlying farms also exist, with a caravan site at West Angle and Chapel Bay fort on the northern edge of the area. The area includes the harbour area to the east, and West Angle Bay, although formal quayside structures are few. Agricultural land surrounds the village, with distinctive strip fields, part of a former medieval open field system. Boundaries are largely hedged-topped banks, with some walling. Woodland lies on the steep coastal slopes.

- 4.4.6 The majority of the route, including the site of the substation, passes through **HLCA 341 Rhoscrowther**, an agricultural area typified by large dispersed farms with regularly shaped fields. Dwellings are largely 19<sup>th</sup> century, modern buildings are not prominent features except in use as farm buildings. Fields are typically divided by hedges on banks, although mortared walls are prominent at the western end of the area, and mortared stone cylindrical gateposts are also a feature. Deciduous woodland is a feature, particular on coastal slopes and inland valleys. The area is traversed by a possible prehistoric route known as the 'Ridgeway', largely followed by the current B4320, with a number of prominent Neolithic and Bronze Age archaeological remains alongside it. Some of the north-south field boundary that are co-axial to the ridgeway may also be prehistoric in origin. The ridgeway remained a prominent landscape feature, and appears to have formed a boundary between early medieval commotes, this area lying within commote of Manorbier, and the later medieval manor of Castlemartin. Rhoscrowther, Pwllcrochan and Angle were all local centres during the medieval period, and many of the farms in the area began as vills mentioned in accounts of the 13<sup>th</sup> to 15<sup>th</sup> centuries, including Neath and Wallaston. Strip fields, a common medieval form of agriculture, are recorded around Newton Farm. Windmills appear to have formed a prominent part of the landscape, with at least three medieval examples recorded. In the late 16<sup>th</sup> century the Castlemartin manor passed from the Herbert Earls of Pembroke, to the Lords of Stackpole. By the late 17<sup>th</sup> century it had passed to the Campbells, sold to the Owens of Orierton in 1824, and then passed on to the Mirehouses of Angle. Estate maps suggest much of the settlement and field pattern was established by the late 18<sup>th</sup> century. The establishment of the large oil refineries in the 1960s lead to the abandonment of much of Rhoscrowther and Pwllcrochan.
- 4.4.7 Part of the route passes through the distinctive area of **HLCA 343 Angle Airfield**. The area currently comprises farmland with straight-sided boundaries of embankments and hedgerows. This farmland is reclaimed from the 2<sup>nd</sup> World War airfield, and the outline and route of the main runways is still visible in the field layout and use. Prior to the establishment of the airfield in 1942 the landscape was one of large fields, part of the post medieval farms of North Studdock and Hubberton.

#### **4.5 Registered Historic Parks & Gardens (Figure 3)**

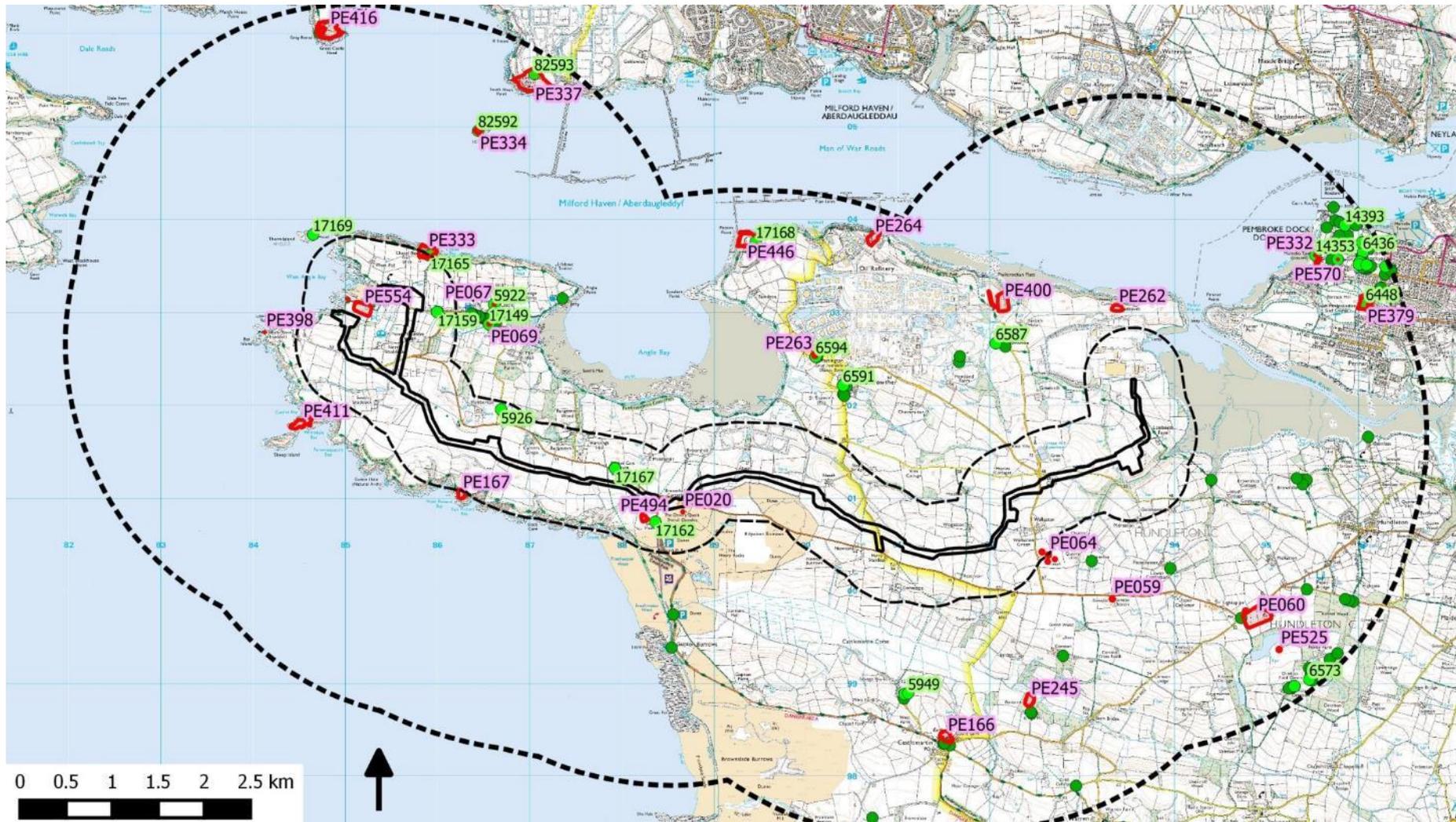
- 4.5.1 Parks and gardens of special historic interest in Wales are included on a Register of Historic Parks and Gardens, designed to provide comprehensive information to assist decision makers to help protect and preserve essential features of these parks and gardens, and enable their significance and character to be protected through the planning system. The Register will become statutory in late 2021, but this does not impose new legal restrictions or change the consent regime.
- 4.5.2 There is one registered historic park and gardens within the 3km search area. The grade II listed Orielson (PGW (Dy) 38(PEM) lies on the edge of the search area to the southeast, with the parkland extending to approximately 2km from the site of the proposed substation. This comprises an area of 19<sup>th</sup> century parkland, but likely earlier in established as it contains a number of 17<sup>th</sup> and 18<sup>th</sup> century features and structures. It may be associated with the second manor built on the site in 1656 for Hugh Owen.

#### **4.6 Conservation Areas (Figure 3)**

- 4.6.1 Conservation Areas are designated to preserve and enhance the special character of areas of architectural or historic interest. The purpose of designating a Conservation Area is to provide the Planning Authority with an additional measure of control over an area that they consider to be of special historic or architectural value.
- 4.6.2 Angle Conservation Area lies within the search area, encompassing the village of Angle, surrounding strip field remnants, Chapel Bay Fort and surrounds, and both Angle Bay and West Angle Bay. The northernmost of the two proposed landfall corridors at West Angle Bay would pass through part of this Conservation Area.
- 4.6.3 The historic core of Angle was designated as a Conservation Area in 1997. A wider area was subsequently examined and proposed, adopted in 2011. The Conservation Area Proposals (2011) sets out the historical background to Angle, identifies the main characteristics of the Area, prominent features and vistas. A medieval layout survives, as do some prominent medieval structures, although the bulk of streetscape is 19<sup>th</sup> century in character. A number of prominent viewpoints of the Conservation Area have been identified. These include views from Chapel Bay fort southwards, but otherwise comprise views from the elevated ridge to the south of the area, looking north. The westernmost of these viewpoints lies on the local road to East Block House, to the south of North Studdock Farm and North Studdock Cottage, the remaining viewpoints to the east of this all lie to the north of the proposed cable route corridor, with views northward.
- 4.6.4 Individual features within the Conservation Area have been mapped, including features in close proximity to the proposed cable route corridor. Important open spaces are identified, which includes West Angle Bay car park and adjoining field, through which one proposed cable route runs. The hedgerow along the road boundary to West Angle Bay is also highlighted in a long list of prominent trees, and a section of stone wall along this boundary is highlighted as a local feature of interest. Two buildings of local significance close to the proposed cable route are noted, these include Woodfield/Beach House on the south side of the road to West Angle Bay,

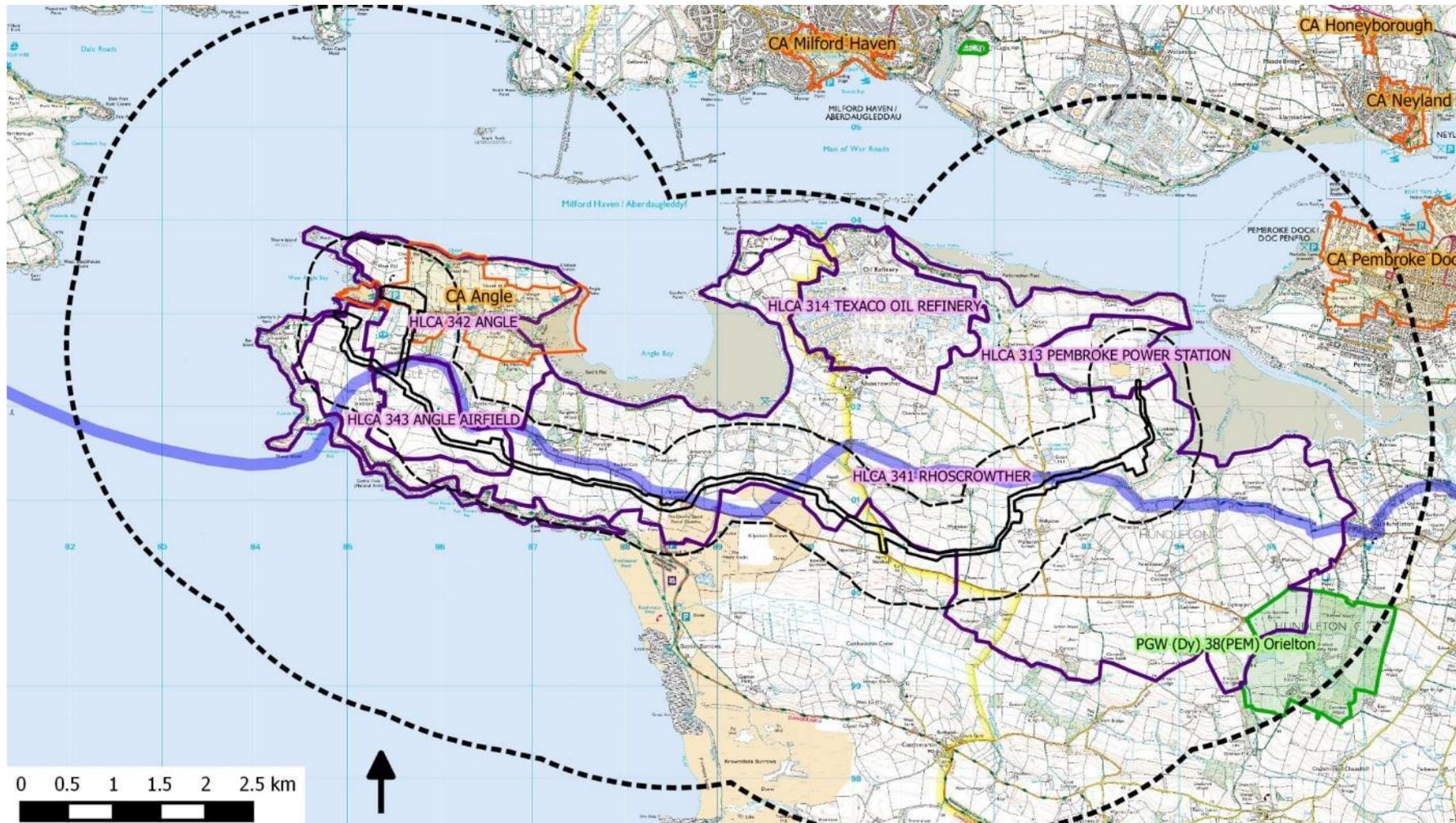
and the former brickworks chimney nearby. A further two key views are noted, one from West Angle Bay car park looking west towards Dale Point, St Anne's Head, Musselwick sands and Thorne Island, and another from the north side of the bay looking south towards the headland of West Angle.

- 4.6.5 There is one further Conservation Area within the 3km search, Pembroke Dock. This area lies around the historic core of Pembroke Dock, some 2.3km to the northeast of the proposed cable route corridor and on the opposite side of the mouth of the Pembroke River.



**Figure 2.** Map showing Scheduled Monuments (in red) and Listed Buildings (in green) within the 3km search area (outer line), and 500m search area (inner line) for reference. Only Grade I and II\*, and LB within 500m, are labelled.

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**Figure 3.** Map showing Historic Landscape Character Areas (in purple), with the southern boundary of the registered Historic Landscape (in blue), Historic Parks and Gardens (in green) and Conservation Areas (in orange) within the 3km search area (outer line), and 500m search area (inner line) for reference.

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## **5 NON-DESIGNATED HISTORIC ASSETS (Figures 4-6)**

### **5.1 General**

- 5.1.1 A search of data held by the Dyfed Archaeological Trust Historic Environment Record (HER) and other databases was made within a 500m radius area around the proposed development.
- 5.1.2 The HER records 201 assets within the search area. Twelve assets are recorded within, or adjoining the red line boundary of the proposed development itself (detailed in subsequent section 7.1). The National Monuments Record (MNR) records a number of sites also recorded on the HER, but includes an additional 10 sites.
- 5.1.3 The following information is laid out chronologically to provide a brief archaeological and historical background for the development area and its environs for each period, along with the relevant HER entries pertaining to that period. This section describes known archaeological remains, and highlights archaeological potential, providing a background for the categorisation in Section 7.1.

### **5.2 Palaeolithic & Mesolithic (Table 4)**

- 5.2.1 There are no sites of a Palaeolithic date within the search area. The closest such sites come from deposits within limestone caves around Pembroke, which is not a particular feature of this development area.
- 5.2.2 There are 11 sites of Mesolithic, or potential Mesolithic date recorded within the search area. All these sites relate to finds of worked flint, including some tools and implements, along with waste flakes, indicative of flint working sites. Many of these sites have not been closely located, but they are likely to be largely located along the coastline, with a concentration of sites within Kilpaison Burrows. The number of these sites indicates a relatively active landscape during the Mesolithic period, when groups are likely to be moving through the landscape, engaged largely in hunting and gathering. Their coastal concentration is potentially a skewed indication of the distribution of such sites, with these areas generally being more accessible to chance discovery. Recent development works are beginning to uncover similar sites inland, such as at Great Nash, near Llangwm in Pembrokeshire (Day and Meek, 2016), and at Haverfordwest (Poucher 2017).

### **5.3 Neolithic and Bronze Age (Table 4)**

- 5.3.1 10 of the Mesolithic flint findspots mentioned above may also be Neolithic in date, a lack of detail on some of the flint artefacts makes the distinction between the two periods difficult to be certain about. Alongside this there are a further three sites of Neolithic date. Arguably the most significant of these is the Devil's Quoit Chambered Tomb (PRN 3071), lying within Kilpaison Burrows, within 60m of the red line development boundary. This site, also protected as a Scheduled Monument (PE020), is the remains of a burial chamber, and may have been an important focus of funerary and ritual activity. To the southwest the remains of a stone axe of Neolithic date has been recovered (PRN 3073), with a similar object also recovered from near Angle windmill (PRN 3098). It is unclear how these chance finds and the burial site fit into the general landscape during this period, but a raised potential for Neolithic archaeological sites is likely in their localities.

- 5.3.2 During the Bronze Age there is an apparent concentration of funerary and ritual monuments along the 'Ridgeway', a route roughly followed by the present B4320 through this area. This is visible within the search area, with concentrations at Kilpaison Burrows, Wallaston and Lambeeth Farm. At Kilpaison a burial mound (PRN 3079) was excavated in the 1920s, thought to be of early Bronze Age construction, but with secondary burials dating to the middle and late Bronze Age. Further burial mounds lie to the east, beyond the search area, and a standing stone (PRN 7591) of potentially similar date lies to the northwest, close to the Devil's Quoit chambered tomb. At Wallaston another collection of burial mounds (PRN 3245) lie clustered on gentle north-facing slopes. These sites appear better preserved, and are protected as Scheduled Monuments (PE064). The final collection within the search area lies close to Lambeeth Farm (PRNs 48371 & 11694). These refer to a pair of burial mounds also excavated in the 1920s, but their precise location is unclear as no visible trace of them remains.
- 5.3.3 The presence of these burial mounds suggests a relatively well-used landscape during the Bronze Age. The route of the proposed development is unlikely to pass through particular locations generally favoured for the location of similar burial mounds, but there is a raised potential for further associated remains, particularly burnt mounds around local water sources, and potentially settlement sites in the area. There are two additional records of burnt mounds that are likely to be Bronze Age in date. These mounds are collections of burnt stone and charcoal, often associated with sites where water is being heated. One lies at Middlehill (PRN 3074), another at Neath Bridge (PRN 3289).

#### **5.4 Iron Age (Table 4)**

- 5.4.1 There are three sites of Iron Age date within the search area, located at either end of the red line boundary. At the west end two sites are recorded near West Angle Bay (PRNs 35019 & 99104). One lies to the north of the bay (PRN 35019), an actively eroding area defined by a defensive bank and ditch. The second lies on the south side of the bay (PRN 99104), with a more substantial ditch defining the site, although much has since been lost to the sea. These sites fit into a wider landscape of defended coastal locations, as seen in the Scheduled Monuments within a wider search area (see Section 4.2), found in rocky coastal locations around the Milford Haven Waterway.
- 5.4.2 The best preserved site within the 500m search area lies at the east end (PRN 3244), near Lambeeth Farm and close to the site of the proposed substation. The site overlooks a small stream valley to the south, with a curving bank and ditch protecting the northern side, although this is denuded through regular ploughing.
- 5.4.3 Despite the increased evidence of other prehistoric activity in this area, the presence of Iron Age activity appears relatively confined in the locality, with localised areas of increased potential around the landfall locations of West Angle Bay, and in the area of the substation at Lambeeth.

**Table 4:** Prehistoric sites (including Mesolithic, Neolithic, Bronze Age and Iron Age) recorded within the 500m search area.

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PRN	Name	Type	Period	NGR	Summary
3071	Devils Quoit; Newton Cromlech	Chambered Tomb	Neolithic	SM 8865 0084	A fine burial chamber, comprising three uprights and a capstone.
3072	Gravel Bay	Flint Working Site	Mesolithic; Neolithic	SM 8745 0075	Several flint scatters recorded along the cliffs
3073	Broomhill Burrows	Findspot	Neolithic	SM 8835 0060	Fragment of Neolithic axe. Possibly part of PRN 3103.
3074	Middlehill	Burnt Mound	Prehistoric	SM 8823 0156	No further information.
3079	Kilpaison Burrows	Round Barrow	Bronze Age	SM 88999 00643	Hollowed out round barrow, with standing stone near its centre. Excavated in 1925, included Bronze Age cremation and early medieval inhumations.
3082	Broomhill	Flint Working Site	Mesolithic; Neolithic	SM 8881 0165	Flintworking site identified in 1963. No further details.
3087	West Angle	Findspot	Mesolithic; Neolithic	SM 8532 0306	Flint flakes recovered from a clay pit in 1913.
3098	Old Windmill	Findspot	Neolithic	SM 8687 0187	Polished rhyolite axe, found in 1932.
3101	West Pickard	Flint Working Site	Mesolithic; Neolithic	SM 860 012	25 flints found through cliff-top turf erosion.
3102	West Pickard	Flint Working Site	Mesolithic; Neolithic	SM 857 013	85 flints, mostly waste but includes some tools.
3103	Little Furzenip	Flint Working Site	Mesolithic; Neolithic	SM 8836 0057	21 flints recovered from eroded hollow in the dunes.
3104	South Studdock	Flint Working Site	Mesolithic; Neolithic	SM 8507 0226	Flintworking site identified in 1960. No further details
3239	Neath Bridge	Burnt Mound	Prehistoric	SM 9050 0128	No further information.

3244	Lambeeth	Promontory Fort	Iron Age	SM 9372 0140	Small, semi-circular site defended by a curving bank and ditch on one side, steep slope on the other. Plough damaged.
3245	Wallaston Round Barrows	Round Barrow	Bronze Age	SM 92554 00417	One of a collection of round barrows, plough damaged.
3250	Hoplass Cottage	Flint Working Site	Mesolithic; Neolithic	SM 922 013	Flintworking site identified in 1963. No further details.
3255	Lambeeth	Flint Working Site	Mesolithic; Neolithic	SM 933 012	Flintworking site identified in 1963, from 1913 records.
7591	Broomhill Cottages	Standing Stone	Bronze Age	SM 8861 0084	Recumbent standing stone recorded in 1925, possibly associated with nearby chambered tomb. No longer visible.
11383	Kilpaison Burrows	Flint Scatter	Mesolithic; Neolithic	SM 888 007	5 flint flakes recovered from the Burrows.
11694	Lambeeth Farm	Round Barrow	Bronze Age	SM 930 010	Reportedly excavated round barrow in 1929. Exact location unknown.
12223	Broomhill Burrows	Findspot	Mesolithic	SM 885 005	Numerous flint artefacts recovered from Broomhill Burrows
13054	South Studdock	Enclosure	Prehistoric	SM 849 020	Sub-rectangular enclosure noted as a cropmark
35019	West Angle Bay	Promontory Fort	Iron Age	SM 8508 0356	Possible defended enclosure, cliffs on the south side, partial ditch and banks defend the north.
48371	Lambeeth Farm	Round Barrow Pair	Bronze Age	SM 9350 0180	Reportedly excavated round barrow in 1929. Exact location unknown.
99104	West Angle Bay	Promontory Fort	Iron Age	SM 84975 03109	Promontory fort defended by double-bank and ditch.

## 5.5 Roman Period

5.5.1 There are no sites of this period recorded within search area. Some sporadic findspots of this date are located in the wider landscape, but generally there appears to be little evidence for such archaeological remains in this area.

## 5.6 Early Medieval & Medieval Period (Table 5)

- 5.6.1 During the early medieval period this area lay within Cantref Penfro, with the ridgeway dividing the commotes of Manorbier and Coedrath, much of the proposed development area lying within Manorbier commote.
- 5.6.2 It is likely much of this area was settled and farmed during this period, but little is known about the layout of the landscape. Rhoscrowther to the north was the site of an early medieval ecclesiastical centre. To the west West Angle Bay was also a site of ecclesiastical importance. Archaeological investigations carried out in 2005 and 2006 identified a cemetery on the south side of the bay (PRN 35095), with graves radiocarbon dated to between the 7<sup>th</sup> and 11<sup>th</sup> centuries. This site is traditionally associated with the chapel and churchyard of St Anthony (PRNs 3092 & 7595), with a possible chapel site identified within the cemetery boundary. The location of the settlement that utilised the cemetery has not been identified.
- 5.6.3 The only other recorded early medieval site within the search area is another burial. A cist burial (PRN 3080), thought to be early medieval in date, was inserted into a Bronze Age round barrow in Kilpaison Burrows.
- 5.6.4 During the medieval period this area came under the lordship of Pembroke, and more directly part of the manor of Castlemartin. Angle was held as a mesne lordship of Pembroke, a manor probably established in *circa* 1100, at which point the village (PRN 27054) was probably laid out. During the late medieval period Angle Manor had been subdivided in Angle and Hall in Angle. Angle church had been appropriated by the Benedictine Priory in Monkton, indicating that there were three main centres of power in Angle during the medieval period. Many of the field enclosures surrounding Angle have a distinctive strip field layout (PRN 5701), indicative of medieval agricultural divisions.
- 5.6.5 Many of the farms in this area began as villas mentioned in 13<sup>th</sup> to 15<sup>th</sup> century accounts, including Orielson, Kilpaison (PRN 11459), Moreton (PRN 10791), Corston, Neath and Wallaston. Bangeston may also have been the site of a medieval moated manor (PRN 27055). Much of the field layout surrounding these medieval centres is also likely to have their origins in the medieval period, if not earlier.
- 5.6.6 Three further records of medieval date include a cropmark of an enclosure to the north of Angle (PRN 3095), but the form and character of the enclosure is unknown. The remaining two are sites of possible crosses (PRNs 7931 & 7932), based on place-name evidence, but both likely to refer simply to road junctions.

**Table 5:** Early medieval and medieval sites recorded within the 500m search area

PRN	Name	Type	Period	NGR	Summary
3080	Kilpaison Burrows	Round Barrow Reuse	Early Medieval	SM 88999 00643	Later cist-burial inserted into a Bronze Age round barrow.
3092	St Anthony's Chapel	Chapel	Early Medieval; Medieval	SM 8513 0305	Record of a medieval chapel, with probably early medieval origins.
3095	West Pill	Cropmark	Medieval	SM 8550 0360	Cropmark identified from aerial photography, of unknown significance.

5701	North Hill	Field System	Medieval; Post Medieval	SM 8619 0306	Strip field system surrounding Angle.
7595	St Anthony's Chapel	Churchyard	Early Medieval	SM 8513 0305	Churchyard associated with St Anthony's Chapel PRN 3092.
7931	Cross Park	Cross	Medieval; Post Medieval	SM 909 005	Place-name suggestion of a cross.
7932	Wallaston Cross	Cross	Medieval; Post Medieval	SM 925 012	Place-name suggestion of a cross.
10791	Moryston; Moreston	Settlement	Medieval	SM 9362 0080	Farmstead with medieval origins
11459	Kilpaston; Kilpaison	Dwelling	Medieval	SM 8925 0168	Settlement identified by Saxton on his map of Pembrokeshire in 1578.
27054	Angle	Settlement	Medieval; Post Medieval	SM 86000 02000	Planned medieval village, likely laid out circa 1100.
27055	Bangeston	Settlement	Medieval; Post Medieval	SM 87293 01577	Farmstead with medieval origins.
35095	St Anthony's Chapel	Cist Grave Cemetery	Early Medieval	SM 8515 0309	Cist cemetery, contained within a sub-rectangular enclosure. Graves radiocarbon dated to between 7 <sup>th</sup> - 11 <sup>th</sup> centuries.

## 5.7 Post Medieval Period (Table 6)

5.7.1 During the 16<sup>th</sup> century the Castlemartin manor was held by the Herbert Earls of Pembroke, before being sold to the Lords of Stackpole in 1598. Angle was divided between Walter Rees who held Angle, and the Perrott's who held Hall in Angle, both coming under the ownership of the Earl of Essex in the 17<sup>th</sup> century. In 1698 Alexander Campbell acquired the Castlemartin estate through marriage, and subsequently Angle as well. Much of the Castlemartin Estate was sold to John Owen of Orierton in 1824, eventually acquired by the Mirehouses of Angle, who had already acquired the Angle estate in 1805. There are a large number of records within the HER that relate to this post-medieval period. Broadly they can be sub-divided into a smaller number of categories.

5.7.2 The settled, agricultural, landscape that was identified during the medieval period continued and began to expand by the later post-medieval period. The villages of Angle, Rhoscrowther and Pwllcrochan persisted, the latter two remaining relatively small hamlets however. The medieval manor site of Bangeston developed into a mansion site (PRN 3070), with its associated fishpond (PRN 15914) and home farm (PRN 30885), possibly replacing an earlier farmstead or settlement (PRN 51642). A concentration of post-

medieval farmsteads around Bangeston may be a fragmentation of the earlier, medieval settlement, including Hardings Hill (PRN 51641) and Jeffersonwalls (PRN 120903). The other record medieval villas all continued as farmstead sites into the post-medieval period (PRNs 120905, 120928, 120930 & 120943). More complete documentary evidence from the 19<sup>th</sup> century indicates an expansion of farmsteads. To the west North Studdock (PRN 120907) and Hubberton are post-medieval farms partly established over the former medieval open field system around Angle. Nearby West Pill (PRN 120912), Whitehall (PRN 120909) and South Studdock (PRNs 39078/39618/120906) are recorded by the 19<sup>th</sup> century. Further farmsteads were established across the central area, including Carters Green (PRN 120904), Middlehill (PRN 54714/120902) and Broomhill (PRN 120901), and to the east Coresside (PRN 120926), Wogaston (PRN 120927), Hoplass (PRN 120929) and Lambeeth (PRN 120942) are all in place by the 19<sup>th</sup> century at least. Wallaston expanded into a small settlement (PRN 28006), with the addition of Wallaston Green farmstead (PRN 120943), a Methodist Chapel (PRN 10092) established in 1809, and a cottage also recorded by the 19<sup>th</sup> century (PRN 21676). Wallaston Cross also became a small collection of settlements, with a blacksmith workshop also recorded there by the 19<sup>th</sup> century (PRN 17879). To the east Pennar Mouth farmstead (PRN 33154) is also record, since lost to modern industrial development. Other outlying cottages likely housing agricultural workers, are also recorded (PRNs 35029 & 103266).

- 5.7.3 It is likely the vast majority of the landscape was now subdivided into agricultural holdings, and a number of records also relate to the associated processing of agricultural produce. To the west the remains of an 18<sup>th</sup> century windmill are visible near Angle (PRN 4386), along with a now-vanished corn mill on Angle Bay (PRN 34629). More centrally Kilpaison Mill (PRNs 34630 & 15979) has since been destroyed, and to the east the ruins of a mill (PRN 34614) near Lambeeth Farm are still visible. The road network linking all these sites was also established by this period, and various post-medieval bridges (PRNs 17878, 35056 & 39083/39623) and trackways (PRN 32766) are recorded.
- 5.7.4 In addition to the agricultural landscape, a noted addition during this post-medieval period is the significant increase in industrial activity. Quarrying was prominent by the later post-medieval period, albeit largely on a small, local-scale (PRNs 32769, 32770, 33153, 34616, 34617, 34619, 35057, 54716 & 54718). The most substantial quarry appears to have been on the northern edge of West Angle Bay (PRN 35016), complete with direct sea access through its rock cut channel and harbour (PRN 35017). A number of limekilns are also recorded (PRN 34615, 34618), again with the best and largest example at West Angle Bay (PRN 33852). These kilns were likely processing the locally available quarried limestone to produce agricultural fertiliser, a common feature of the later 18<sup>th</sup> and 19<sup>th</sup> century. West Angle was also the site of a brickworks (PRNs 15878, 33853 & 33855), established in the later 19<sup>th</sup> century.
- 5.7.5 Given its location, a maritime element is another important characteristic of this period. Such sites are varied, but include mooring at West Angle Bay (PRN 99103), likely used by the nearby brickworks, nearby sea defences (PRN 35015), and a coastguard lookout and rocket station, built at the end of the 19<sup>th</sup> century, in use until the 1930s (PRN 51645, 59469 & 59470). A wreck site (PRN 35094) is recorded near West Angle Bay, recorded in more detail in the offshore archaeological survey, but along the south coast, at West Pickard Bay, a number of grave mounds (PRN 8973) were recorded in

the early 20<sup>th</sup> century, believed to mark the graves of sailors from a nearby 19<sup>th</sup> century shipwreck.

5.7.6 As illustrated in many of the Scheduled sites in the wider search area (see Section 4.2), by the mid-19<sup>th</sup> century Milford Haven was becoming increasingly militarised, with a number of impressive coastal forts established to protect the ship building centres and military docks from potential French invasion. One such site lies within this search area, Chapel Bay Fort (PRN 7655), completed in 1891, spread across a four acre site defended by a deep ditch, overlooking the Waterway to the north. A gun from one of the mid-19<sup>th</sup> century forts was positioned at West Angle car park for some time (PRN 35014), since removed.

**Table 6:** Post-medieval sites recorded within the 500m search area

PRN	Name	Type	NGR	Summary
3070	Bangeston	Mansion	SM 8745 0165	Ruinous remains of former mansion
4386	Old Windmill	Windmill; Gun Emplacement	SM 86686 01945	18th century windmill
7655	Chapel Bay Fort	Fort	SM 858 036	Chapel Bay fort completed in 1891.
8973	West Pickard Bay	Inhumation	SM 86160 01170	19 <sup>th</sup> century seamen's graves.
10092	Wallaston Methodist Chapel	Chapel	SM 9239 0066	Methodist Chapel built in 1809, modified 1850, rebuilt 1880.
15878		Brick Kiln	SM 85276 02925	Part of brickworks PRN33853
15914	Bangeston	Fishpond	SM 872 017	Pond associated with mansion.
15979		Mill Pond	SM 894 017	Mill pond associated with Kilpaison corn mill (PRN 34629).
17878	Neath Bridge	Bridge	SM 9048 0126	Footbridge.
17879		Blacksmiths Workshop	SM 9235 0126	19 <sup>th</sup> century smithy.
21676	Wallaston Green	Cottage	SM 9240 0060	Ruined cottage.
28006	Walleston Green	Settlement	SM 92000 00000	
30885	Bangeston	Home Farm	SM 8731 0158	Home farm for Bangeston Mansion.
32766	Angle	Trackway	SM 8637 0128	An earthwork terrace track.
32769	Angle	Quarry	SM 8610 0122	Small quarry pit, on top of the coastal slope.
32770	Angle	Quarry	SM 8601 0119	Quarry pit on the top of the coastal slope

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32782	Angle	Pond	SM 86317 01311	A small pond and earth dam.
33153	Pennar Gut	Quarry	SM 933 022	A deep cutting, possible former quarry.
33154	Pennar Mouth	Farmstead; Garden	SM 932 021	Small fields, possible paddocks associated with an early farmstead.
33852	West Angle Bay	Lime Kiln	SM 85319 03316	Substantial stone-built kiln.
33853	Angle Brickworks	Brickworks	SM 8540 0311	Brickworks, functioning in the 1870's.
33855	Brickfield	Brickworks	SM 8558 0277	Field name.
34614	Lambeeth Mill	Mill; Cottage	SM 93838 01439	Lambeeth Mill, recorded on the 1875 OS map.
34615	Cocheston Pill	Lime Kiln	SM 94120 01886	Lime kiln, recorded on the 1875 OS map.
34616	Cocheston Pill	Quarry	SM 9413 0190	19 <sup>th</sup> century quarry
34617	Cocheston Pill	Quarry	SM 9405 0200	19 <sup>th</sup> century quarry.
34618	Pwllcrochan	Lime Kiln	SM 9315 0233	Lime kiln recorded on the 1875 OS map. Now gone.
34619	Pwllcrochan	Quarry	SM 931 023	19 <sup>th</sup> century quarry
34629	Angle Bay	Mill	SM 8938 0176	Corn mill recorded on the 1875 OS map. Now gone.
34630	Kilpaison Mill	Mill	SM 89854 01746	Kilpaison mill recorded on the 1875 OS map. Now gone.
35014	West Angle Bay	Findspot	SM 8537 0321	Former location of mid-19 <sup>th</sup> Century gun from one of the Haven forts.
35015	West Angle Bay	Sea Defences	SM 8535 0325	Sea wall of several phases.
35016	West Angle Bay	Quarry	SM 8520 0335	Two quarry pits, eastern one contains temporary storage buildings.
35017	West Angle Bay	Harbour	SM 8515 0336	The quarry pit with entrance blasted into bedrock for boat access.
35029	West Angle	Cottage	SM 85322 03330	A stone built structure with brick additions now in dense scrub.
35056	Cocheston Pill	Bridge	SM 9386 0140	Small single arched stone bridge.
35057	Cocheston Pill	Quarry	SM 9395 0144	Several small overgrown quarry pits
35094	West Angle Bay	Wreck	SM 848 035	The Leda, a frigate of 338 men, 38 guns, wrecked at 31st January 1808.
39078	South Studdock	Farm	SM 8533 0203	Farm complex. The name Studdock first used in the 14 <sup>th</sup> century.
39079	South Studdock	Farmhouse	SM 8531 0201	An L-shaped stone house with gabled slate roof.

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39080	South Studdock	Stable	SM 8531 0202	Stable constructed from 'Angle Blocks' with a tiled roof
39081	South Studdock	Coach House	SM 8531 0202	Small two-storey coach house and store of random rubble construction with a corrugated tin roof.
39082	South Studdock	Cow Shed	SM 8534 0204	Low, single storey cow shed. Random-rubble with a corrugated asbestos roof.
39083	South Studdock	Bridge	SM 8493 0219	A stone-built bridge over a small stream.
39618				Duplicate of PRN 39078.
39619				Duplicate of PRN 39079.
39620				Duplicate of PRN 39080.
39621				Duplicate of PRN 39081
39622				Duplicate of PRN 39082
39623				Duplicate of PRN 39083
51641	Hardings Hill	Farmstead	SM 8764 0169	A farmstead recorded on the tithe map of 1842.
51642		Building	SM 8763 0161	A building marked on the tithe map of 1842 as 'Old buildings'. Possible early farmstead.
51645	Rocket Apparatus Station (No.11)	Coastguard Lookout	SM 8792 0131	Built late 19 <sup>th</sup> century as base for cliff-rescue team with rockets, lines and breeches-buoys. In use until the 1930s, converted to a holiday home in c1970.
54714	Middlehill	Farmstead	SM 88278 01439	A farmstead recorded on the 1875 OS map
54716		Gravel Pit	SM 88434 00496	A disused gravel pit recorded on the 1875 OS map
54718		Quarry	SM 90354 00292	A disused quarry recorded on the 1875 OS map.
55455	Middlehill	Outbuilding	SM 8831 0143	Recorded on the 1875 OS map
59462	34	Cottage	SM 85997 2993	Grade II listed cottage
59463	35	Cottage	SM 85987 02994	Grade II listed cottage
59469	Rocket Cart House	Rescue Team Cart House	SM 87917 01315	Grade II listed rescue team cart house
59470	Lookout Tower	Lookout Tower	SM 87920 01310	Grade II listed lookout tower
99103	West Angle Bay	Moorings	SM 85149 03100	Square rock cut hollows, probably represent mooring for boats from nearby brickworks.
103163	Jeffersonw alls	Well	SM 8748 0143	Well recorded on the 1875 OS map
103265	Margery Bottom	Well	SM 9316 0082	Well recorded on the 1875 OS map

103266	Margery Bottom	Cottage	SM 9312 0080	Cottage, recorded on the 1875 OS map
117041		Triangulation Point	SM 8529 0328	An OS trig point
120901	Broomhill	Farmstead	SM 88705 01451	Farmstead recorded on the 1875 OS map
120902	Middlehill	Farmstead	SM 88278 01439	Farmstead recorded on the 1875 OS map
120903	Jeffersonw alls	Farmstead	SM 87522 01413	Farmstead recorded on the 1875 OS map
120904	Cartersgre en	Farmstead	SM87014 01600	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.
120905	Bangeston	Farmstead	SM 87315 01581	Farmstead recorded on the 1875 OS map
120906	South Studdock	Farmstead	SM 85328 02019	Farmstead recorded on the 1875 OS map
120907	North Studdock	Farmstead	SM85380 02644	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.
120909	Whitehall	Farmstead	SM 86190 02971	Farmstead recorded on the 1875 OS map
120912	West Pill	Farmstead	SM 85299 03535	Farmstead recorded on the 1875 OS map
120926	Corseside	Farmstead	SM 90984 00017	Farmstead recorded on the 1875 OS map
120927	Wogaston	Farmstead	SM 91769 00657	Farmstead recorded on the 1875 OS map
120928	Newton	Farmstead	SM 90567 00449	Farmstead recorded on the 1875 OS map
120929	Hoplass	Farmstead	SM 91749 01082	Farmstead recorded on the 1875 OS map
120930	Neath	Farmstead	SM 90241 01163	Farmstead recorded on the 1875 OS map
120942	Lambeeth	Farmstead	SM 93825 01613	Farmstead recorded on the 1875 OS map
120943	Wallaston	Farmstead	SM 92507 00678	Farmstead recorded on the 1875 OS map
120944	Walleston Green	Farmstead	SM 92387 00618	Farmstead recorded on the 1875 OS map

## 5.8 Modern (Table 7)

5.8.1 There are a significant number of sites recorded on the HER of modern date, these relate largely to sites established in the area during the Second World War. Due to the important naval bases and shipping associated with the Milford Haven Waterway, the area was heavily protected from air attack by a large number of airfields, anti-aircraft batteries, radar stations and search lights, with a number of temporary camps set up to house the additional personnel required for such facilities.

- 5.8.2 The main feature of this area was Angle Airfield (PRN 33439), opened in June 1941 to protect Pembroke Dock and escort convoys at sea. Dispersal pens, where aircraft would be left or material stored, are recorded around the airfield (PRN 101390), as are former hangars (PRN 102483), and a water supply pump house to the west (PRN 102484).
- 5.8.3 The airfield was defended by a heavy anti-aircraft battery established to the east (PRN 44603 & 110426), with light anti-aircraft battery to the south (PRN 44607 & 110427) and west (PRN 102553). A further anti-aircraft battery is located on the edge of Kilpaison/Broomhill Burrows (PRN 14355) further to the east, with individual features including gun pits, command posts and listening station (PRNs 55444 – 55452) and an outlying weapons pit (PRN 33440) and associated camp (PRN 55453 & 55454). This site is unusually well-preserved, and now Scheduled (PE494). A less well-preserved gun battery also stood further west (PRN 35023). Searchlight batteries augmented the defences, with a site to the west recorded (PRN 110430 & 111262), along with searchlight stations on the south coast (PRN 28651 & 33438) combined with lookout stations (PRNs 32767 & 32768). Lookout stations are also recorded on the north coast (PRN 35020 & 35021). Some well-preserved pillboxes can also be found surrounding the airfield (PRN 101389 & 101392).
- 5.8.4 The personnel serving these sites were spread around a number of camps in the surrounding area. Battle headquarters were located at Hubberton on the north side of the airfield (PRN 44599/101387), and a military camp established adjacent (PRN 102548) along with a gun emplacement (PRN 4386/101388). Another military camp was established nearby (PRN 102552), also complete with searchlight battery (PRN 111268) and air-raid shelter (PRN 44617), with a further building complex (PRN 102482) adjoining the battle HQ on the opposite side of the road. An extensive camp was established near Bangeston/Hardings Hill (PRN 102547/102549), which included an ablutions block (PRN 101391), stand-by house (PRN 101397), institute (PRN 101394), games room (PRN 101393), shop (PRN 101395), hostel (PRN 101398), settlement tank (PRN 101399), air raid shelter (PRN 102546) and blast shelter (PRN 101396), with a camp extension to the northeast (PRN 102550). A further camp was also located next to Middlehill (PRN 102551), housing officers.
- 5.8.5 Other outlying features include a high frequency direction finding station (PRN 26247) to the southeast, and a minefield protecting the military base at East Blockhouse (PRN 32647) to the west.
- 5.8.6 There are a smaller number of features relating to the earlier World War I defences of the Haven, although less concerned with aerial assault, these are concentrated along the coastline. Wartime maps depict a number of field boundaries (PRNs 107732, 107739 & 107740, 107743, 107746, 107775, 107777), along with a water supply pipe (PRN 107741), but the search area also includes part of the battery at Chapel Bay Fort WWI (PRN 107747), and defences around East Blockhouse military site (PRNs 107742, 107744). Although erected after the war, the records also include the war memorial to WWI, alongside the road to Freshwater West (PRN 54715/59465).

**Table 7:** Modern sites recorded within the 500m search area

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Historic Environment Desk-Based Assessment

PRN	Name	Type	NGR	Summary
14355	Broomhill Burrows	Battery	SM 8826 0077	Four circular casemates with ancillary underground chambers.
26247	Hf/Df Angle Bay RAF Pembroke Dock	Navigation Aid	SM 9239 0018	WW2 High Frequency Direction Finding Station/Fixer Station. No visible trace.
28651	Black Cove	Searchlight Battery	SM 8698 0092	WW2 searchlight battery, now demolished.
32647	Angle	Minefield	SM 8468 0292	Defence line along perimeter of military camp.
32767	Angle	Lookout	SM 8616 0122	Rectangular hollow, probable WW2 look-out post.
32768	Angle	Lookout	SM 8614 0125	Rectangular hollow, probable WW2 look-out post.
33438	Angle	Battery	SM 8633 0105	WW2 searchlight battery, demolished
33439	RAF Angle	Airfield	SM 8600 0175	Angle airfield opened on 1st June 1941 in No 10 Group Fighter Command, with No. 32 Squadron arriving the following day.
33440	Angle	Weapons Pit	SM 8804 0063	Defence Post, number 138. No trace visible.
34952				Deleted
35018	West Angle Bay	Slipway	SM 8517 0336	Small modern concrete slip from quarry, PRN 35016.
35020	West Angle Bay	Lookout	SM 8509 0375	Modern coastal lookout, no trace on the surface.
35021	West Angle	Position Finding Cell	SM 8533 0375	Brick and concrete observation position
35023	West Angle	Coastal Battery	SM 84680 02500	WW2 coast battery with underground magazines.
35709				Deleted
44599	RAF Angle	Battle Headquarters	SM 8671 0193	Sunken structure - Battle Headquarters associated with the gun emplacement PRN 101388.
44603		Anti-Aircraft Battery	SM 87210 01260	
44604	RAF Angle	Navigation Aid	SM 87300 00960	

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44606	Chapel Bay Fort	Guardhouse	SM 8597 0357	Former guard room, part of encampment east of Chapel Bay Fort prior to WWI
44607	RAF Angle	Anti-Aircraft Battery	SM 86710 01090	Gun pit, part of light Anti-aircraft Battery;
44617	RAF Angle	Air Raid Shelter	SM 8643 0206	Sunken air raid shelter.
54715		War Memorial	SM 88356 00733	WWI memorial
55444		Gun Holdfast	SM 8822 0081	
55445		Gun Pit	SM 8821 0079	
55446		Command Post	SM 8825 0079	
55447		Heavy Anti-Aircraft Battery	SM 8825 0079	
55448		Gun Pit	SM 8822 0077	
55449		Gun Pit	SM 8827 0076	
55450		Hydrophone Station	SM 8825 0075	
55451		Gun Pit	SM 8825 0075	
55452		Gun Holdfast	SM 8822 0074	
55453	Whetstone Hill	World War 2 Defence	SM 88360 00760	Concrete 'Nissen' hut floor
55454	Whetstone Hill	World War 2 Defence; Anti-Aircraft Defence Site	SM 8840 0073	Includes a series of concrete bases and hard standings
59465	Freshwater West	War Memorial	SM 88360 00734	WWI memorial. Calvary on octagonal column.
101387				Duplicate - see PRN 44599.
101388	RAF Angle	Gun Emplacement	SM 86686 01945	Circular stone tower, formerly a windmill (PRN 4386), converted into a defence post during WW2
101389	RAF Angle	Pillbox	SM 86870 01320	Pillbox, roof modified to carry the turf over the embrasures and continue the hedgeline.
101390	RAF Angle	Dispersal Pen	SM 8640 0134	E-shaped dispersal pen

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Historic Environment Desk-Based Assessment

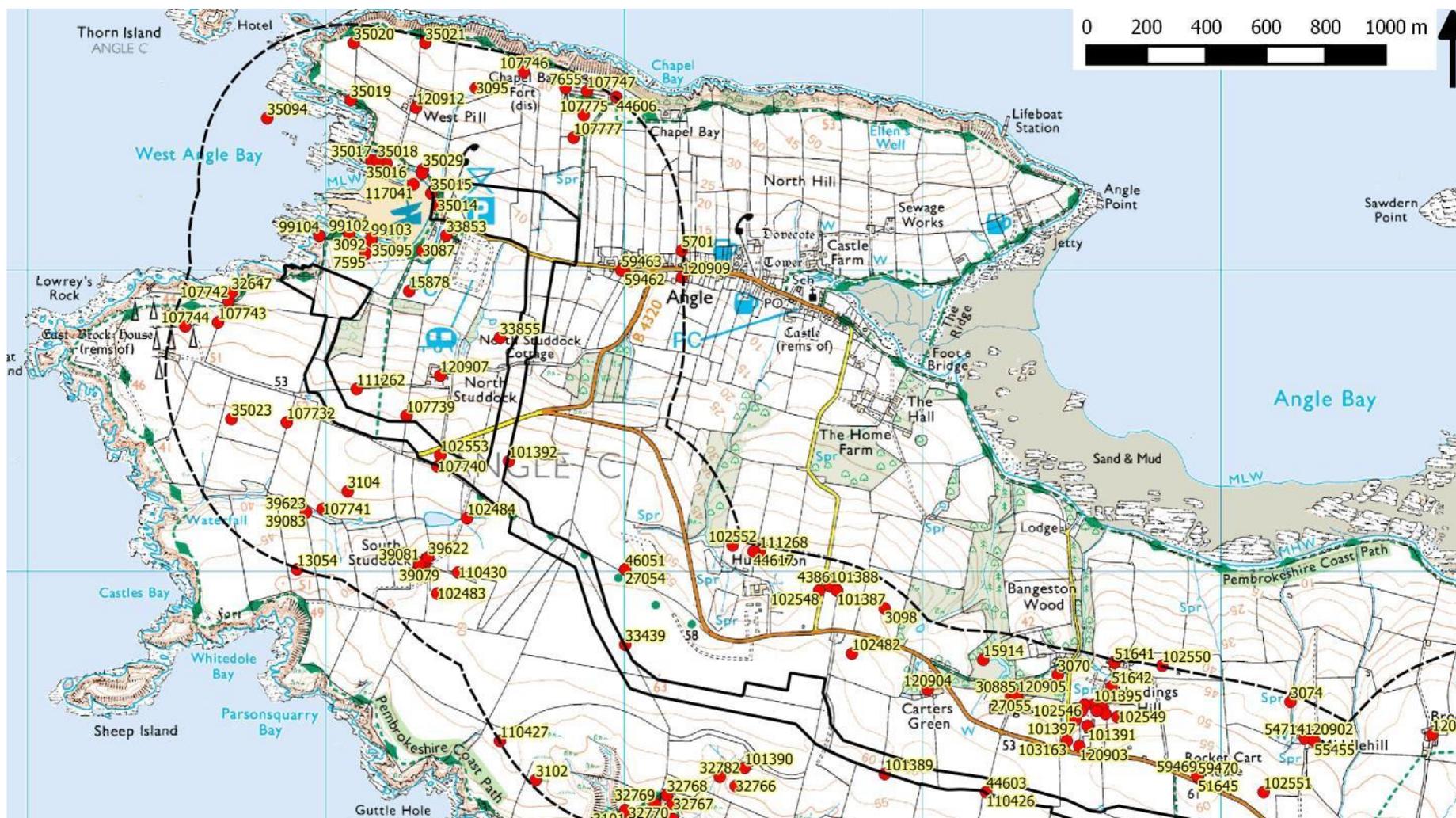
101391	RAF Angle	Airmen's Ablutions	SM 8755 0148	Single storey, cement rendered temporary brick,
101392	RAF Angle	Pillbox	SM 85610 02360	A brick and concrete pillbox, semi sunken within a hedgebank.
101393	RAF Angle	Games Room	SM 8761 0152	Temporary brick built, single storey, latterly used as potato store
101394	RAF Angle	Institute	SM 8758 0153	Linked parallel pair of temporary brick buildings.
101395	RAF Angle	Grocery and Local Produce Store	SM 8757 0155	A single storey temporary brick building, with corrugated asbestos roof. Very overgrown.
101396	RAF Angle	Blast Shelter	SM 8760 0154	Brick built blast shelter. Very overgrown.
101397	RAF Angle	Stand-by Set House	SM 8751 0150	Stand-by set house, incorporated into farm building.
101398	RAF Angle	Christian Association Hostel	SM 8754 0155	Single storey brick building, corrugated asbestos sheeting roof.
101399	RAF Angle	Settlement Tank	SM 8754 0155	Sunken concrete and brick settlement tank.
102482	RAF Angle	Building Complex	SM 8676 0172	Group of WW2 buildings, identifiable as crop marks.
102483	RAF Angle	Hangar	SM 8537 0192	Former blister hangar, now a U-shaped earthwork bank
102484	RAF Angle	Pump House	SM 8547 0217	Water pumping station supplying Angle airfield.
102546	RAF Angle	Air Raid Shelter	SM 8753 0153	A Stanton Air Raid shelter.
102547	RAF Angle Site No 2	Military Camp	SM 8765 0151	Communal Site, consisted of Sick Quarters, Institute, YMCA, gym, squash court etc Only a few buildings remain.
102548	RAF Angle Site No 1	Military Camp	SM 8665 0193	Defence post or gun emplacement (PRN 101388) and battle headquarters (PRN 44599)
102549	RAF Angle Site No 2	Military Camp	SM 8765 0151	Communal site, consists of surviving structures PRN 101391 ablutions block, 101393 games room, 101394 Institute, 101395 store, 101396 blast shelter, 101397 standby set house, 101398 YMCA, 101399

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102550	RAF Angle Site No 3	Military Camp	SM 8780 0168	Complex of Nissen huts providing quarters to officers, sergeants, etc. No visible traces
102551	RAF Angle Site No 4	Military Camp	SM 8814 0126	Complex of Nissen huts providing quarters to officers, sergeants, etc. No visible traces
102552	RAF Angle Site No 5	Military Camp	SM 8636 0208	Nissen and Laing huts. Remains of concrete hut platforms and air raid shelter (PRN 44617).
102553	RAF Angle	Anti-Aircraft Battery	SM 8538 0238	3 rectangular huts identified on the RAF Angle site plan. Light Anti-aircraft battery, no visible traces
107732		Field Boundary	184865.421875 202488.96875	Field boundary depicted on 1916 map of Pembs defences.
107739		Field Boundary	185266.90625 202510.984375	Field Boundary depicted on 1916 map of Pembs defences.
107740		Field Boundary	185370.890625 202342.5625	New Fence depicted on 1916 map of Pembrokeshire defences.
107741		Water Pipe	SM8498602201	Water supply pipe depicted on 1916 map of Pembrokeshire defences.
107742		Infantry Post	184670.015625 202892.546875	Infantry post depicted on 1916 map of Pembrokeshire defences.
107743		Field Boundary	184635.0625 202821.234375	Removed hedge depicted on 1916 map of Pembrokeshire defences.
107744		Barbed Wire Entanglement	184525.03125 202807.890625	High Wire Entanglement depicted on 1916 map of Pembrokeshire defences.
107746		Field Boundary	185660.15625 203654.125	Field boundary depicted on 1916 map of Pembrokeshire defences.
107747		Battery	185871.734375 203589.9375	Parapet of Battery depicted on the 1916 map of Pembrokeshire defences.
107775		Field Boundary	185861.09375 203510.21875	Field boundary removed, depicted on 1916 map of Pembrokeshire defences.
107777		Field Boundary	185827.078125 203435.265625	Field boundary removed, depicted on 1916 map of Pembrokeshire defences.
110426		Anti-Aircraft Battery	SM 8721 0126	Heavy Anti-aircraft battery.

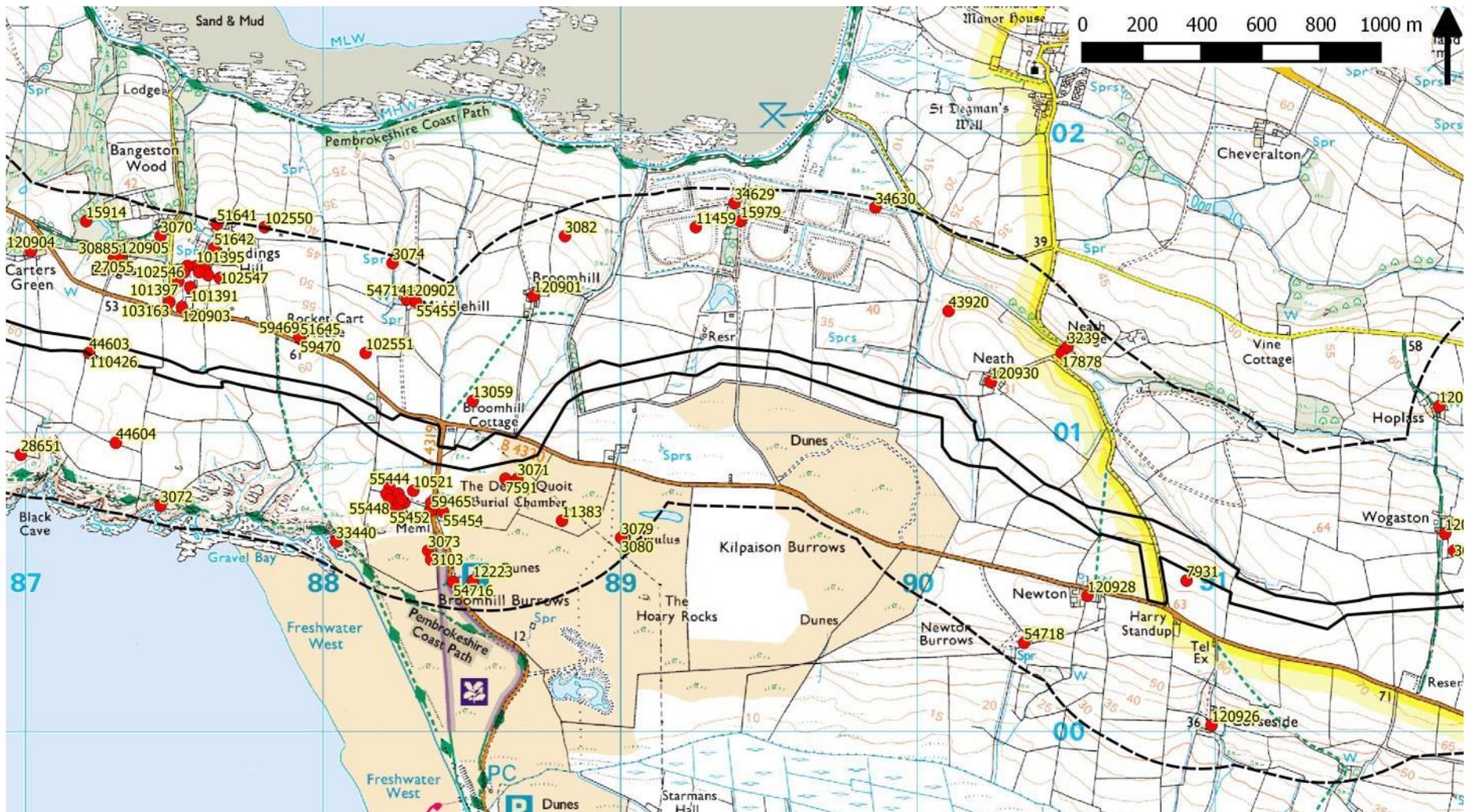
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110427		Anti-Aircraft Battery	SM 8558 0143	Light Anti-aircraft battery.
110430		Searchlight Battery	SM 8544 0199	A searchlight battery.
111262		Searchlight Battery	SM 8510 0260	Searchlight battery.
111268		Searchlight Battery	SM 8645 0206	Searchlight battery.



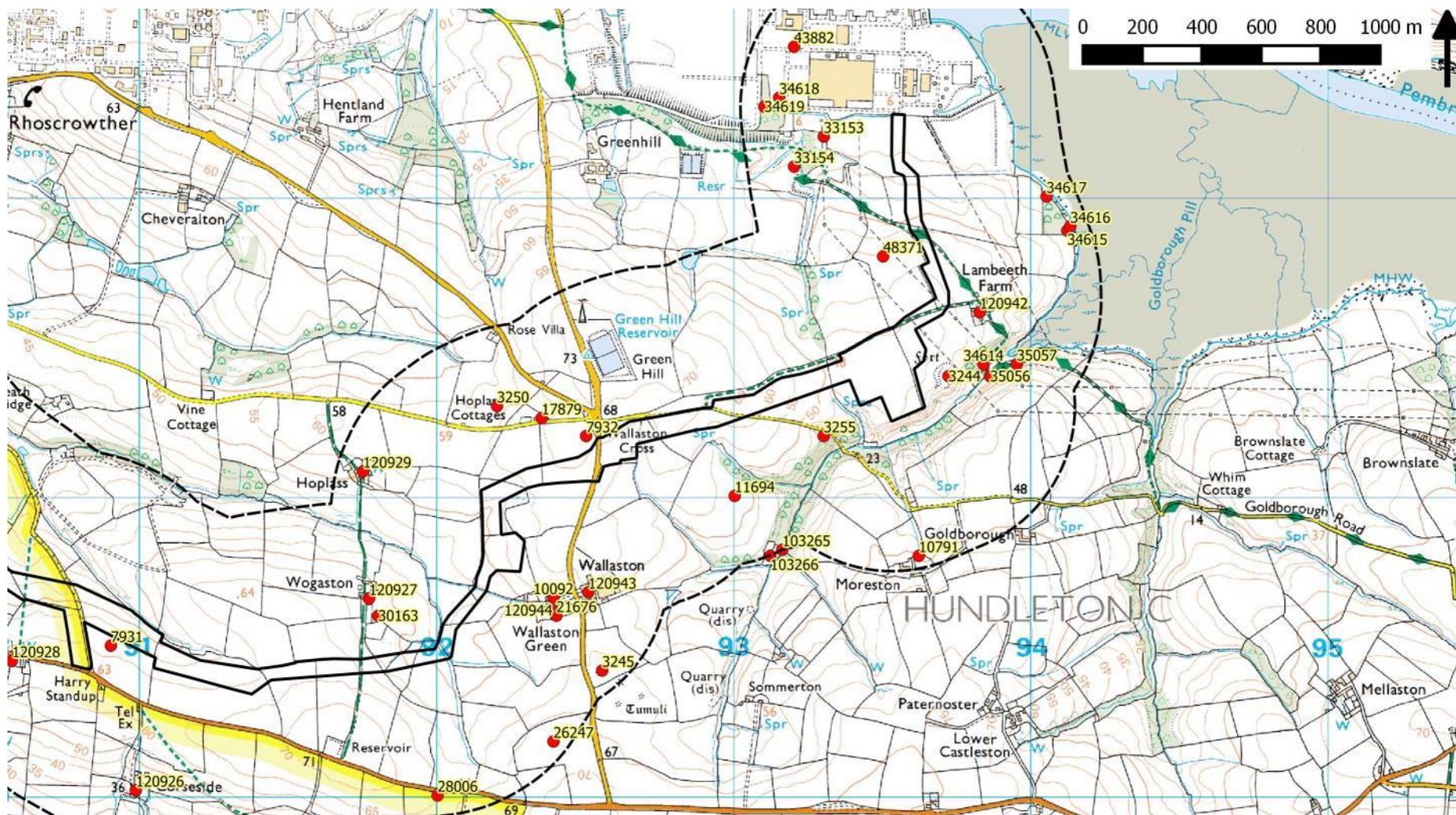
**Figure 4:** Map showing the assets recorded on the HER within 500m (dotted line).

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**Figure 5:** Map showing the assets recorded on the HER within 500m (dotted line).

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**Figure 6:** Map showing the assets recorded on the HER within 500m (dotted line).

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## **6 ASSESSMENT OF EVIDENCE**

### **6.1 Previous Archaeological Work**

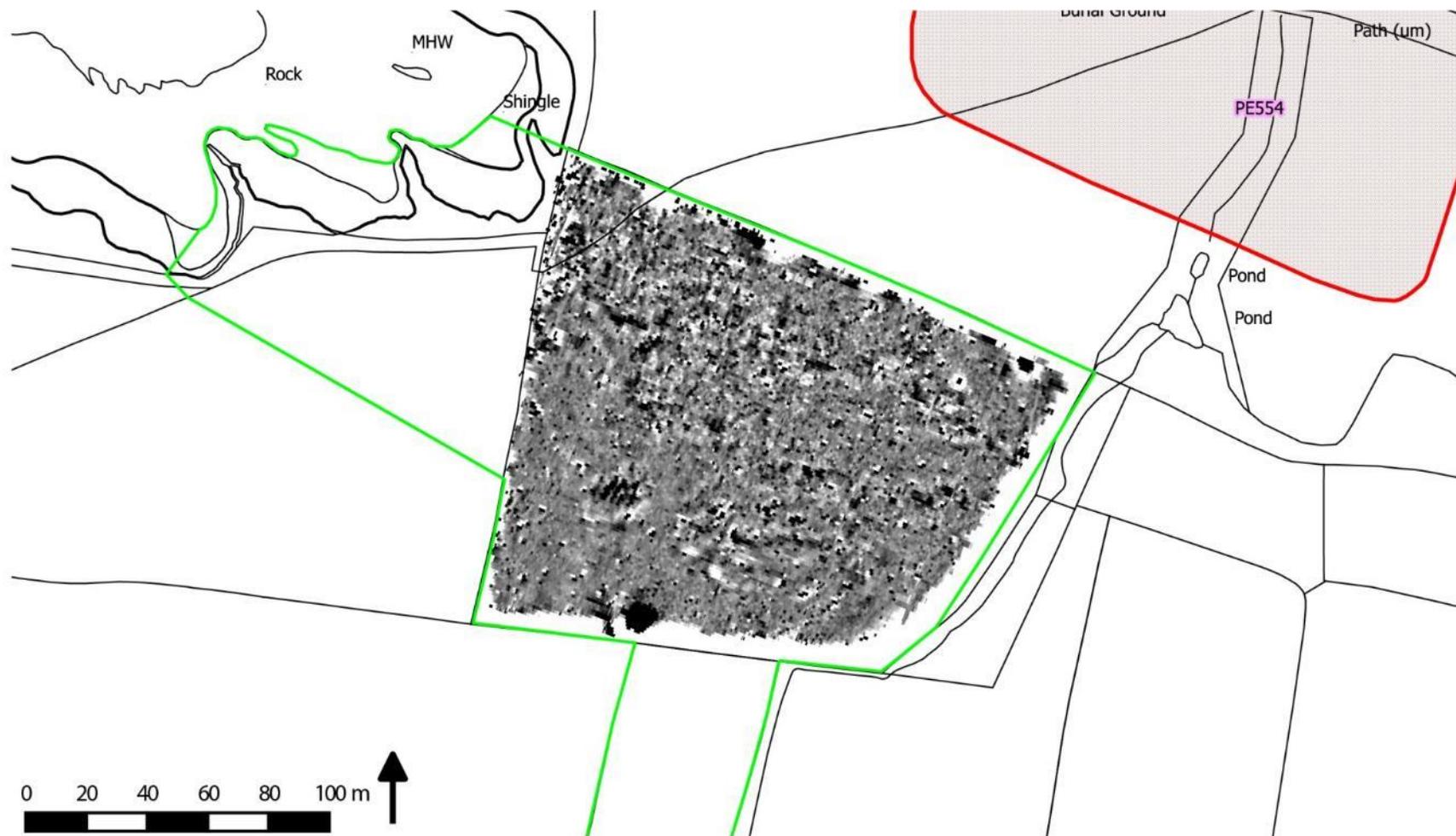
- 6.1.1 There have been many previous archaeological investigations undertaken within the study area, many of which are of direct relevance to the proposed development.
- 6.1.2 Background archaeological and historical context for the area can be found in Murphy & Allen's Coastal Survey of the Lower Milford Haven (Murphy & Allen 1998), a regional study of the Milford Haven Waterway (Poucher 2008), James's study of Angle (James 2000), work associated with Pembroke Power Station (Murphy 1995 & Sambrook 1996) and the recent assessment of the temporary meteorological mast (Murphy 2020). More localised studies also include an assessment prior to proposed development around Wogaston Farm in 1999 (Ludlow 1999), a walkover survey of Carter's Green Farm (Pyper 2002) and Middle Hill Farm (Steele 2005), and a site visit to Whetstone Hill WWII gun battery (Pritchard 2013). Individual sites mentioned in these studies have however since been incorporated into the HER.
- 6.1.3 Prior to the development of a solar farm around Wogaston Farm archaeological investigations were carried out. These included a geophysical survey by AB Heritage (Rose 2014) of fields immediately to the north of the proposed development area. This identified an enclosure at SM 9151 0051, 50m from the proposed development boundary. The enclosure appeared to be archaeological in nature, and potentially prehistoric in date, highlighting an archaeological potential in an otherwise relatively indistinct area.
- 6.1.4 Studies of specific relevance to the proposed cable route corridor at the western end include a series of investigations carried out on the cemetery site on the south side of West Angle Bay. In response to coastal erosion exposing cist burials, excavations were carried out by Cambria Archaeology in 2005 (Ludlow 2005), 2006 (Schlee 2006) and 2010 (Schlee 2010), accompanied by a geophysical survey of the site (Hear 2006). This work identified the boundaries of an early medieval cemetery and chapel site, radiocarbon dated to the 6<sup>th</sup> to 11<sup>th</sup> centuries. These investigations helped establish the boundaries of the subsequent Scheduled Area (PE554). Although these boundaries were established, it is assumed that activity associated with the site covers a larger area, and as such an area to the south was subject to geophysical survey (Smalley 2008). This survey area includes one of the options for the proposed landfall site. This identified a number of anomalies of potential archaeological origin within the field, although these could not be clearly associated with cemetery activity to the north. These results are illustrated in Figures 7 & 8, overlaid with the proposed development boundary.
- 6.1.5 As highlighted in the HER data, features relating to the Second World War are a large element of the archaeological potential across the western and central part of the study area. A detailed assessment of 20<sup>th</sup> century military sites was carried out by Dyfed Archaeological Trust in 2012 (Pyper & Page 2012), including an assessment of the significance of Angle Airfield, through which the proposed cable route runs. The assessment also makes use of a comprehensive assessment of military sites in the area, carried out by Roger Thomas. The history of the site is detailed, and site surveys identified individual features, these records have since been incorporated into the HER data, and the survey undertaken by Roger Thomas has also been made available. Two pillbox sites lie on the edge of the proposed development area, PRN 101389 & PRN 101392. The assessment considered both sites to

be of high importance, and recommended both for Scheduling. To date the sites remain unscheduled, but it illustrates the importance of these features.

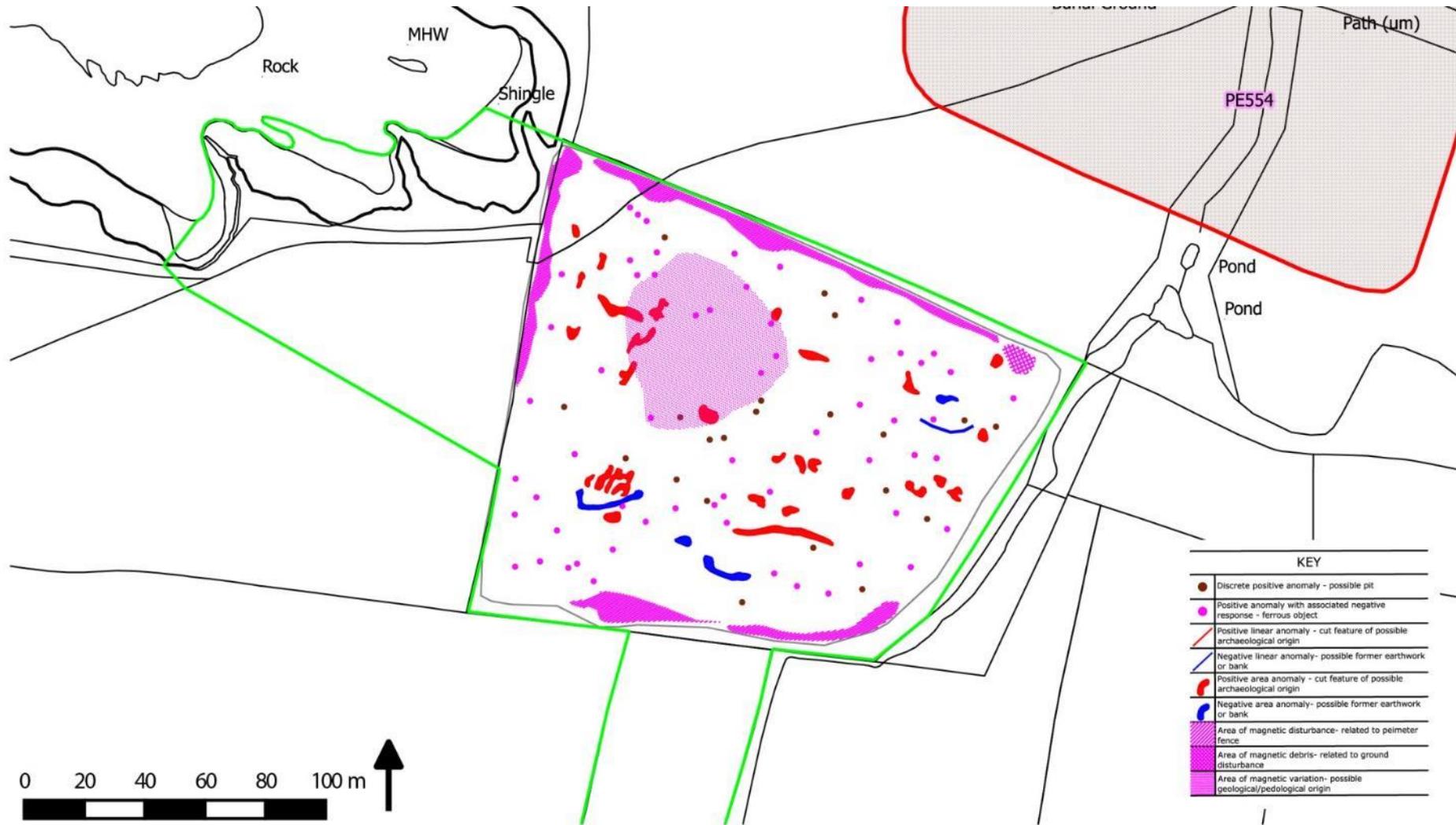
- 6.1.6 A recent series of archaeological investigations have been carried out along another proposed cable route corridor between Freshwater West and Pembroke Power Station. There is an occasional crossover at various points between these two schemes from the central to eastern end of the current development proposals, and the two schemes run side by side along long stretches of the proposed route, elements of these studies are therefore of direct relevance to the current scheme, outlined below.
- 6.1.7 A detailed desk-based assessment was carried out by Dyfed Archaeological Trust (Meek 2018). Much of the background research, site visit details, identified sites and impact assessment have been used to inform the results of the current study. Subsequently a geophysical survey was carried out along the cable route corridor by SUMO (Davies 2019). Several features of potential archaeological interest were identified through this survey, and these areas of interest were then investigated through trenched evaluation (Enright & Wilson 2019). These features have not yet been included within the HER.
- 6.1.8 An extensive area around Devil's Quoit burial chamber (PE020) on the edge of Kilpaison Burrows was surveyed (see Figure 9). Sand drift deposits were identified around the monument, extending into the current proposed cable route boundary, and areas of probable modern activity associated with Second World War activity were identified along the roadside to Freshwater West. No features were identified within the current proposed cable route corridor, but a potential for Second World War activity in particular is highlighted.
- 6.1.9 Survey Area 8 lay to the north of Kilpaison Burrows, close to the reservoir midway between Broomhill and Neath farms (Figures 9 & 10). The survey identified a possible rectilinear enclosure (**EWF18**), likely extending north and into the current proposed cable route corridor. Within the corner of this enclosure a sub-circular feature was identified, within which lay a collection of pits containing burnt material, investigated in the trenched evaluation. This was interpreted as possible Bronze Age burial activity within a former round barrow (**EWF19**). The edge of the possible enclosure was picked out by a band of oyster shells, which lay beneath, and therefore earlier than, a layer of windblown sand thought to be medieval in date. The barrow and enclosure may not necessarily be contemporary, but it highlights an area of high archaeological potential.
- 6.1.10 Survey Area 14 lay immediately to the south of Neath Farm, a short distance to the northeast of the current proposed cable route corridor (Figures 9 & 11). A series of linear features were identified on the survey, running north – south, their alignment suggesting they may extend into the current proposed corridor. One of these features was identified in the evaluation as a shallow ditch (**EWF20**), likely prehistoric in date, and containing some fragments of flint debitage. Adjacent to another linear feature, an isolated pit containing charcoal and burnt bone, and surrounded by stake holes, was identified. This was interpreted as a cooking pit (**EWF22**), likely prehistoric in date. At the eastern edge of the field the survey identified a sub-circular feature, which on excavation appeared to correspond to a spread of material, within which a fragment of collared urn was recovered. This pottery is typically associated with Bronze Age burial, and broadly dated to c.1700-1500 BC, the suggestion being that it came from a largely denuded Bronze Age barrow (**EWF21**). Again, these sites lay outside the current

cable route corridor, but indicate an area of heightened archaeological potential that may extend into the proposed corridor route.

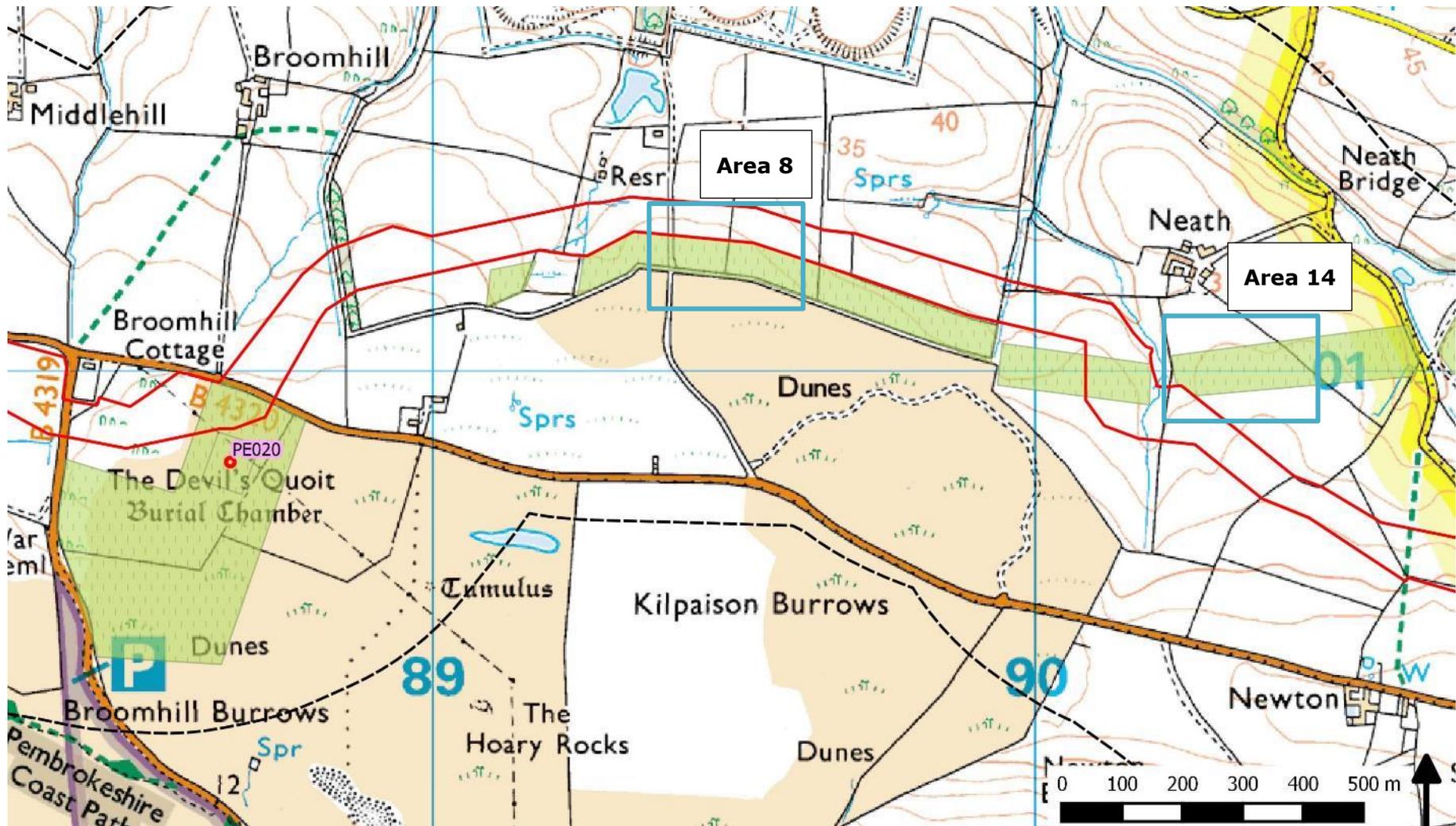
- 6.1.11 Between Wallaston Cross and Lambeeth Farm the survey covered an area extending partly into the current proposed cable route corridor (Figure 12). Little of specific archaeological interest was recorded. Modern services and pipelines are visible crossing the cable route corridor, along with two linear features that extended into the current proposed cable route corridor. A curvilinear feature (**EWF24**) may potentially be part of a larger enclosure, although it was only partly exposed on the survey and not subsequently investigated. To the east a strong linear feature (**EWF25**) runs eastward across the corridor. This was thought similar in appearance to geological faults, although no such feature is indicated on the geological maps. Further north, close to the connection with Pembroke Power Station, a series of anomalies were identified on the survey just to the west of the current proposed cable route corridor. However, when investigated, these proved to be modern in date, and of very limited archaeological interest.



**Figure 7:** Geophysical survey results taken from Smalley 2008. The area was surveyed in associated with the Scheduled Monument PE554 to the northeast. The current proposed landfall site, for the southern HDD option, is highlighted in green.

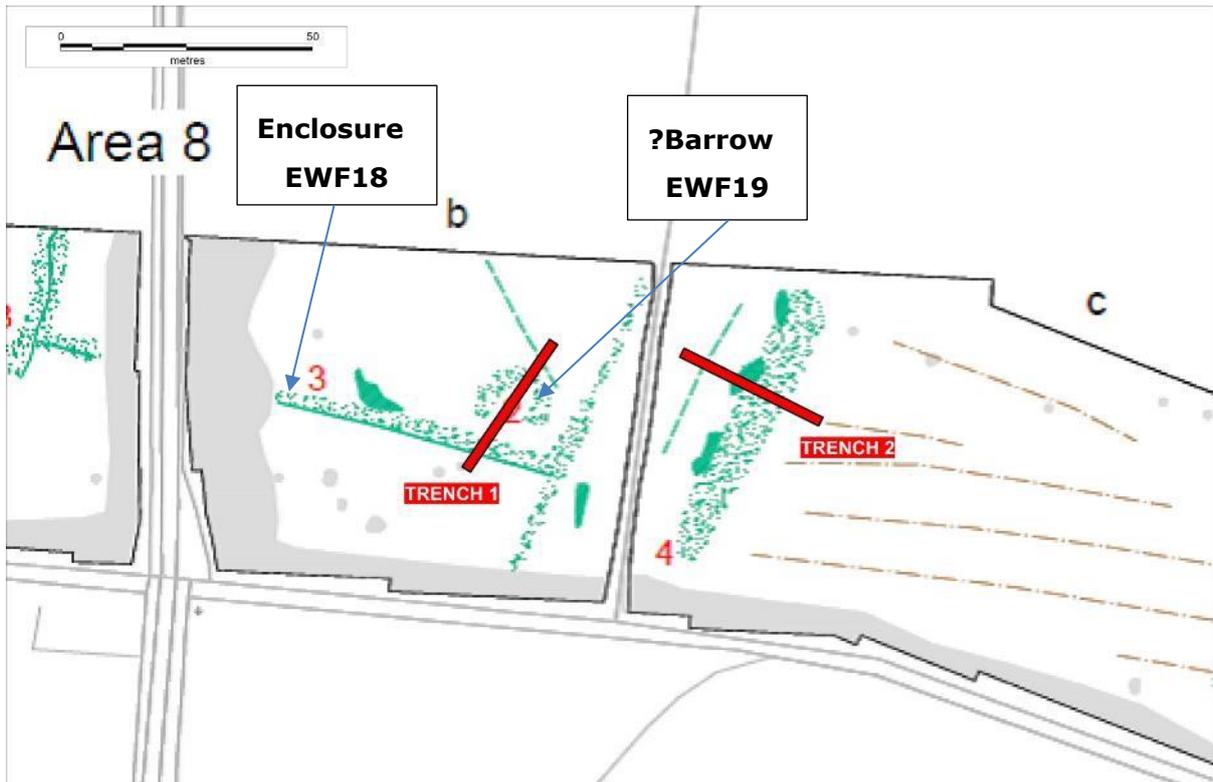


**Figure 8:** Interpretation of the geophysical survey plot presented in Figure 7, taken from Smalley 2008.

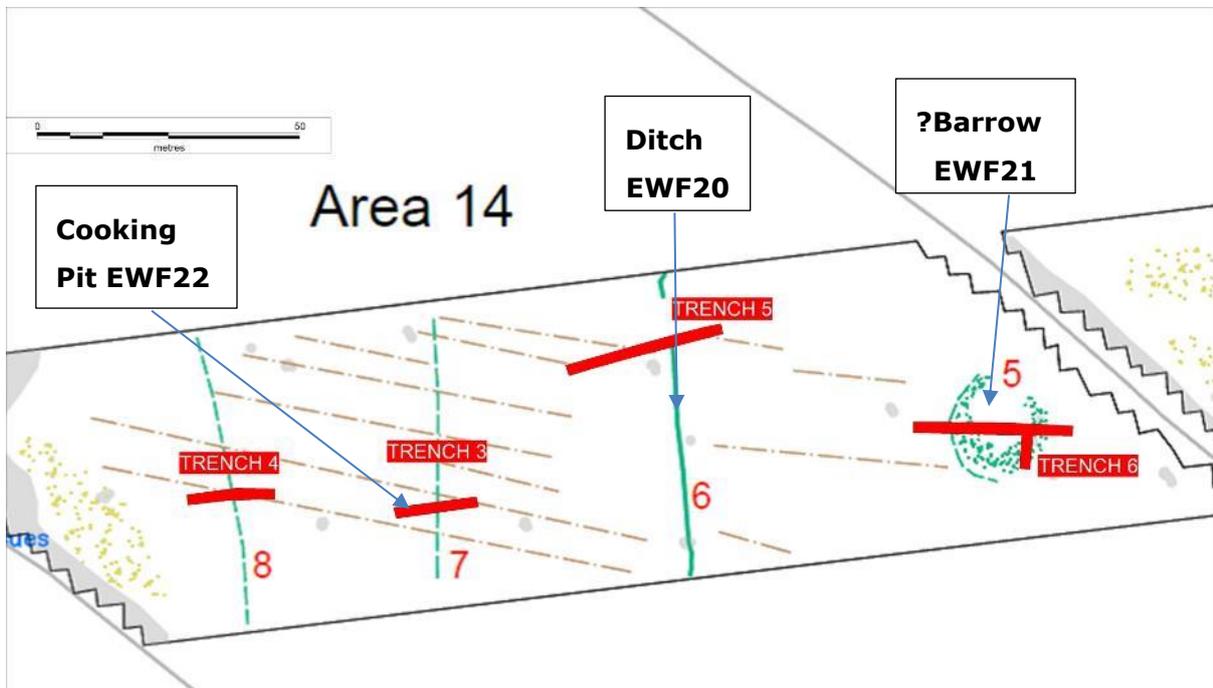


**Figure 9:** Areas subject to previous geophysical survey are shown in green, alongside the current proposed cable route corridor in red. Features of interest highlighted in Figures 10 and 11 are marked.

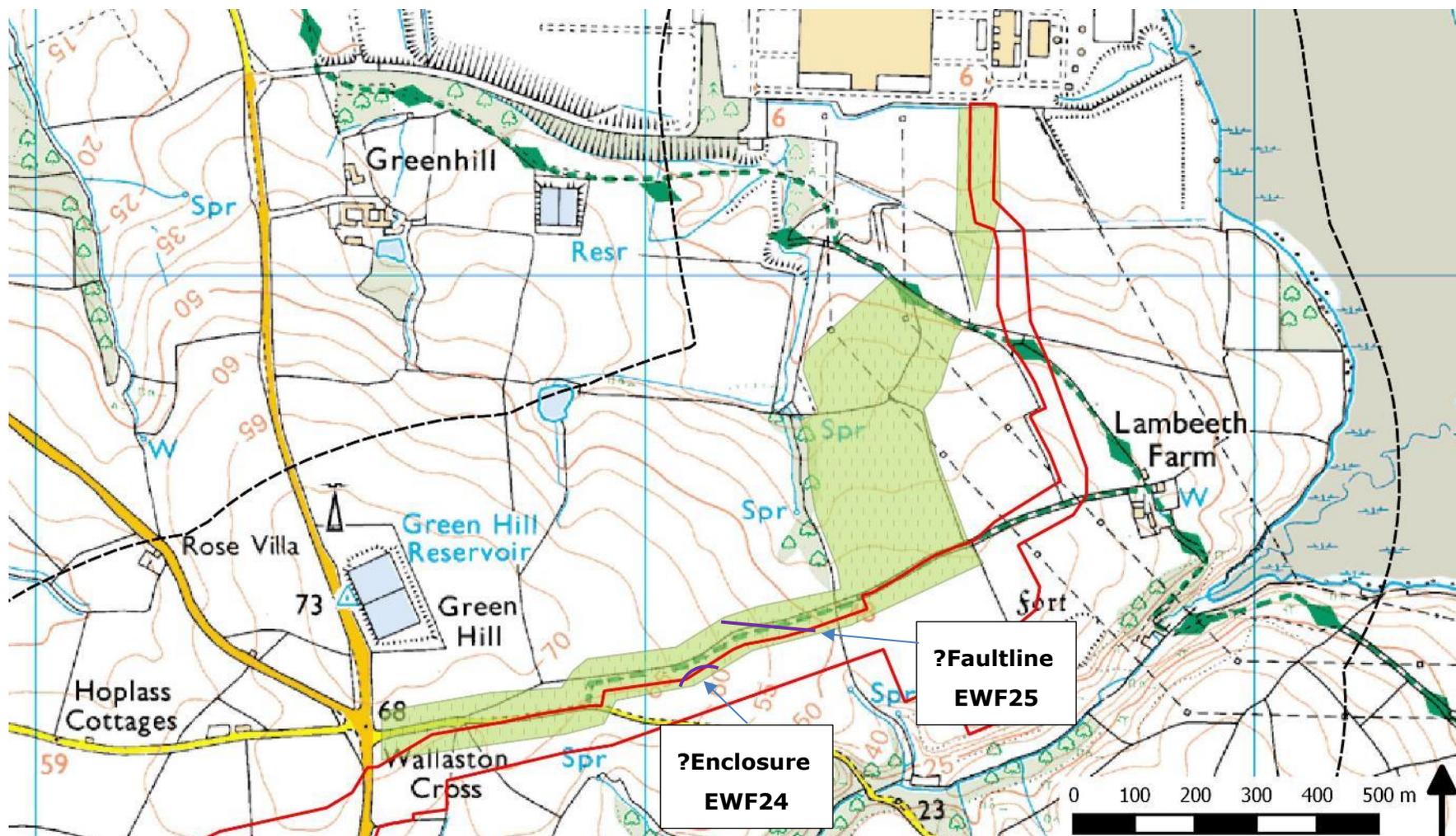
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**Figure 10:** Plan taken from Enright & Wilson 2019, showing features identified from geophysical survey in green (Davies 2019), and evaluation trenches in red. Location marked on Figure 9, features of interest discussed in Section 6.1.10 are highlighted.



**Figure 11:** Plan taken from Enright & Wilson 2019, showing features identified from geophysical survey in green (Davies 2019), and evaluation trenches in red. Location marked on Figure 9, features of interest discussed in Section 6.1.11 are highlighted.



**Figure 12:** Areas subject to previous geophysical survey are shown in green, alongside the current proposed cable route corridor in red. The location of features of interest, described in section 6.1.12, are highlighted.

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## 6.2 Historic Mapping

### Ordnance Survey original surveyors map (T.Budgen) – Milford Haven 1809 (Figure 13)

- 6.2.1 Earlier maps of the area do exist, for example Christopher Saxton's map of Pembrokeshire in 1578, Paul Ive's map of Milford Haven in 1595, and Emmanuelle Bowen's map of South Wales in 1729. These maps indicate some of the settlements and farmsteads were well-established, such as Angle, Kilpaison, Newton, Bangeston and Lambeeth, but they lack detail and accuracy.
- 6.2.2 The initial Ordnance Survey maps from the early 19<sup>th</sup> century provide some of the earliest informative mapped evidence of the area. These maps suggest a general landscape of enclosed agricultural land (although individual fields are not marked closely), dispersed farmsteads and the village of Angle, very similar to the present day landscape with the marked exception of mid to late 20<sup>th</sup> century military and industrial sites. A large number of the present-day farmsteads clearly have early origins and appear on this map. Newton Farm is of particular note, as a small hamlet appears to extend to the southwest of the farm. The local road network appears well-established by this point, with the only divergence from current routes being the east-west road between North and South Studdock, which is no longer visible, and southward road from West Angle Bay, a route now followed by a public footpath.
- 6.2.3 There are a few individual features of note marked on this map indicating sites of potential archaeological interest within the proposed red line boundary. At the east end of the route near Lambeeth Farm a small dwelling within a square enclosure is marked alongside a stream (**EWF01**), suggesting it lies within, or adjacent to, the area of the proposed substation location. Towards the western end of the route the section of road (**EWF02**) mentioned above was previously part of the main east – west access across the peninsula. No other specific features of potential interest are noted within the red line boundary.



**Figure 13:** Extract from the Milford Haven 1809 map, showing small dwelling EWF01.

Plan of Rosecrowther and Pulcrogan Estates 1824 (Figure 14)

6.2.4 Part of the route appears on an estate map of 1824, which includes a number of features of note, particularly around the Newton Farm area, where strip field agriculture (**EWFO3**) is noted, spread across several fields on the north side of the road, through which the proposed cable route runs. This is similar to the landscape around Angle, which would appear to be the fossilised remnants of a medieval form of land division and agriculture, suggesting Newton, with the collection of building indicated on the previous map, may be a site of medieval settlement.



**Figure 14:** Extract from the 1824 estate map, showing the distinctive strip field enclosures EWFO3 around Newton Farm (arrow).

Angle & Bangeston Estate Map 1825

6.2.5 This small estate map covers the area around Bangeston Farm, and includes a number of features of note, particularly early estate features in the area, although many lie beyond any area that may be affected by the proposed cable route. However, field names do suggest the presence of a former limekiln (**EWFO4**) in the area, although the site itself is not marked, and a location closer to the road, north of the proposed cable route, is perhaps a more likely location. Another nearby fieldname of 'Windmill Park' suggests the site of a windmill (**EWFO5**), previously a more common feature of this landscape. No corresponding structure is marked however.

Parish tithe maps 1838 - 42

- 6.2.6 The route passes through the parishes of Angle (1842), Pwllcrochan (1840) and Rhoscrowther (1838). Generally these maps indicate a similar landscape to the present day, with enclosed fields and dispersed farmsteads, with the main settlement concentration at Angle. Several additional cottages sites are marked, particularly around Wallaston Cross and Neath Bridge, likely housing the additional population required to work this agricultural landscape.
- 6.2.7 Although a number of now-vanished structures are shown on these tithe maps, none appear within, or adjacent to, the proposed cable route corridor. The road (**EWFO2**) is still marked, and a smaller area of strip field agriculture (**EWFO3**) remains near Newton Farm. The name 'Limekiln Park' (**EWFO4**) is also still apparent, but no structure is marked. No other specific features of potential interest are noted within the development boundary.

*Ordnance Survey 1:2500 map 1864 & 1875 (Figure 15 & 16)*

- 6.2.8 The more detailed 1:2500 scale Ordnance Survey maps of 1864 and 1875 that covering this area provide a more detailed record of features through the landscape. A number of additional cottages, and some small farmsteads, are marked that have since been abandoned, along with numerous small stone quarries, but many of these sites lie beyond the areas likely to be affected by proposed development.
- 6.2.9 To the west one of the proposed cable route corridors runs adjacent to North Studdock Cottage, which is first marked on the Ordnance Survey map of 1864 as a small simple cottage (**EWFO6**) alongside the track to North Studdock Farm. To the south the line of the road (**EWFO2**) is still marked, with remnants of strip field enclosures still visible to the north. The alignment of the strip fields with the road may indicate the road has medieval origins. The strip fields previously marked around Newton (**EWFO3**) have been amalgamated into the field pattern visible today. No other specific features of potential interest are noted within the development boundary.

*Ordnance Survey 1:2500 map 1908*

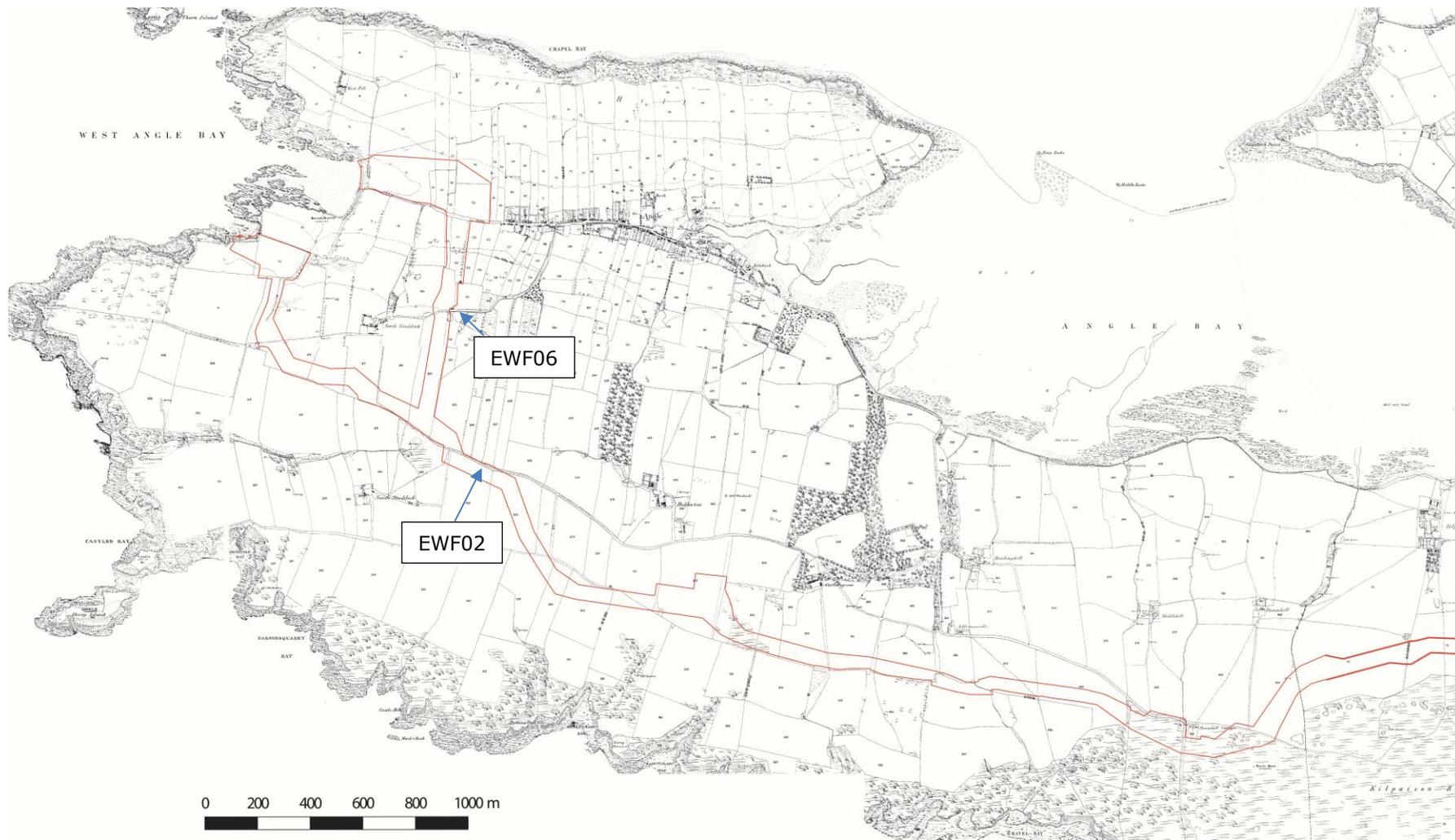
- 6.2.10 No obvious change is noted on the subsequent Ordnance Survey map of 1908, with the noted exception of the development of a Brick Works at West Angle Bay (**PRN 33853**), established towards the end of the 19<sup>th</sup> century. No further specific features of potential interest are noted within the red line boundary.

*Ordnance Survey 1:10,560 map, 1937-53*

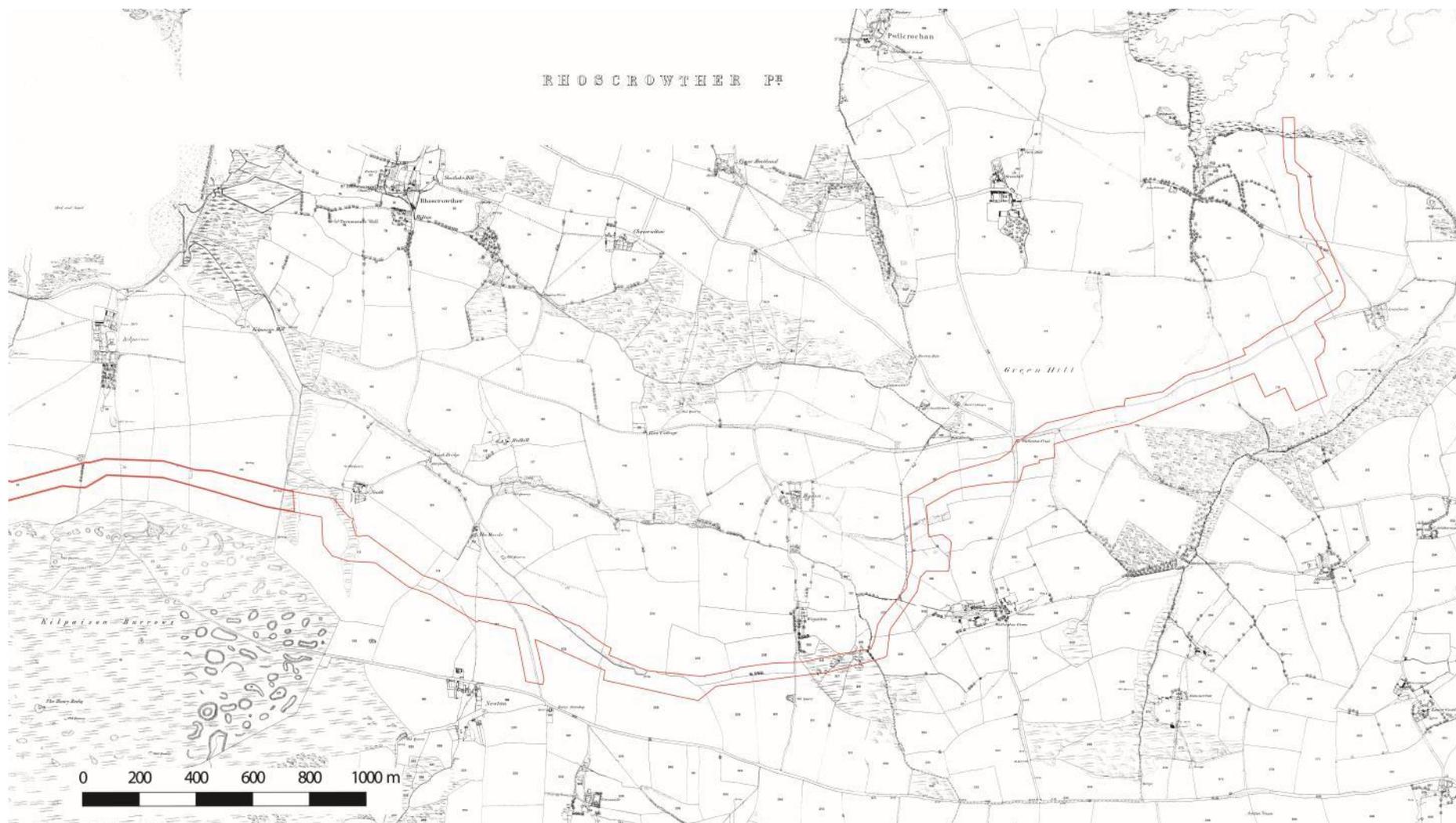
- 6.2.11 The mid-20<sup>th</sup> century maps are not recorded in as great a detail, but they mark little change in the area, with the exception of Angle Airfield (**PRN 33439**). The airfield, established during the Second World War, is not marked in any detail, as is common with sites of a military nature. It is however mapped in great detail elsewhere (see below).

*Angle Site Plan, Air Ministry, 1943*

- 6.2.12 The Air Ministry plans of 1943 record the layout of Angle Airfield in detail, although some of the labels on available mapping is now illegible. It was the creation of this airfield that led to the abandonment of the former road (**EWF02**) and many of the field boundaries across this area. The runway (**EWF07**) was laid out in a typical 'A' pattern, with the proposed cable route following the line of these runways. Starting at the western end, what is presumably the Anti-Aircraft Battery (**PRN 102553**) is marked on the south side of the field boundary, therefore just outside the red line boundary. Just within the airfield boundary a building is marked (**EWF08**) adjacent to the runway, but otherwise unlabelled. The size would suggest a hangar of some form. The cable route then follows the line of the runway (EWF07) to the eastern edge of the airfield, where two dispersal pens are noted (**EWF09 & EWF10**). These pens are embanked enclosures where aircraft can park or equipment can be stored, with the embankments both protecting sites and containing any explosion as a result of enemy bombing. At the eastern edge of the airfield lie a collection of several buildings (**EWF11**), likely comprising mess halls, hangars and stores. A number of military camps are shown in the surrounding landscaping, but these all lie to the north of the B4320 and therefore beyond the development boundary.
- 6.2.13 This map is not reproduced here, but many of these features are identifiable on contemporary photographs, see Photos 1 – 4.



**Figure 15:** Extract from the 1864-75 Ordnance Survey mapping, overlaid with proposed cable route corridor in red. Additional sites mentioned in the text labelled.



**Figure 16:** Extract from the 1864-75 Ordnance Survey mapping, overlaid with proposed cable route corridor in red.

### 6.3 Aerial & Historic Photography

- 6.3.1 A search was made of available historic aerial photographs and modern aerial photographs. A set of RAF images between 1942 and 1950 are of particular interest as they capture many of the Second World War features across this landscape, many of which have since been removed or become obscured.
- 6.3.2 Images from 1942 and 1944 (Photo 1) depict a potential enclosure (**EWF12**) appearing in the corner of a field to the south of Bangeston, through which the proposed cable route runs. A sub-rectangular area appears to be defined in the vegetation, potentially partly running underneath the southern field boundary. The feature has the appearance of a possible farmstead enclosure, although no such site is indicated on historic mapping. Nearby to the west the 1942-4 aerial photographs (Photo 2) depict a former radar station (**EWF13**), presumably associated with RAF Angle. The main mast lies just to the north of the proposed cable route, but is surrounded by a hexagonal arrangement of presumed cable stays for the upright mast, which extend as far as the southern field boundary, into the proposed cable route corridor.
- 6.3.3 Within the area of RAF Angle the aerial photographs (Photo 2) depict the runway (**EWF07**), with planes still visible using it in 1946, and still clearly visible in 1950, possibly due to it being resurfaced in tarmac. Dispersal Pen (**EWF10**) is clearly visible on the aerial photographs up to 1946, but dispersal pen (**EWF09**) does not appear on the later photographs. Airfield Buildings (**EWF11**) are visible as a collection of five buildings, still visible on the 1950 photographs. The easternmost building still appears in 1970. At the western edge of the airfield the boundary (**EWF14**) is shown on the 1942 photographs, appearing to comprise an embankment and fencing, presumably as security for the military site. This boundary is no longer apparent. The adjacent building marked on the airfield plan (**EWF08**) is visible on the 1942 photographs as a square building, but it had gone by 1946.
- 6.3.4 To the east a series of enclosures and buildings are shown in the area around Broomhill Cottage (Photo 3), which given the date and seemingly temporary nature of the features are presumably associated with the wartime anti-aircraft defences recorded to the south (PRNs 55447, 55454 & 55453). On the east side of the road down to Freshwater West lies an enclosure (**EWF15**) alongside the road, at a similar scale to Broomhill Cottage enclosure, with suggestions of internal features on the 1946 photographs. Two further possible rectangular enclosures lie immediately to the northeast, alongside the B4320. On the west side of the Freshwater West Road the 1946 photographs show a row of four roadside structures (**EWF16**), which given the date and surrounding context are likely to be temporary wartime huts.
- 6.3.5 The 1950 aerial photographs (Photo 4) depict two circular features (**EWF17**) to the east of Broomhill. The size and form of the features are suggestive of Bronze Age barrows. The site now lies under part of an oil refinery and it is assumed therefore to be completely destroyed, it also lies to the north of the proposed cable route, but is highlighted as an added indication of potential Bronze Age activity in the area.



**Photo 1:** RAF aerial photograph from 1942, showing possible enclosure EWF12. Also note the extensive military camps in the vicinity.



**Photo 2:** RAF aerial photograph from 1944 depicting RAF Angle and the various individual features described above.



**Photo 3:** RAF aerial photograph from 1946 showing the Gravel Bay anti-aircraft battery and the possible related features around Broomhill Cottage.



**Photo 4:** RAF aerial photograph from 1950 depicting the two circular features thought to be potential Bronze Age barrows EWF17.

## 6.4 LiDAR

6.4.1 Both the east and west ends of the proposed cable route corridor are covered by Lidar surveys at 1mDTM, the remainder of the route covered by surveys at 2mDTM. The surveys indicate the RAF Angle (PRN 33439) runways (EWF07) may survive as earthwork features, but no further features of particular archaeological interest beyond those previously described are noted.

## 6.5 Site Visit (Photos 5 - 35)

6.5.1 A number of site visits were undertaken in late April, mid May and early June 2021. Weather conditions were very mixed, from bright and sunny, through to foggy, windy and wet, but sufficient visits were made to ensure good visibility from the site and surrounding designated assets. The site visit is subdivided into sections starting from the western end, for ease of description.

6.5.2 ***From the proposed landfall sites at West Angle Bay to South Studdock:*** From Mean High Water the route passes through a modern carpark and enters a low ploughed field (currently cropped with potatoes) to the rear. Evidence of former industrial activity is visible in the area, with quarry PRN 35016 and a fine example of a limekiln PRN 33852 on the north side of the bay. To the south of the proposed route lies Woodfield House and adjacent caravan park, with the site of a former brickwork (PRN 33853) represented by a solitary chimney stack (Photo 7). The proposed cable route appears to avoid visible remains of this activity, passing through fields bounded by low banks topped by hedges. Former strip fields in this area appear to have been amalgamated into larger units (Photo 7). To the south of the road the route passes through further ploughed fields enclosed by hedgerows. No evidence of further brickwork activity was identified to the south (PRN 33855). North Studdock Cottage (EWF06) was not visited closely, but the original small 19<sup>th</sup> century cottage appears to have been replaced by a larger dwelling. To the south the route passes by a well-preserved Second World War pillbox (PRN 101392) on the field boundary (Photo 8). The site is semi-sunken brick built structure with concrete roof. The structure is currently accessible to grazing cattle, but appears to be a good example of its type. A short distance south the two proposed landfall options conjoin.



**Photo 5:** View northeast across West Angle Bay and the northern landfall option.



**Photo 6:** View east of Woodfield House and the chimney remains of the former West Angle Brickworks PRN 33853.



**Photo 7:** View northeast across the landscape surround Angle.



**Photo 8:** North facing shot of pillbox PRN 101392

6.5.3 ***From the proposed landfall south of West Angle Bay to South Studdock:*** The second landfall option comes ashore to the south of West Angle Bay, with a proposed HDD site emerging within a cattle-grazed field of pasture (Photos 9 & 10). The field lies to the south of the site of an early medieval chapel and cemetery (PRN 7595, PE554), separated by gently rising ground and scrubby hedgerows. Some stone walling is evident in the field banks along the cliff edge and on the rising ground to the south (Photo 11). The potential landfall site levels off slightly, with views northward across the chapel/cemetery and towards Chapel Bay Fort (PE333) evident. The route then continues to the crest of the ridge to the south, before turning east. The route passes by the site of two former wartime huts identified by Roger Thomas (EWF23) and past the site of an anti-aircraft battery (PRN 102553), but no visible remains of these structures were identified on the ground. The two potential landfall routes converge to the northeast of South Studdock Farm.



**Photo 9:** View north of the cliffs around the southern landfall option.



**Photo 10:** View east across the southern proposed landfall site.



**Photo 11:** View northwest of stone-lined field boundaries around the southern landfall option.

- 6.5.4 ***From South Studdock Farm to the east end of RAF Angle Airfield:*** Building EWF08 is no longer standing, in the corner of the field lies a cleared pile of brick and concrete rubble (Photo 12), likely derived from this building and former airfield features. Similarly there are no remains of boundary EWF14. The former road EWF02 is visible as a slight indentation along the side of the modern field boundary (Photo 13), but remains appear largely ploughed out. As the proposed cable route carries on to the east the lines of the runway EWF07 are still clearly depicted within the fields (Photos 14 & 15). The runway strips have been left outside of the ploughed areas, and

are used as rough pasture. This is presumably as the hardcore base for the runways remain, preventing ploughing and crops. Tarmac edging, or roads alongside the runways, remain, and areas of rubble, including bricks stamped 'Craig/Morrison' are visible along the strips. The northwest – southeast runway runs largely along the northeast edge of the current field boundary, but the boundary crosses the line of the runway to the northwest end. The east – west runway runs along the northern edge of the field boundary. The proposed cable route corridor would cross the northwest end of the northwest – southeast runway. Field boundaries in this area comprise high banks of earth and rubble, likely formed from bulldozed remains of the former airfield (PRN 33439), potentially therefore containing artefacts related to the airfield, although most standing structures appear to have been removed. At the eastern end of the airfield the proposed cable route passes through an area of dispersal pens (EWF09 & EWF10) and airfield buildings (EWF11) (Photo 16). There are no standing remains of any of these structures, although an area of hard standing remains to the north, potentially part of the former runway and access roads, and embanked material forms the field boundaries in this area.



**Photo 12:** View northwest of cleared structural remains around EWF08. 1m scale.



**Photo 13:** View west along route of former road EWF02. Field boundary runs along the centre of the route.



**Photo 14:** View west along a section of former runway EWF07. 1m scale.



**Photo 15:** View northwest along a section of former runway EWF07, showing surviving tarmac and services. 1m scale.



**Photo 16:** View east across area of former airfield buildings EWF11.

- 6.5.5 ***From the east end of RAF Angle Airfield to Broomhill Cottage:*** As the route moves eastward it passes by the well-preserved remains of pillbox PRN 101389 (Photo 17). This brick and concrete built structure is well hidden along the hedgeline, but would appear substantially intact. To the east there are fragmentary remains of an anti-aircraft battery PRN 44603/110426 (Photo 18 & 19). The circular concrete base of a gun hold fast is visible on the ground surface. Immediately to the west the stone field wall appears to have been adapted to form part of the anti-aircraft battery structure. To the north changes in vegetation appear to mark the location of the command

post, formerly a semi-sunken rectangular structure, no above-ground structural elements remain. No further features of the battery, or the adjacent radar station (EWF13) are visible on the surface, although spread of modern rubble amongst the ploughsoil suggest potential buried remains. Slightly further east enclosure EWF12 lies in the corner of a field, vegetation and churned soil suggests a waterlogged area, and an unlikely location for a potential settlement site, suggesting features visible from aerial photographs may be natural in origin. No further features are identified in this area, although some field entrances retain their characteristic rounded masonry gateposts (Photo 20).



**Photo 17:** View north of pillbox remains PRN 101389. 1m scale.



**Photo 18:** View northeast of remains of anti-aircraft battery PRN 44603/110426. Circular remains of a gun hold fast on the right, and adapted stone wall on the left. 1m scale.



**Photo 19:** View southwest across vegetation changes marking the site of the command post, part of anti-aircraft battery PRN 44603/110426.



**Photo 20:** Typical masonry gate post in the central area. 1m scale.

- 6.5.6 **From Broomhill Cottage to Neath Farm:** Around Broomhill Cottage, on the edge of Kilpaison Burrows, a number of enclosures and former building sites were identified from aerial photography (EWF15 & EWF16). Evidence of concrete building platforms are visible to the south (Photo 22), associated with anti-aircraft defences (PRN 55454), but no visible remains of structures or enclosures are visible within the proposed cable route corridor. The Devil's Quoit burial chamber (PE020) is visible to the south (Photo 23), but was not examined closely due to the presence of young cattle in the field.
- 6.5.7 To the northeast the route passes through land owned by Valero. Access to this land was not permitted at the time of the visits.



**Photo 21:** View south of War Memorial (LB 17162, PRN 54715/59465).



**Photo 22:** View south concrete remains of former World War 2 structures PRN 55454.



**Photo 23:** View south of Devil's Quoit chambered tomb (PE020).

6.5.8 **From Neath Farm to Wallaston Cross:** To the south of Neath farm the proposed cable route passes through undulating fields of pasture, bounded by hedgerows and post and wire fencing (Photo 24). To the north of Newton fields were largely under plough, subdivided by hedgerows, with land falling gradually down to a local watercourse (Photo 25). No evidence of the former strip fields EWF03 were apparent, and no further features of archaeological interest were noted in this area. Between Wogaston Farm and Wallaston Cross the proposed cable route crosses gently undulating land of mixed arable and improved pasture, with fields bounded by hedgerows and local watercourses (Photo 26). Given the general presence of Bronze Age activity in the area, local watercourses may be areas of increased archaeological potential, but no specific feature of archaeological interest were identified in this area.



**Photo 24:** View northwest across the proposed route and landscape south of Neath Farm.



**Photo 25:** View east across proposed route and landscape north of Newton, area of former strip fields EWF03.



**Photo 26:** View southwest across the proposed route and landscape between Wogaston and Wallaston Green.

6.5.9 **From Wallaston Cross to Lambeeth Farm:** Wallaston Cross is a junction of several roads, with a modern reservoir to the north, and buildings along the local road that runs westward (Photo 27). As the route crosses this area and runs east, it enters a large open field bisected by an unbounded road, on ground that falls to the southeast into a local valley (Photo 28). The route then reaches the site of the proposed substation (Photo 29). This is a relatively level area, which then begins to fall away to the southeast into the local valley. The field is bounded by hedgerows, with the land then falling away steeply beyond the south and west boundaries into tree and scrub-covered local watercourse valleys. A small wind turbine stands along the eastern boundary of the field. Overhead electricity cables lie to the east, the Pembroke Power Station is clearly visible to the north, and Lambeeth Farm lies in on falling ground and largely out of sight to the northeast. There is

no indication of the former house/farmstead site EWF01 on the edge of the field. To the southeast an Iron Age enclosure (PRN 3244) is visible as a spread bank and slight ditch, defining a semi-circular area approximately 70m across overlooking the valley to the south (Photo 30). The site is clearly regularly ploughed, denuding the bank and infilling the ditch, but it remains clearly definable.



**Photo 27:** View north across Wallaston Cross road junction.



**Photo 28:** View west along proposed route to the east of Wallaston Cross.



**Photo 29:** View east along the route, and the proposed substation site in the background.



**Photo 30:** View southeast across site of defended enclosure PRN 4344, identified by the darker soil line across the centre.

6.5.10 **Views:** The majority of the route will result in underground cabling, therefore visual impacts on surrounding designated assets will be limited to the construction period. It was noted that from the cable corridor a number of designated assets were visible. From the landfall sites views encompass the offshore Fort of Thorn Island (Grade II\* listed 17169), and ridge location of Chapel Bay Fort (Scheduled Monument PE333, Grade II listed 17165) (Photo 31). The route also passes in relatively close proximity to West Angle Bay early medieval cemetery (Scheduled Monument PE554). There are no above-ground remains of this feature, but the area of the cemetery is inter-visible with the potential landfall sites.

6.5.11 Further along the route the prominent positioning of the 18<sup>th</sup> century windmill, turned machine gun post (Grade II listed 5926) allows it views southward that encompass a potential constructors compound area. The Rocket Cart House (Grade II listed 17166 & 17167) (Photo 32) is a similar

prominent building with views over the farmland to the south through which the corridor will run. Both structures are distinctive features of the local skyline. There is a cluster of assets around Broomhill Cottage, including the war memorial (Grade II listed 17162), Gravel Bay anti-aircraft battery (Scheduled Monument PE494) and Devil's Quoit Chambered Tomb (PE020). Both LB 17162 and PE494 are visible from the cable route corridor, but lie slightly over the crest of the landscape and are relatively indistinct features from the route. The rising ground also makes it difficult to pick out the route from the monuments themselves. PE020 lies in relatively close proximity to the route. Visible as a largely recumbent stone, it is not a prominent landmark from the route, but the proximity means that there is clear inter-visibility. Other designated assets remained indistinct until the eastern end of the route, and the location of the proposed substation.

6.5.12 The proposed substation will be the only above-ground visible element to remain after the construction phase is complete. To the south lie a collection of Bronze Age barrow sites in prominent positions with views north that incorporate the substation site to varying degrees. Wallaston Round Barrows PE064 are the closest, with extensive views in a north and north-easterly direction although the substation site is somewhat more indistinct (Photo 33 & 35). Corston Beacon round barrow PE059 is in a more prominent ridgetop location, with clear inter-visibility between it and PE064. The proposed substation site is visible, as a lower lying site with Pembroke power station to the rear and oil refinery beyond (Photo 34 & 35). From ground level the substation site is obscured by intervening hedgerows. To the southeast lie Dry Burrows Round Barrows PE060, which also lies on the edge of Orierton registered parkland PGW (Dy) 38 PEM, however there are no clear views towards the proposed substation location. Sommerton Farmhouse (Listed Building 6598) is visible to the south of the proposed substation, although the southern aspect of the house is obscured by surrounding vegetation (Photo 35). No further clear views of designated assets could be established.



**Photo 31:** View northeast from southern proposed landfall site towards Chapel Bay Fort PE333/LB17165 (arrow).



**Photo 32:** View northeast from proposed route towards Rocket Cart House (LB 17166 & 17167).



**Photo 33:** View northeast across Wallaston Round Barrows PE064 (mound in the foreground) towards the proposed substation site (arrow).



**Photo 34:** View north from immediate vicinity of Corston Beacon Round Barrow PE059 towards proposed substation site (arrow). Visibility poor but Pembroke power station lies to the left, with oil refinery development to the rear.



**Photo 35:** View southwest from the substation location, with the locations of Wallaston Round Barrows PE064 (red), Corston Beacon Round Barrow PE059 (green) and Sommerton Farmhouse Listed Building 6598 (blue) marked.

## 7 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL, IMPORTANCE AND SETTINGS

**Table 8:** Site potential definitions

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

**Table 9:** Site importance definitions

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

## 7.1 Potential

7.1.1 There are a number of specific sites of archaeological interest and areas of archaeological potential along the proposed cable route corridor that have been highlighted in the previous sections. The following section is therefore subdivided in general areas starting from the western landfall site for ease of description, with the locations shown on figures 17 - 19.

### 7.1.2 From the northernmost landfall site at West Angle Bay to the conjoining of routes near South Studdock:

**Sea Defences PRN 35015.** Stone wall sea defences built of masonry and concrete, likely therefore multi period from post-medieval through to modern. This is an extant structure, therefore potential is High. At the point the proposed cable route come ashore it is likely the sea defences are modern, forming part of the boundary to the car park, therefore value is Low.

**Findspot PRN 35014.** This relates to a mid-19<sup>th</sup> century gun, which was placed in West Angle car park, but no longer appears to be a feature, therefore of no potential and value in this instance.

**Field System PRN 5701.** The village of Angle is surrounded by fossilised remnants of medieval strip field agriculture, visible as long narrow fields running perpendicular to the village. Historic maps demonstrate it spread as far as West Angle Bay, although the western fields, through which the proposed development runs, have since been amalgamated into larger units. Identifying physical buried may be difficult, former earthwork boundaries are likely post-medieval in date, medieval boundaries are likely to be more ephemeral, therefore potential and value is Low.

**Brickworks PRN 33855.** Placename evidence suggests activity associated with brick working. Likely to be early to mid-19<sup>th</sup> century in date, no structural remains or extraction pits identified, but it may potentially be a precursor to the brickworks established in the late 19<sup>th</sup> century at West Angle Bay (PRN 33853). The lack of visible evidence suggests a Low potential, likely to be of Low value.

**Cottage EWF06.** The original 19<sup>th</sup> century precursor to North Studdock Cottage. There is the potential for associated features extending into the area, but the cottage and associated enclosure appear well-defined, and remain outside the red line boundary, therefore potential is Low, and likely value Low as well.

**Pillbox PRN 101392.** A well preserved Second World War pillbox. As an extant structure potential is High, although it is unlikely to extend beyond the visible remains. A recent survey of 20<sup>th</sup> century military sites recommended this structure for statutory protection. At present it does not have that status, but is considered of High value.

#### **Areas of general potential**

- Coastal Mesolithic and Neolithic activity, including flint flakes found nearby (PRN 3087). Low to Medium potential, unknown value.

- Bronze Age activity. Records of a palstave, dated to *circa* 1500-1150 BC, from the area to the rear of West Angle Bay. Low to Medium potential, unknown value.

- Early medieval activity. The early medieval chapel and cemetery (PE554/PRN 35095) lie in relatively close proximity. The lower valley plain is a good location for associated settlement activity. Medium potential, unknown value.

- Medieval activity. Angle village and the main road are likely medieval in origin. Proposed route crosses through areas of medieval field systems, therefore settlement and agricultural potential likely. Medium potential, unknown value.

- Post-medieval activity. Similar to the medieval potential, with the added potential of industrial and maritime activity around West Angle Bay, seen in the stone quarry PRN 35016, limekiln PRN 33852 and brickworks PRN 33853 lying nearby. Medium potential, unknown value.

7.1.3 **From the southernmost (HDD) potential landfall site at West Angle Bay to the conjoining of routes near South Studdock:**

**Second World War domestic site (EWF23).** Described as concrete hut bases, no longer visible, but below ground remains are a possibility, therefore a Medium potential. Unlikely to contain a great deal of information, therefore value is Low.

**Field Boundary PRN 107739.** Recorded during a survey of 20<sup>th</sup> century wartime features, currently visible as an embanked hedgerow. The proposed route crosses the line of this extant field boundary, therefore potential is High, but a common feature of the landscape with value being Low.

**Anti-Aircraft Battery PRN 102553.** Identified from a wartime site plan, but no visible traces at ground level. Below ground remains are possible, therefore a Medium potential, but remains likely to be of Low value.

**Areas of general potential**

- Coastal Mesolithic and Neolithic activity in the form of flint working sites, potential around the landfall area. Low to Medium potential, unknown value.

- Bronze Age activity. No specific sites of interest in the immediate locality, but the route passes by a small watercourse alongside a block of woodland near the landfall location. Such watercourses could attract potential Bronze Age activity. Low to Medium potential, unknown value.

- Iron Age activity. Nearby Iron Age promontory fort (PRN 99104) suggests potential activity around the cliff top area. Low to Medium potential, unknown value.

- Early Medieval activity. The landfall site overlooks the early medieval chapel and cemetery (PE554/PRN 35095), a potential site of further activity although previous geophysics proved inconclusive. Low to Medium potential, unknown value.

- Post-medieval activity. The site runs through a post-medieval agricultural landscape, and crosses the route to the 16<sup>th</sup> century East Blockhouse (PE 398). Low to Medium potential, unknown value.

- Modern activity. The nearby East Blockhouse was also a military site during the Second World War, defended by a boundary, mortar emplacements and a minefield (PRN 32647). The minefield was confined to the boundary, and should be avoided by the route. Searchlight batteries, anti-aircraft batteries and domestic sites in the area all demonstrate a well-used landscape during the war. Low to Medium potential, unknown value.

7.1.3 **From the conjoining of routes near South Studdock to the east side of the former RAF Angle Airfield:**

**Building EWF08.** Second World War structure, appears to have been demolished, therefore Low potential, and of likely Low value.

**Boundary EWF14.** Boundary to RAF Angle, no visible remains beyond the current modern field boundary, but there is the potential for buried evidence of a modern defensive boundary, potential is therefore Medium, but value is likely to be Low.

**Road EWF02.** Former line of the road prior to the establishment of the airfield, a route that may have medieval origins, potentially even older following the prehistoric ridgeway. Little surface trace now, much evidence likely removed through airfield development and subsequent ploughing, therefore a Low to Medium potential, and remains likely of Low value.

**Runway EWF07.** Former line of the runways of Angle Airfield (PRN 33439). Now likely to largely comprise the hardcore base, edged in tarmac surfaces and some associated services. Given that surface remains are still visible, and it clearly still impacts on current agricultural regimes, there is a High potential for further remains. Value is difficult to ascribe, as a whole it may be of Medium/Low value.

**Dispersal Pens EWF09 & EWF10.** Pens associated with the Second World War Angle Airfield. No above ground remains, both lie partly within ploughed fields and therefore below ground remains may be minimal, suggesting a Low potential. A better preserved example lies a short distance to the southwest (PRN 101390), given the likely remains these features are therefore of Low value.

**Airfield Buildings EWF11.** A small building complex associated with the Second World War Angle Airfield, potentially representing hangars, mess halls and related features. The buildings have been cleared, the field has been ploughed although the surrounding banks likely derive from this cleared material. There is therefore a Medium potential for associated remains and artefacts in the immediate vicinity. In better condition this element of the airfield would be of medium value, but given the likely condition this is reduced to Low.

**Pillbox PRN 101389.** A good example of a well-preserved Second World War pillbox, adapted to its specific location. Now largely hidden within the hedgerow and scrub, but as an extant, and well-preserved feature, potential is High. Previous surveys recommended statutory protection for this feature, which it does not have, but could be considered to be of High value.

**Radar Station EWF13.** A Second World War radar station, largely appearing to comprise a central mast and surrounding stays, since removed. Potentially only the associated stays extended into the proposed cable route corridor, therefore both potential and value is Low.

**Anti-Aircraft Battery PRN 44603 / 110426.** Second World War anti-aircraft battery associated with RAF Angle Airfield and the adjacent radar station. Potential is High as individual features have been identified, including the concrete circular base of a gun holdfast, a modified field wall adjacent, and traces of a command post building. The locations of two further gun pits are also mapped (Roger Thomas survey), although no evidence is visible at surface level. The potential survival of surface and sub-surface features suggests an increased Medium value.

### **Areas of general potential**

- Prehistoric activity. Much of this area was developed during the Second World War, it largely avoids known watercourses, and there a limited number of identified prehistoric remains in this area, therefore there is a reduced potential for prehistoric archaeological remains. However sporadic coastal findspots (PRNs 3101 & 3102) and inland findspots (PRN 3098) are still indicators of a Low potential for prehistoric archaeology in this area, of unknown value.
- Medieval activity. The likely route of a medieval road passes through the western part of this area, and farmsteads and (largely removed) field systems are likely to have medieval origins. Low to Medium potential, unknown value.
- Post-medieval activity. Similar to above, likely largely to be agricultural in nature, but may include former windmill sites (eg EWF05). Low to Medium potential, unknown value.
- Modern activity. The route passes through the former RAF Angle Airfield (PRN 33439). Individual sites appear relatively well plotted through examination of historic maps, aerial photographs, and previous surveys. Later large-scale clearance works have removed many of the standing remains, which appears to have been used to create many of the surrounding field banks. There remains Medium to High potential for below ground, and surface remains, along with artefacts within the cleared material. Unknown value.

#### 7.1.4 East of RAF Angle Airfield, past Kilpaison Burrows, to Neath Farm:

**Enclosure EWF12.** A potential feature visible from aerial photographs, but re-assessed as potentially natural in origin during the site visit. Potential and value is therefore Negligible.

**Windmill EWF05.** The presence of a former windmill is suggested by mid-19<sup>th</sup> century field names. No associated remains have ever been identified, therefore potential is Low. Any survival remains would however be of Medium value.

**Buildings EWF16.** Buildings visible on aerial photographs likely associated with Second World War activity. No visible remains exist, and as they do not appear to have been around for long, therefore they may have been relatively temporary buildings with a Low potential for associated remains surviving, and of a Low value.

**Enclosures EWF15.** A series of possible rectilinear enclosures visible on aerial photographs, likely associated with Second World War activity as further enclosures are recorded to the south associated with anti-aircraft sites (PRNs 14355, 55447, 55453 & 55454, PE494). They appeared quite extensive, therefore there is a Low to Medium potential, but below-ground remains are likely to be of Low value.

**Enclosure EWF18 / Bronze Age Barrow EWF19.** A possible prehistoric enclosure and Bronze Age barrow identified from survey and excavation immediately adjacent to the proposed route, with indications that activity extends into the proposed route. Potential is therefore High, and relative dates suggests value is Medium.

#### **Areas of general potential**

- There is a Low to Medium potential for Mesolithic archaeological remains, likely related to sporadic findspots of flint artefacts and flint-working sites, particularly in the Kilpaison Burrows areas, as highlighted by PRNs 3072, 3103, 11383 & 12223. Unknown value.

- There is a Medium potential for Neolithic archaeological remains, illustrated by the sporadic findspots illustrated above, including PRN 3073. This potential is likely at its greatest as the site passes close to the Neolithic burial monument of PE020 / PRN 3071. Unknown value.
- There is a Medium to High potential for Bronze Age archaeological remains. Kilpaison Burrows has a number of Bronze Age burial mounds within it, such as PRN 3079 & 3080, other potential burial mounds lie to the north of the proposed route (EWF17), barrow EWF19 also suggests adjacent activity, and burnt mounds are recorded on local watercourses (PRN 3074), with the proposed route traversing a number of such small water courses. Unknown value.
- As for much of the route there is likely to be a Low to Medium potential for medieval and post-medieval archaeological remains, given many of the local farmsteads and much of the field system may have medieval origins, and continued operating throughout the post-medieval period. Unknown value.
- Modern potential, associated with Second World War features, begins to decline as the route moves away from the former RAF Angle Airfield, although there is a Medium potential for features clustered around the Broomhill Cottage area, likely associated with the anti-aircraft gun sites to the south (PE494, PRNs 14355, 55447, 55453 & 55454). Unknown value.

#### 7.1.5 Neath Farm to Wallaston Cross:

**Boundary Ditch EWF20.** A possible prehistoric ditch identified in previous survey and excavation to the north, but on an alignment that may take it into the proposed route corridor. Potential is Medium, value however appears to be Low.

**Strip Fields EWF03.** Remnants of possible medieval strip field agriculture visible on early to mid-19<sup>th</sup> century mapping. The external field boundaries remain, but internal boundaries are gone and the area regularly ploughed, therefore potential for surviving remains is Low. Value is Low.

**Cross PRN 7931.** The presence of a cross suggested by the fieldname, but it would appear more likely to be referring to the road junction, formerly a more prominent cross-roads with access to Newton to the south. Potential and value are therefore Low.

**Cross PRN 7932.** Place name evidence suggesting the potential presence of a cross. As with the above however, this is more likely a reference to the prominent cross roads at this location. Potential and value therefore Low.

#### **Areas of general potential**

- The recorded evidence would suggest a reduced potential for Mesolithic and Neolithic activity as the route moves away from Kilpaison Burrows, with the exception of possible flint artefacts recovered from somewhere around the Wallaston Cross area (PRN 3250). Potential is therefore considered Low, value unknown.
- Bronze Age potential remains Medium. Burials mounds around Neath Farm (EWF21) and Wallaston to the southeast (PE064) highlight the Bronze Age presence in the landscape, and burnt mounds recorded near Neath Farm (PRN 3239) highlight further activity, particularly associated with local watercourses. Value unknown.
- Medieval potential is considered to be Medium, with farms such as Neath, Newton and Wallaston having medieval origins, Newton in

particular being a potential settlement site with surrounding strip field agriculture. Value unknown.

- Post-medieval potential is also considered to be Medium, continuing the same settlement, enclosure and agricultural landscape of the medieval period. There is a particular increase of potential in the Wallaston Cross area, as historic mapping indicates a larger number of cottages former clustered around this road junction. Value unknown.

#### 7.1.6 Wallaston Cross to Pembroke Power Station:

**House/farmstead EWF01.** A small farmstead or dwelling marked on an early 19<sup>th</sup> century map. There is no evidence of surviving features at ground level, and no associated evidence identified in recent ground investigation works, therefore potential and value is Low.

**Defended enclosure PRN 3244.** A well-defined, but plough-denuded Iron Age defended enclosure. It lies outside the proposed development area, but associated features may extend within the development boundary, and therefore potential is Medium. Similar sites are generally considered of high value, this site is clearly affected through regular ploughing, but would still be considered to be of High value.

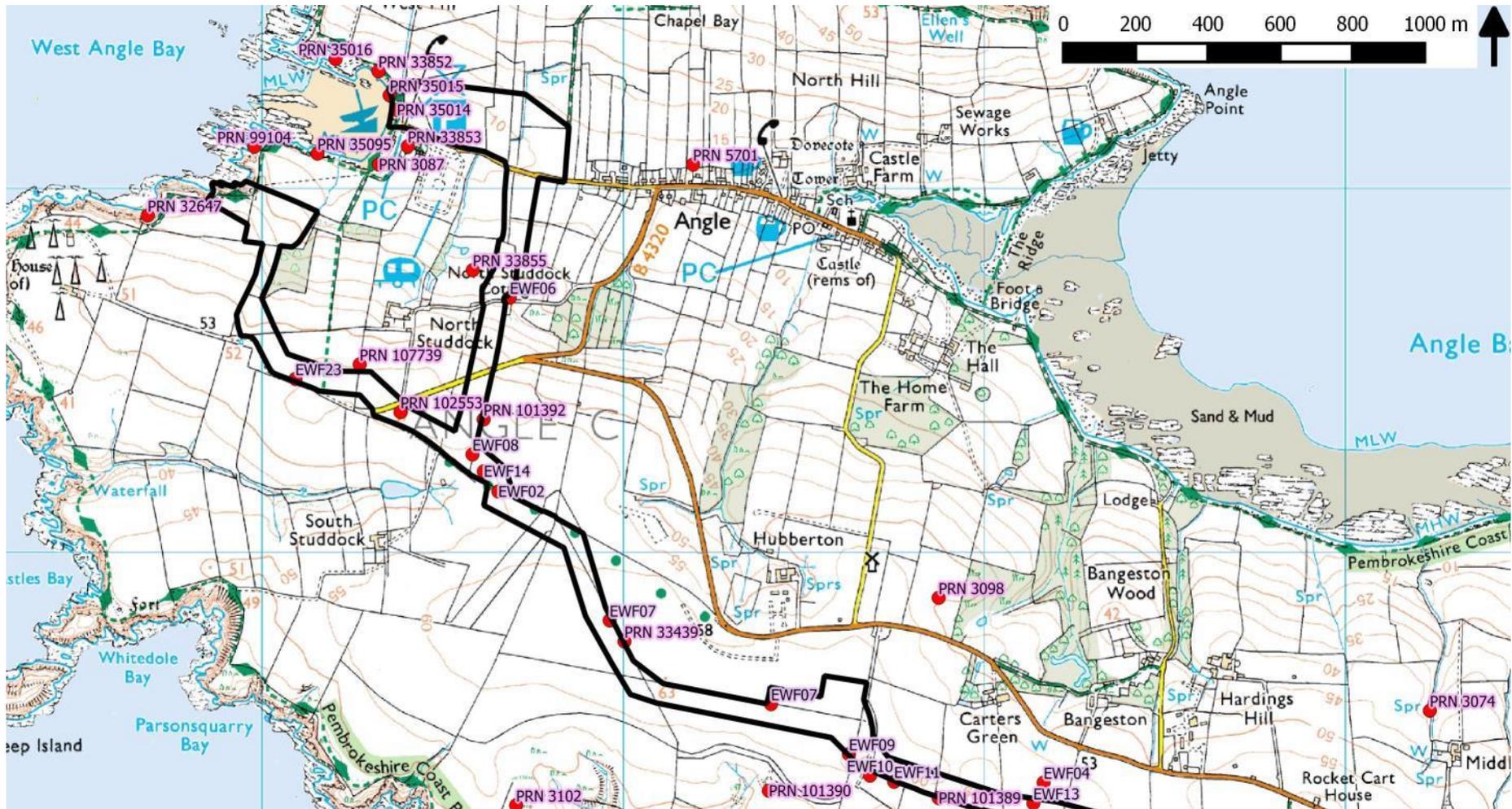
**Round barrows PRN 48371.** A record of a pair of Bronze Age round barrows in the locality, excavated in the 1920s. Their location has not been verified, therefore there is a Medium potential that they may exist within the proposed development area. Previously excavated, and clearly denuded as they are no longer visible, therefore value is likely reduced to Medium.

**Linear feature EWF24.** A curvilinear feature identified from recent geophysical survey. The nature of the feature has not been confirmed through excavation, but it was suggested it may represent an enclosure, and the alignment suggests it extends into, and potentially across, the proposed development area. Potential is therefore High, but value is unknown.

**Linear feature EWF25.** A strong linear feature identified from recent geophysical surveys, on an approximate east – west alignment taking it into the development area and substation location, potential is therefore High. The nature of the feature is untested, it was suggested it may be geological in nature however, therefore value is Low.

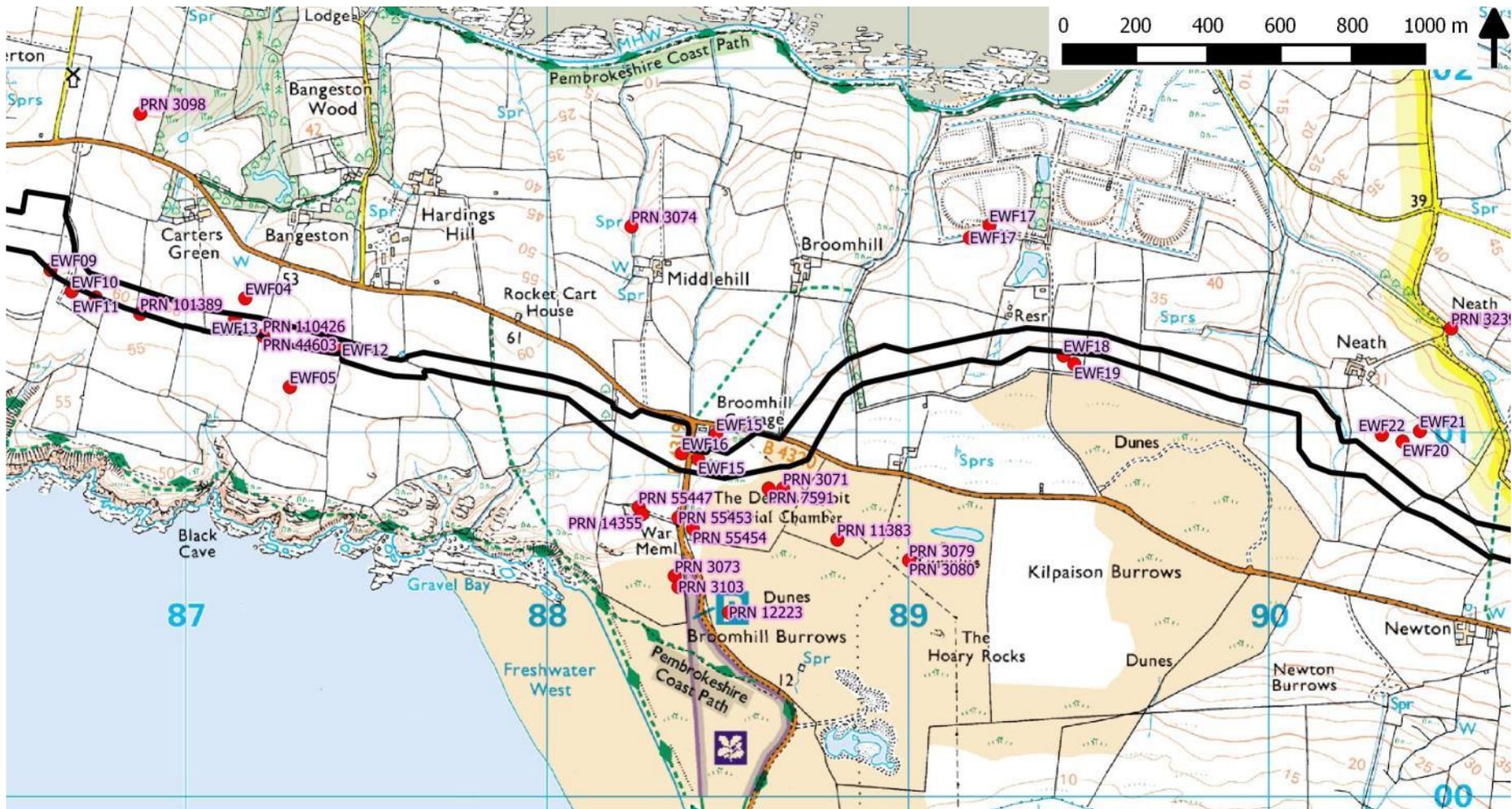
#### **Areas of general potential**

- There is a Low to Medium potential for Mesolithic/Neolithic activity in the Wallaston Cross area due to records of flint finds in the vicinity (PRN 3250), but otherwise the potential would appear to be low for the rest of the route due to a lack of recorded activity. Value unknown.
- There is a Medium potential for Bronze Age activity in the area between the proposed substation location and Pembroke Power Station, primarily because of records of a pair of barrows in the area, that have not been positively located (PRN 48371). Value unknown
- There is a Medium to High potential for Iron Age activity, particularly in the area of the proposed substation, as this is located in close proximity to an Iron Age enclosure (PRN 3244). Value unknown
- There is a Low to Medium potential for post-medieval activity. The farms in this area are likely to have relatively early origins in the post-medieval period, and well established field enclosures. 18<sup>th</sup> and 19<sup>th</sup> century quarry sites and limekilns are also a common feature of the locality. Value unknown



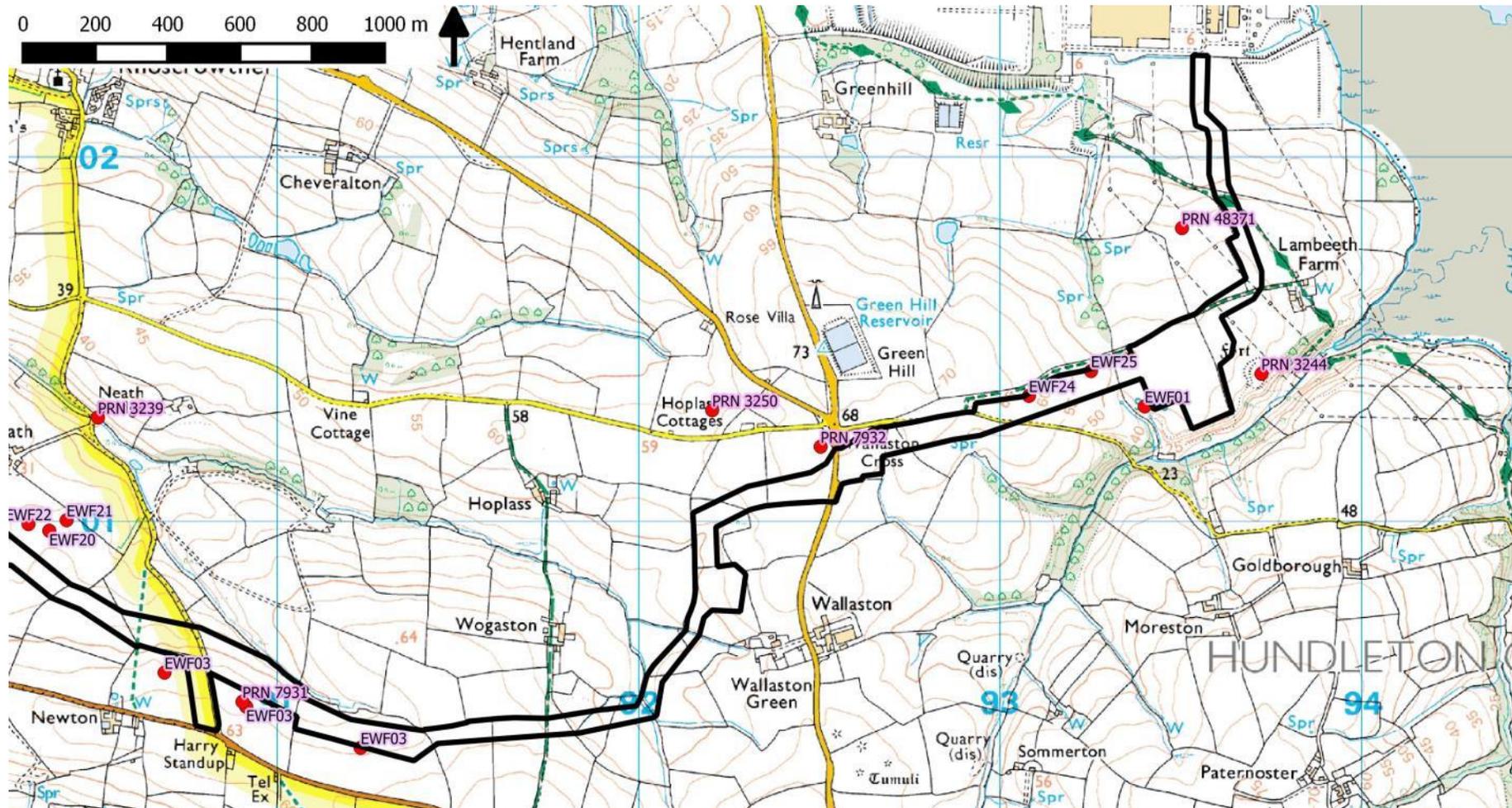
**Figure 17:** Specific sites mentioned in Section 7.1.

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**Figure 18:** Specific sites mentioned in Section 8.1.

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**Figure 19:** Specific sites mentioned in Section 8.1.

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## 7.2 **Setting**

7.2.1 The *Setting of Historic Assets in Wales* (Cadw 2017) offers guidance on defining and analysing the setting of designated historic assets to allow the impact of development to be appropriately assessed. The setting of such monuments includes ‘the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve’ (Cadw 2017). As such it often extends beyond the physical boundaries of the monument itself. This may include physical elements in its surroundings, such as boundaries and other monuments, relationships with other historic assets and natural features, or associated agricultural, industrial or other surroundings. Less tangible elements are also included, such as function, sensory perceptions, historical, artistic, literary and scenic associations.

7.2.2 There are a large number of high status historic assets within the 3km search area surrounding the proposed development site, see Section 4. Many of these sites can be discounted as it is clear the proposed development will not impact upon their settings, therefore only those assets and their settings that may be impacted upon by the proposed development area outlined below, with the potential impacts assessed in the subsequent section.

### 7.2.3 **Scheduled Monuments:**

#### Dismissed sites

- A lack of visual links, or other identified links with the development area discounts sites lying on the north side of the Milford Haven Waterway, namely Iron Age Promontory Fort PE416, and 19<sup>th</sup> century forts PE334 & PE337.
- This is also the case for a number of sites along the south side of the Waterway, but with no links to the proposed development area, including the 19<sup>th</sup> century Fort Popton PE446, the prehistoric West Popton Camp PE264, the prehistoric Enclosure and Earthworks at Lewiston Hall PE400, and the prehistoric West Pennar Camp PE262. Views are blocked by topography and intervening industrial development. There is the potential that some of the prehistoric sites may have been contemporary features along with the Iron Age defended enclosure PRN 3244 close to the proposed substation location, but no direct links between these sites has been established.
- Also on the south side of the Waterway lie a number of sites within Pembroke Dock, namely Southwest Dockyard Tower PE332, Paterchurch Tower PE380 and Bomb Stores PE570, that share no link to the development area.
- To the south lies Iron Age Kings Mill Camp PE245 and medieval Castlemartin Castle PE166, neither of which share any visual or other links to the development area.
- Closer to the development area lies Iron Age West Pickard Camp PE167 and Promontory Fort at Sheep Island PE411 on the south coast, but no visual links have been identified. These forts lie within a wider landscape of coastal Iron Age enclosure, two of which are recorded around West Angle Bay, but no relationship to these sites should be affected by the proposed development.
- Similarly the medieval sites of Eastinton Manor House PE263 in Rhoscrowther, and Angle Dovecot PE067, The Tower PE068 and Angle Castle PE069 on the east side of Angle have no visual links despite their closer proximities. The medieval enclosure pattern, notably the strip

fields, surrounding Angle can be seen as part of the setting for the sites in Angle, but the layout of this landscape setting should remain unchanged by proposed development.

#### Considered Sites

**Chapel Bay Fort PE333** is a mid-19<sup>th</sup> century defensive structure, designed to provide protection for the waterway to the north. The focus for the visual setting of this site is the waterway to the north, inter-visibility with other forts and the 19<sup>th</sup> century ports and harbours it protected, and its cliffside location offering it defensive capabilities and an elevated view. This prominent situation on high ground north of Angle also offers extensive views across the proposed landfall sites, and similarly views from these locations. These southward views are unlikely to be significant features of its original setting however, which would be focussed across the sea, but they are accessible views today as the coastal paths runs around the outer boundary of the fort. The main access to the site also runs along a straight narrow lane from the Angle road to the south, which forms the eastern boundary of the proposed development area.

**West Angle Bay early medieval settlement PE554** overlooks West Angle Bay between the two landfall options. The site itself has been archaeologically investigated and its boundaries reasonably well defined. Its coastal situation would appear to be an important element of its setting, potentially allowing the site to be accessible to and visible from the bay, but the site is also likely to have been associated with settlement in the locality. The location of this settlement has not been positively identified, the area to the south has been subject to geophysical survey but the results are inconclusive. It is possible settlement may have been centred further to the east, as the current settlement of Angle clearly attests to this being a suitable location. Rising ground to the south provides clear views across the site, views which allow for an understanding of the site in its coastal setting.

**The remains of East Blockhouse PE398** is a 16<sup>th</sup> century coastal defensive structure, which as with PE333 has a setting that is concentrated on its ability to defend the waterway and views across it, particularly to West Blockhouse Point and St Anne's Head. There are no visual links with the proposed development, but the main access to the site is likely to have been a relatively straight route from the east, and is probably the same route the current access to East Blockhouse runs along. The proposed development site runs alongside this.

**Devil's Quoit Burial Chamber PE020** is a Neolithic chambered tomb. The setting for this monument extends across the area of Kilpaison Burrows as this area contains a variety of identified prehistoric sites within an extensive area of sand encroachment. The area of the burrows runs as far as the Valero boundary north of the B4320, although the known prehistoric archaeological sites are concentrated to the south. A visual and physical connection to the route of the B4320 is also likely to be an element in its setting, as this route appears to follow the line of the prehistoric 'ridgeway', a focus of much prehistoric activity. Visually the site is not especially prominent, so viewpoints are relatively localised around it.

**Corston Beacon Round Barrow PE059, Dry Burrows Round Barrows PE060, Wallaston Round Barrows PE064 and Round Barrow 400m N of West Oriulton PE525** all share similarities in setting. They represent a series of contemporary, or near contemporary Bronze Age burial sites in relatively close proximity, clustered around the 'ridgeway'. PE064 and PE059 are inter-visible, and PE060 and PE525 were likely originally inter-visible (now blocked by parkland woodland), but it is less certain if the latter two

were inter-visible with the former. Further barrows are recorded to the west, and it would appear that the 'ridgeway' formed an important element in the setting, as a focus for a range of prehistoric activity, even if the inter-visibility of the monuments themselves was a less certain element of the setting. PE064 and PE059 in particular have more extensive views northwards, and it is possible that views north may have been a factor in their setting as there are records of former barrow sites in between Lambeeth Farm and Pembroke Power Station, but this is difficult to ascertain as these monuments have since been lost. Associated settlement has not been identified, although a number of burnt mounds suggests localised activity around fresh water sources.

**Defensible Barracks, Pembroke Dock PE379** is a 19<sup>th</sup> century military structure. The site is closely associated with Pembroke Dock itself, and the contemporary naval institutions within. It is also prominently located on high ground with extensive views. These views are primary over Pembroke Dock itself and out into the Milford Haven Waterway north and west, to include the sites for which the inhabitants of the barracks would defend, work at and embark from. The prominent situation does however mean that views also extend in other directions. Similarly, prominent views of the site are from the north and west, with the site less distinct from the south.

**Gravel Bay anti-aircraft battery PE494** is a Second World War emplacement defending RAF Angle and the military and maritime resources of the Milford Haven Waterway. Due to the recent and well-documented history of the site and its contemporary landscape, its setting is both well-understood, and relatively comprehensive. The visible remains are part of a complex of defences around the Milford Haven area, and RAF Angle in particular, that form its wider setting. Aside from the airfield, the numerous camps surrounding the site would have provided the personal and communication network, many of which are documented within the assessment. Of particular association are a series of buildings that line the B4319 up to Broomhill Cottage, of which the concrete base of some still survive as visible features on the east side of the road, and these form part of its immediate setting. In terms of its visual setting clearly views southward out to sea are important factors, as well as views skyward.

#### 7.2.5 Listed Buildings

##### Dismissed sites

- The listed buildings considered within the 3km search area surrounding the proposed development are too numerous to describe individual settings, therefore the following will concentrate only on those sites that may have a potential setting that incorporates some element of the proposed development.

##### Considered sites

**Thorne Island Fort 17169**, a Grade II\* listed mid-19<sup>th</sup> century fort located off the mouth of West Angle Bay. As with many of the Scheduled forts that surround the Waterway, the fort was positioned to defend the waterway, as an outer layer of defence with Dale Fort protecting the mouth of the Waterway. Therefore views from this site across the mouth of the waterway, particularly inter-visibility with Dale Point to the west, and subsequently Stack Rock and South Hook Point to the east are important elements, as is its defensive rocky island location. The site is a prominent feature of views from West Angle Bay, and this viewpoint is a factor in its current setting.

**Chapel Bay Fort 17165**, a Grade II listed fort, also Scheduled, and its setting described above (**PE333**).

**Nos 34 & 35 Angle Road 17159 & 17160**, a pair of Grade II listed cottages remodelled in *circa* 1905 by landowner Colonel Mirehouse as part of a systematic village improvement. The cottages represent the western extremity of these improvements, largely focused on the heart of the village to the east, but the distinctive architecture of these improvement is an important component of the setting. As roadside properties views of the cottages incorporate views westward along the road towards West Angle Bay, which will be crossed by the proposed development.

**Windmill adapted as machine-gun post 5926**, a Grade II listed 18<sup>th</sup> century windmill structure adapted during World War 2 to act as a machine gun post. It was adapted as its prominent location offered an extended range that could be protected by the machine gun post. This was primarily to protect the battle headquarters set up to the east, but also covered the northern reaches of RAF Angle to the south, through which the proposed development will run. The structure is a prominent feature viewed from the B4320 to the south, and the adjacent local road to Angle.

**Rocket Cart House and Lookout Tower 17166 & 17167**, a Grade II listed late 19<sup>th</sup> century base for the cliff-rescue team. The site was positioned to afford extensive views of the coastal regions and direct access to the road as part of its main function. Views from the lookout tower were probably more important than views of the tower, nevertheless it is a prominent landmark visible from many points along the B4320, and coastal paths.

**War Memorial 17162**, a Grade II listed memorial to honour those lost in the First World War. The memorial is placed next the road, with ground falling to the south, a location that appears chosen with views of the sea and Freshwater West beach forming part of the visual backdrop. The monument comprises a prominent cross, and is therefore visible when approached along the B4319 from the north.

**Somerton Farmhouse 6598**, a Grade II listed late 18<sup>th</sup> century house built in a picturesque style. The house is in a prominent position with views north towards the proposed substation location possible. The main aspect of the house is on the main approach to the south, but the building is set out to allow extensive view north toward the Milford Haven Waterway, although these views now incorporate much modern industrial activity with Pembroke Power Station and the oil refinery to the rear.

**The Defensible Barracks 6448**, a Grade II\* barracks. Also a Scheduled Monument, see **PE379** above.

#### 7.2.6 Registered Historic Landscapes

The proposed cable route passes through four Historic Landscape Character Areas (HLCAs), part of the Milford Haven Waterway Landscape of Outstanding Historic Interest (HLW(D)3). These areas comprise HLCA 352 West Angle to Freshwater West Coastal Strip, HLCA 342 Angle, HLCA 341 Rhoscrowther and HLCA 343 Angle Airfield. Their setting is encapsulated in the characteristic elements set out in section 7.4.

#### 7.2.7 Registered Historic Parks and Gardens.

Orielton (PGW (Dy) 38(PEM), a Grade II listed parkland, encapsulates an area of parkland around an early 19<sup>th</sup> century manor house, and includes a

number of parkland features within the boundary, with an area of essential setting to the south. The setting of this parkland should remain unaffected by proposed development, and is not considered further.

#### 7.2.8 **Conservation Areas**

The proposed development runs through part of the Angle Conservation Area. The detailed Conservation Area Proposals (2011) describe a number of individual features, areas and viewpoints that are important factors in the setting of the Conservation Area, summarised in section 4.6.

## **8 IMPACT ASSESSMENT**

### **8.1 Impact assessment criteria**

- 8.1.1 The criteria for the assessment of impacts, both direct and indirect, on historic assets is based on The Department for Transport 'Transport Analysis Guidance' (TAG), Unit A3 'Environmental Impact Appraisal: Section 8 Impacts on the Historic Environment', of May 2019, with additional information based on professional judgement. This approach is very similar to the assessment methodology detailed in the Design Manual for Roads and Bridges (DMRB, LA106 Cultural Heritage Assessment). In addition however, the guidance offered in the Setting of Historic Assets in Wales (Cadw 2017) has been utilised.
- 8.1.2 The TAG criteria divides the impacts into seven categories, ranging from Large Adverse (negative), Moderate Adverse (negative), Slight Adverse (negative), to Neutral, and then on to Slight Beneficial (positive), Moderate Beneficial (positive) and Large Beneficial (positive).

### **8.2 Development details**

- 8.2.1 The proposed development will comprise the installation of a floating offshore wind farm (FLOW) in the Celtic Sea, approximately 44km southwest of the Pembrokeshire coastline. This will be connected at 66kV via cabling to an onshore substation, before connecting to the network at 132kV at Pembroke Power Station. The proposed onshore cable route is laid out in Section 3.
- 8.2.2 Two options are proposed for the potential landfall connection. The northern option allows for the cabling to come ashore via trenched excavation. A transition joint bay may be required to connect the land and subsea cables. This bay is anticipated to be approximately 12m long, 6m wide and 2.25m deep, and would likely be located in the field to the rear (east) of the West Angle Bay car park. If required the joint may be housed in a submerged concrete structure. After installation access will be required for regular inspection during the operational life of the wind farm, and security fencing or a locked entry system may be required at this point. The southern option allows for Horizontal Directional Drilling (HDD) to bore the cable underground from the sea through the bedrock, to emerge within the field. A pilot hole is drilled in one direction, with a reamer then pulled back in the opposite direction to enlarge the hole. A compound will be established at the drill point, generally estimated at about 50m by 40m to accommodate a working area, materials and facilities, as well as the drilling rig and entry pit. It is assumed topsoil removal will be required to install membrane and hardcore to provide a suitable working surface, and a hole will be excavated at the drill point. When crossing other onshore obstacles, a smaller compound will be required at the drill reception area.
- 8.2.3 The cabling will be buried underground. The majority of this will be achieved through open cut trenching. A corridor 25m in width will be required to include the trench, safety zone, access and topsoil storage, with the potential therefore for approximately 15m-20m of this width to be stripped of topsoil. Trench excavations themselves will be 1m wide, and approximately 1.5m deep. Cables will be buried at depths of between 0.8m to 1.1m, with the trench backfilled with sand and/or stabilised material, and original subsoil and topsoil returned to the site after construction. At various points enlarged joint bays will be excavated to join cable sections. These bays will be approximately 10m long, 3m wide and 2m deep. The exact number is not known. Each bay will be marked with a manhole.

- 8.2.4 At some road and watercourses HDD may be utilised to go beneath these obstacles. An alternative undergrounding option is to use auger boring. A working pit approximately 20m by 15m will be excavated to the required depth on one side of the obstacle, with a receiver pit approximately 10m by 10m on the other side, and auger will be bored horizontally beneath the obstacle.
- 8.2.5 A number of constructors compounds will be established along the route, for the storage of cabling, machinery, material storage, working areas, access space and personnel facilities. Suitable hardstanding will need to be provided, likely to involve topsoil removal, with membrane and hardcore laid. The proposed development area is increased at various points to accommodate potential compounds, notably at the landfall locations, south of Hubberton, west of Broomhill Cottage, and northwest of Wallaston.
- 8.2.6 The substation will contain busbars, a control building and ancillary equipment for metering, protection and services. A large area, up to 280m by 200m, is assessed, to accommodate substations for both the current proposals and Greenlink installations. The arrangement and appearance of the substation is subject to refinement, but is may potentially consist of a single building alongside arrays of large electric equipment, within a fenced compound. A worst-case scenario for the building is estimated at 35m long, 25m wide, and 15m high.

### 8.3 Material impacts upon the historic assets

- 8.3.1 Specific sites and areas of potential that may be affected are described in Section 7.1. Impacts upon these sites are illustrated below, laid out according to the areas described in Section 7.1:
- 8.3.2 ***From the northernmost landfall site at West Angle Bay to the conjoining of routes near South Studdock:***

Site	Description of impact	Level of impact
<i>Sea Defences</i> PRN 35015	Potential removal of a section of sea wall to accommodate cable trench. Likely to be a small section of the overall length, in an area of modern walling.	Slight Adverse
<i>Findspot</i> PRN 35014	No impact.	Neutral
<i>Brickworks</i> PRN 33855	Potential for brickworking features to be exposed within the construction corridor, and disturbed through trenching.	Slight Adverse
<i>Cottage</i> EWF06	Potential for evidence associated with the cottage to extend into construction corridor, although the location of the main structural features will clearly be avoided.	Slight Adverse - Neutral
<i>Pillbox</i> PRN 101392	Lies on the edge of the development area, potential for structural remains to be disturbed or removed in the creation of the construction corridor and movement of machinery.	Moderate Adverse

General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse
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8.3.3 **From the southernmost (HDD) potential landfall site at West Angle Bay to the conjoining of routes near South Studdock:**

Site	Description of impact	Level of impact
<i>Second World War domestic site (EWF23)</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Any surviving evidence is likely to lie within the construction corridor.	Moderate Adverse
<i>Field Boundary PRN 107739</i>	Section of the field boundary will likely be removed through trenched excavation, although the majority of the boundary and its line will be undisturbed.	Slight Adverse
<i>Anti-Aircraft Battery PRN 102553</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Any surviving evidence is likely to lie within the construction corridor.	Moderate Adverse
General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse

8.3.4 **From the conjoining of routes near South Studdock to the east side of the former RAF Angle Airfield:**

Site	Description of impact	Level of impact
<i>Building EWF08</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Any remains are likely to lie within the construction corridor.	Moderate Adverse
<i>Boundary EWF14</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Only a small section of the potential boundary will be affected.	Slight Adverse
<i>Road EWF02</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Slight Adverse

<i>Runway EWF07</i>	Potential for surface and below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. The proposed route largely lies alongside the runway, therefore largely avoiding it, but a section is crossed by the construction corridor, and a construction compound is located across the line of the runway.	Slight to Moderate Adverse
<i>Dispersal Pens EWF09 &amp; EWF10</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. These sites lie on the edge of the potential construction corridor, and subsurface remains are likely to be minimal.	Slight Adverse - Neutral
<i>Airfield Buildings EWF11</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Some remains are likely to extend into the construction corridor.	Slight Adverse
<i>Pillbox PRN 101389</i>	Lies on the edge of the development area, but is well-hidden within the hedgerow. Potential for structural remains to be disturbed or removed in the creation of the construction corridor, movement of machinery or any vegetation clearance.	Moderate Adverse
<i>Radar Station EWF13</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Evidence likely to be insubstantial within the construction corridor however.	Slight Adverse - Neutral
<i>Anti-Aircraft Battery PRN 44603</i>	Some standing remains and surface evidence in close proximity to the potential construction corridor, and a likelihood of below-ground remains extending into the construction corridor. Potential therefore for remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse
General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse

8.3.5 **East of RAF Angle Airfield, past Kilpaison Burrows, to Neath Farm:**

Site	Description of impact	Level of impact
<i>Enclosure EWF12</i>	N/A.	Neutral

<i>Windmill EWF05</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Location of potential site unknown however.	Slight Adverse
<i>Buildings EWF16</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Site likely straddles construction corridor, but below-ground remains may be minimal at best.	Slight Adverse - Neutral
<i>Enclosures EWF15</i>	Potential for surface and below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Part of the potential enclosures lie within the construction corridor, although the majority remains outside the development area.	Slight Adverse
<i>Enclosure EWF18 / Bronze Age Barrow EWF19</i>	Indication is that the possible enclosure will extend across the construction corridor, with associated activity suggested in the area. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse
General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse

### 8.3.6 **Neath Farm to Wallaston Cross:**

<b>Site</b>	<b>Description of impact</b>	<b>Level of impact</b>
<i>Boundary Ditch EWF20</i>	Suggestion that this ditch may extend into the construction corridor, but extent uncertain. Majority of the known site will remain beyond the development area. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Slight Adverse
<i>Strip Fields EWF03</i>	Extensive area of former strip field, through which the construction corridor will pass. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Surviving evidence likely to be poor or ephemeral however, with larger areas beyond the development area.	Slight Adverse
<i>Cross PRN 7931</i>	N/A.	Neutral

<i>Cross PRN 7932</i>	N/A	Neutral
General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse

8.3.7 **Wallaston Cross to Pembroke Power Station:**

<b>Site</b>	<b>Description of impact</b>	<b>Level of impact</b>
<i>House / farmstead EWF01</i>	Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity associated with substation. Below-ground survival would appear poor however.	Slight Adverse
<i>Defended enclosure PRN 3244</i>	Site lies outside of proposed development area. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations. Site likely straddles construction corridor, but below-ground remains may be minimal at best.	Slight Adverse - Neutral
<i>Round barrows PRN 48371</i>	Location of features unknown, but subsurface survival of similar features is recorded in the area. Potential therefore for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Slight to Moderate Adverse
<i>Linear feature EWF23</i>	Linear feature potential representing an enclosure, likely to extend into the construction corridor. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse
<i>Linear feature EWF24</i>	Linear feature likely to extend into construction corridor, and potentially in substation compound area. Potential for below-ground remains to be exposed through topsoil removal, and damaged and destroyed through construction activity associated with substation and trenched excavations.	Moderate Adverse
General potential	Potential for a wide variety of archaeological finds, features and deposits to be exposed through topsoil removal, and damaged and destroyed through construction activity and trenched excavations.	Moderate Adverse

## 8.4 Impacts to the Settings of Surrounding Designated Assets

8.4.1 The proposed development will not have a material impact upon any designated historic asset. A number of such sites lie in the surrounding landscape (see Section 4), and potential impacts upon the settings of these assets are assessed.

8.4.2 This assessment has identified ten Scheduled Monuments, eight listed buildings, a registered historic landscape and a Conservation Area that may be impacted upon due to impacts on their settings. These settings are described in Section 7.2, the potential impacts are outlined below.

### 8.4.3 *Scheduled Monuments*

Site	Description of impact	Level of impact
Chapel Bay Fort PE333	There will be temporary impact during the construction phase on views from the asset, although these are not significant views. There will be a temporary reduction on views from the coastal path towards the asset, again these are not significant views.	Slight Adverse - Neutral
West Angle Bay early medieval settlement PE554	There will be temporary impacts during construction phase on views from the asset, either northwards across the bay, or southward across adjacent farmland, dependent on the final landfall option.  Due to proximity there is the potential for associated settlement or other contemporary activity to be disturbed and lost through construction excavations, but no definitive link has been established with contemporary archaeology.	Slight Adverse
The remains of East Blockhouse PE398	Construction may disturb archaeological remains associated with the main access route to this site. This is however very unlikely to fully remove any such evidence, and may provide additional information through associated archaeological mitigation. The current access route itself however will remain open.	Neutral
Devil's Quoit Burial Chamber PE020	There will be a temporary impact during the construction phase on the visibility of the asset from the main publically accessible routes through the area. Views from the asset will also be affected, but significant views from the asset have not been identified in this direction.  There is the potential due to proximity that associated and/or contemporary archaeological remains will be disturbed or lost through construction work. This however is unlikely to come to light until construction work commences as prior surveys of the area have proved inconclusive.  Proximity (potentially within 50m), and the potentially loose sandy nature of the ground conditions, also raises the possibility that heavy	Slight Adverse

	construction activity and movement of machinery may affect the stability of the asset.	
Corston Beacon Round Barrow PE059	<p>The proposed substation will be visible from this asset. Significant views are largely associated with visible contemporary barrows remains in the vicinity, which does not at present include views towards the proposed substation, but the potential for barrows (PRN 48371) in the Lambeeth Farm area suggests the original setting of the monument may have incorporated views in this direction. The substation will increase the sense of modern industrial development in views in this direction, although this is likely to a minor cumulative increase on the existing views incorporating Pembroke Power Station and the oil refinery to the rear.</p> <p>The substation will affect some views towards the asset from public footpaths around the northern edge of the development. The asset is however an indistinct feature of the landscape in these views.</p> <p>Neither this view or construction activity will affect the relationship with the prehistoric ridgeway, nor will it affect inter-visibility with known contemporary barrow assets in the vicinity.</p>	Slight Adverse
Wallaston Round Barrows PE064	Impacts are identical to PE059 above.	Slight Adverse
Dry Burrows Round Barrows PE060	The proposed substation will at worst be partially visible and indistinct from this asset. No significant views from this asset will be affected, and no further elements of its setting will be impacted.	Neutral
Round Barrow 400m N of West Orielton PE525	On elevated land above PE060 this asset has theoretical views northward towards the proposed substation and potentially originally incorporating the lost barrow (PRN 48371) around Lambeeth Farm. There are no current views to and from the proposed development however due to intervening vegetation.	Neutral
Defensible Barracks, Pembroke Dock PE379	<p>The elevated position of this asset offers views towards the site of the proposed substation. These are not significant views however, which are focussed north and west, and the substation will likely be an indistinct feature.</p> <p>Views of the asset will remain unaffected.</p>	Neutral
Gravel Bay anti-aircraft battery PE494	During the construction phase there will be a temporary impact on views south from the main road towards the asset, which may also be blocked by a compound location. Access to the asset via a public footpath from the north may also be temporarily affected.	Slight Adverse

	Associated structures extended along the roadside, forming part of the setting of this asset. These included structures, and possible enclosures, which lay on the route of the cable route corridor. There are no visible remains of these particular elements however, therefore it is only possible below-ground archaeological remains that may be associated and affected, and even these remains are anticipated to be minimal.	
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#### 8.4.4 *Listed Buildings*

Site	Description of impact	Level of impact
Thorne Island Fort 17169	There will be temporary impact during the construction phase on views from the asset, although these are not significant views.  There will be a temporary reduction on views from the coastal path and West Angle Bay (dependent on landfall location) towards the asset, with views from the bay considered to be a significant viewpoint.	Slight Adverse
Chapel Bay Fort 17165	As Scheduled Monument PE333.	Slight Adverse - Neutral
Nos 34 & 35 Angle Road 17159 & 17160	There will be a temporary impact during the construction phase on views along Angle Street that incorporate these assets, although this is likely to be minimal.  There is the potential for the passage of construction machinery to adversely affect the structural integrity of these assets, again however this is an unlikely outcome.	Neutral
Windmill adapted as machine-gun post 5926	There will be a temporary impact during the construction phase on views south from the asset, which may incorporate a construction compound and access point. This is not considered a significant view however.  Views of the asset and any other setting aspect will remain unaffected.	Neutral
Rocket Cart House and Lookout Tower 17166 & 17167	There will be a temporary impact during the construction phase on views south from the asset. Views are an important aspect of the setting of this asset, although as stated any impact will be temporary.	Slight Adverse
War Memorial 17162	Views to and from the asset are unlikely to be affected, even during the construction phase. Access to the asset should also remain available given its roadside location.	Neutral

Somerton Farmhouse 6598	The positioning of the farmhouse suggests views north represent a significant view in its original setting. This view will incorporate the proposed substation, increasing the sense of modern industrial development in this view, albeit at a distance. Other aspects of the setting - the main views of the house, its association with surrounding farmland, access from the main road, outbuildings, will remain unaffected.	Slight Adverse
Defensible Barracks 6448	As Scheduled Monument PE379.	Neutral

#### 8.4.5 **Historic Landscape Character Areas**

Site	Description of impact	Level of impact
HLCA 352 West Angle to Freshwater West Coastal Strip	This area will remain largely untouched, with the possible exception of a short section of cable trenching associated with the northern landfall option. Characteristics elements of this area will remain unchanged.	Neutral
HLCA 342 Angle	The main historical and archaeological characteristics of this area will remain unchanged, largely focused on the village core. The proposed route does run through areas of former characteristic strip fields, but current boundaries and visible layouts will remain unchanged. The impact upon field boundaries within this area is likely to be minimal.	Slight Adverse - Neutral
HLCA 341 Rhoscrowther	There will be a temporary impact on some of the main characteristics, affecting farmland and removing some small sections of historic boundaries. No enclosure pattern will be changed however, and agricultural use of the land will return with the exception of the proposed substation location, which will be taken out of agricultural use. The establishment of the substation may also be seen as an expansion of the neighbouring HLCA of Pembroke Power Station, and a reduction in the area of this HLCA, but it will be a very small reduction of this large area. The area includes a wide variety of archaeological assets, but the prehistoric ridgeway is specifically mentioned. Any removal of prehistoric archaeology associated with the ridgeway therefore has the potential to detrimentally affect the archaeological character of this area, although it is anticipated that this is likely to be minimal.	Slight Adverse
HLCA 343 Angle Airfield	The layout of this landscape is characteristically post-war, but this layout should remain unaltered. The wartime airfield and its associated features is the main archaeological and historical character of the area. There is the potential for some of these elements to be	Slight Adverse

	adversely impacted upon by the proposed development, which will be an adverse impact for the character area.	
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#### 8.4.6 **Conservation Areas**

Site	Description of impact	Level of impact
Angle	<p>In many ways these impacts will be similar to those for HLCA342. There is the potential for four identified viewpoints to be temporarily affected, one being views from Chapel Bay Fort southward, two being views from and across West Angle Bay, the final one being views from the road to the south of South Studdock Farm northward. Work during the construction phase may either be visible or limit access to these points temporarily.</p> <p>West Angle car park and the adjacent field are highlighted as important open spaces, which will be temporarily affected by proposed trenching. A roadside hedgerow and walling are also highlighted as important features, with the potential for construction work to remove a section of these features.</p>	Slight Adverse

8.4.7 The proposed windfarm itself will lie offshore but itself will have a potential visual impact upon a number of assets along the southwest coast with views across the sea. The potential visual impact of this development is largely addressed in landscape and visual assessments undertaken as part of the wider project. Below (Figure 20) however is a photomontage of the site from a distance of 45km. This is not anticipated to be a significant visual impact for any of the designated assets examined within this report.

Sample Photomontage for a PPI platform with GE12MW Halidade Turbine - Distance 45km



Figure 20: Photomontage of an offshore windfarm at a distance of 45km.

## 9 CONCLUSIONS

### 9.1 Archaeological potential and impact assessment

9.1.1 The table below presents only those sites where an impact from proposed development has been identified. The table is laid out with sites appearing topographically from west to east, with material impact listed first.

**Table 10:** Assessment of impacts

Site Name	Potential	Value	Site status	Material impact	Setting impact
Sea Defences PRN 35015	High	Low	None	Slight Adverse	-
Brickworks PRN 33855	Low	Low	None	Slight Adverse	-
Cottage EWF06	Low	Low	None	Slight Adverse - Neutral	-
Pillbox PRN 101392	High	High	None	Moderate Adverse	-
Second World War domestic site (EWF23)	Medium	Low	None	Moderate Adverse	-
Field Boundary PRN 107739	High	Low	None	Slight Adverse	-
Anti-Aircraft Battery PRN 102553	Medium	Low	None	Moderate Adverse	-
Building EWF08	Low	Low	None	Moderate Adverse	-
Boundary EWF14	Medium	Low	None	Slight Adverse	-
Road EWF02	Low to Medium	Low	None	Slight Adverse	-
Runway EWF07	High	Medium / Low	None	Slight to Moderate Adverse	-
Dispersal Pen EWF09	Low	Low	None	Slight Adverse - Neutral	-
Dispersal Pen EWF10	Low	Low	None	Slight Adverse - Neutral	-
Airfield Buildings EWF11	Medium	Low	None	Slight Adverse	-

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Pillbox PRN 101389	High	High	None	Moderate Adverse	-
Radar Station EWF13	Low	Low	None	Slight Adverse - Neutral	-
Anti-Aircraft Battery PRN 44603 / 110426	High	Medium	None	Moderate Adverse	-
Windmill EWF05	Low	Medium	None	Slight Adverse	-
Buildings EWF16	Low	Low	None	Slight Adverse - Neutral	-
Enclosures EWF15	Low to Medium	Low	None	Slight Adverse	-
Enclosure EWF18 / Bronze Age Barrow EWF19	High	Medium	None	Moderate Adverse	-
Boundary Ditch EWF20	Medium	Low	None	Slight Adverse	-
Strip Fields EWF03	Low	Low	None	Slight Adverse	-
House/farmstead EWF01	Low	Low	None	Slight Adverse	-
Defended enclosure PRN 3244	Medium	High	None	Slight Adverse - Neutral	-
Round barrows PRN 48371	Medium	Medium	None	Slight to Moderate Adverse	-
Linear feature EWF24	High	Unknown	None	Moderate Adverse	-
Linear feature EWF25	High	Low	None	Moderate Adverse	-
Mesolithic and Neolithic activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
Bronze Age activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-

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Iron Age activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
Earl medieval activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
Medieval activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
Post-medieval activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
Modern activity – varies across route	Low to Medium	Unknown	None	Moderate Adverse	-
HLCA 342 Angle	Character Area	High	Historic Landscape	Slight Adverse - Neutral	-
HLCA 341 Rhoscrowther	Character Area	High	Historic Landscape	Slight Adverse	-
HLCA 343 Angle Airfield	Character Area	High	Historic Landscape	Slight Adverse	-
Angle Conservation Area	Character Area	High	Conservation Area	Slight Adverse	-
West Angle Bay early medieval settlement PE554	Setting only	High	SM	-	Slight Adverse
Chapel Bay Fort PE333 & LB 17165	Setting only	High	SM Listed Building	-	Slight Adverse - Neutral
Gravel Bay anti-aircraft battery PE494	Setting only	High	SM	-	Slight Adverse
Devil's Quoit Burial Chamber PE020	Setting only	High	SM	-	Slight Adverse
Wallaston Round Barrows PE064	Setting only	High	SM	-	Slight Adverse
Corston Beacon Round Barrow PE059	Setting only	High	SM	-	Slight Adverse

Thorne Island Fort LB 17169	Setting only	High	Listed Building	-	Slight Adverse
Rocket Cart House LB 17166	Setting only	High	Listed Building	-	Slight Adverse
Lookout Tower LB 17167	Setting only	High	Listed Building	-	Slight Adverse
Somerton Farmhouse 6598	Setting only	High	Listed Building	-	Slight Adverse

- 9.1.2 The assessment has identified a potential material impact upon 28 individual historic assets, alongside areas of general archaeological potential, three historic landscape character areas and a Conservation Area. These impacts are permanent, and derive from construction activity associated with the proposed development.
- 9.1.3 The majority of these assets materially impacted (15) are of both Low value with a Slight Adverse impact from proposed development. A further four assets are of Low value with a Moderate Adverse impact. Five assets of Medium value have been identified, a Slight Adverse impact has been identified for one, a Slight to Moderate Adverse impact for two, and a Moderate Adverse impact for the remaining two assets. An impact has been identified on three High value, but undesignated, assets, namely Pillbox PRN 101392, Pillbox PRN 101389 and defended enclosure PRN 3244. A Slight Adverse impact is identified for the defended enclosure, a Moderate Adverse impact on the pillboxes. A Slight Adverse impact has been identified on four High value designated assets, namely Historic Landscape Character Areas 341, 342 and 343 (all part of the Milford Haven Landscape of Outstanding Historic Interest), and Angle Conservation Area.
- 9.1.4 Areas of general archaeological potential have been identified throughout the proposed development area, varying across the route, but generally with a potential for a Moderate Adverse impact on archaeological remains from construction activity.
- 9.1.5 The assessment has identified a potential impact upon the setting of ten designated historic assets, comprising six Scheduled Monuments and four Listed Buildings. In all cases the impact is considered to be Slight Adverse. The impact is of a temporary nature during the construction phase of development for seven assets, the remaining assets will be affected by the construction of the substation towards the eastern end of the development area.

## 9.2 Mitigation

- 9.2.1 Material impacts upon High value assets are not considered sufficient to require changes to the planned development area. The Slight Adverse impact upon the Historic Landscape Character Areas and Conservation Area are largely temporary in nature. This impact could be further reduced through the use of HDD or augering below the boundary and hedgerow alongside Angle Road which is individually identified in the Conservation Area Appraisal, but this could be considered an unreasonable excess cost

considering only a narrow section of field wall/hedgerow needs to be removed to facilitate cable trenching. Should cable trenching be the preferred option, then efforts should be made to preserve as much of the boundary as possible within the construction methodology.

- 9.2.2 A Slight to Moderate Adverse impact has been identified for three High value, but undesignated, assets. All three assets however (PRN 101392, PRN 101389 and PRN 3244) lie on the edge of proposed development areas, and therefore impacts could be significantly reduced or removed by ensuring each site is clearly identified and protected from construction activity. There is sufficient space within the examined development area to route the cable corridor away from PRN 101392 and PRN 101389, and ensure work associated with the substation is kept as far from PRN 3244 as is reasonably practicable.
- 9.2.3 The potential impacts upon the remaining archaeological resource from the proposed development is however likely to require a programme of further archaeological mitigation to reduce impacts.
- 9.2.4 Similar schemes have benefitted from geophysical surveying as an initial investigation of potential archaeological remains. Some areas along the route have previously been surveyed, and these need not be resurveyed, but for the remainder of the development area geophysical survey should highlight features of potential archaeological interest, narrowing down broad areas of archaeological potential, and potentially identifying surviving remains of known archaeological sites.
- 9.2.5 Subsequently the results of the survey may require testing through intrusive archaeological evaluation. Trenched archaeological evaluation should test the veracity of the geophysical survey results, potentially allowing the nature and extent of archaeological features to be identified.
- 9.2.6 Sufficient information should be gained through survey and evaluation to inform any further mitigation measures. Should archaeological remains be identified further options could then include preservation within the final construction design, micro-siting of the cable route, or preservation through record (archaeological excavation).
- 9.2.7 Given the general archaeological potential of the area it is likely that an archaeological watching would be a requirement during aspects of the construction works. An archaeologist would monitor ground-breaking activity in order to identify archaeological remains.

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