

Appendix 21.1

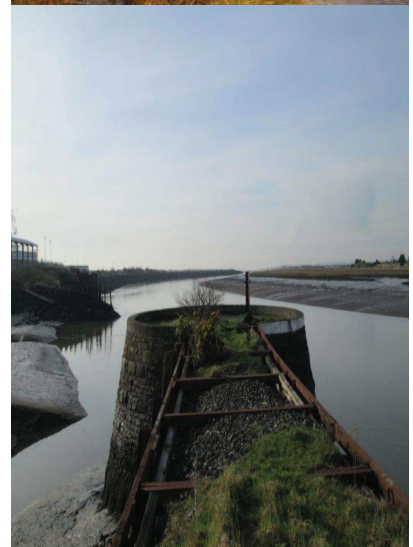
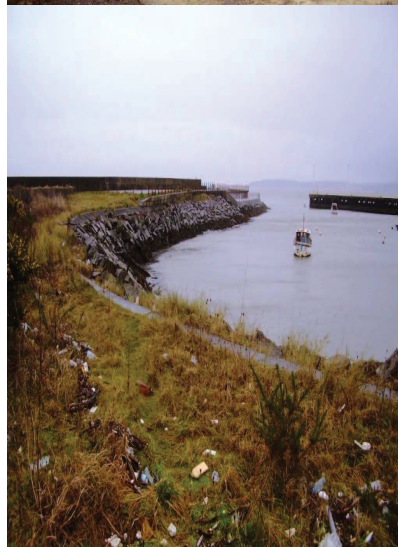
Cultural Heritage: Terrestrial Archaeology Baseline



Tidal Lagoon Swansea Bay

Cultural Heritage:
Terrestrial Assessment

Prepared for:
Tidal Lagoon Swansea
Bay Ltd



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1.0 **CULTURAL HERITAGE: TERRESTRIAL**

1.1 **Introduction**

- 1.1.0.1 URS has been commissioned by Tidal Lagoon Swansea Bay Plc to prepare a Cultural Heritage Baseline to support the planning application for the Tidal Lagoon Project on Land at Queens Dock, land at Crymlyn Burrows and Land at Baglan Bay, Swansea. This information will be used to inform Chapter 21, Cultural Heritage: Terrestrial Archaeology of the Environmental Statement (**Volume 1**).

1.2 **Site Location and Land Use**

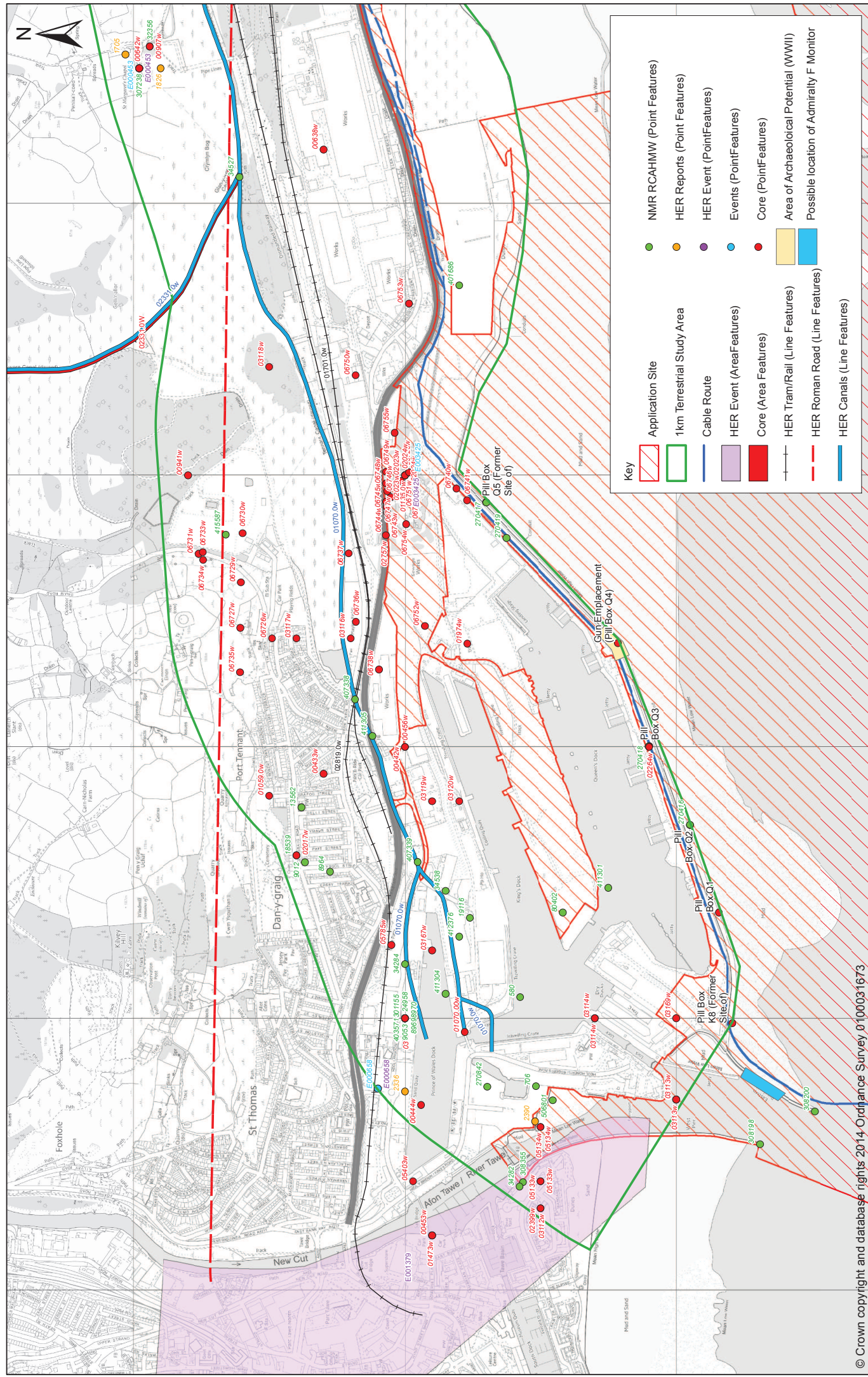
- 1.2.0.1 The terrestrial archaeology detailed study area incorporates land at Queens Dock, Swansea and then extends east to cover the proposed cable trench routes to a terminus at Baglan Bay. The area covered for the cable trench routes encompasses the options identified at the early stages of the Project.

1.3 **Geology and Topography**

- 1.3.0.1 The solid geology of the Swansea area is Carboniferous Coal Measures. The tertiary soils over the majority of the study area are predominantly wind blown sand and marine beach deposits. Some of these may also contain peat. It is possible that much of the cable corridor is located within the recently reclaimed marine foreshore environment. This is because prior to the construction of the seawall to the south west, the area was probably below the shoreline on tidal sandy flats.

1.4 **Aims and Objectives**

- 1.4.0.1 The aim of the cultural heritage baseline is to assess the archaeological and built heritage resource within the proposed application area through the collation of existing written, cartographic, photographic and electronic evidence, in order to identify the likely character, extent, quality and significance of the known or potential cultural heritage resource and identify potential constraints associated with the proposals.
- 1.4.0.2 The specific objectives of the desk based assessment were to:
- i. Identify known heritage assets within or in the vicinity of the application area;
 - ii. Identify areas with the potential to contain any unrecorded archaeological remains;
 - iii. Identify designated and un-designated built heritage assets within or in the vicinity of the application area; and
 - iv. Identify areas disturbed by modern activity.



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					Project Title
					Swansea Bay Tidal Lagoon
					Client
				1	Tidal Lagoon Swansea
			GB / 14/01/14	Suffix	
			MM / Check Date	By / Check	
					Revision Details
					New cable route added and minor edits

Drawing Title

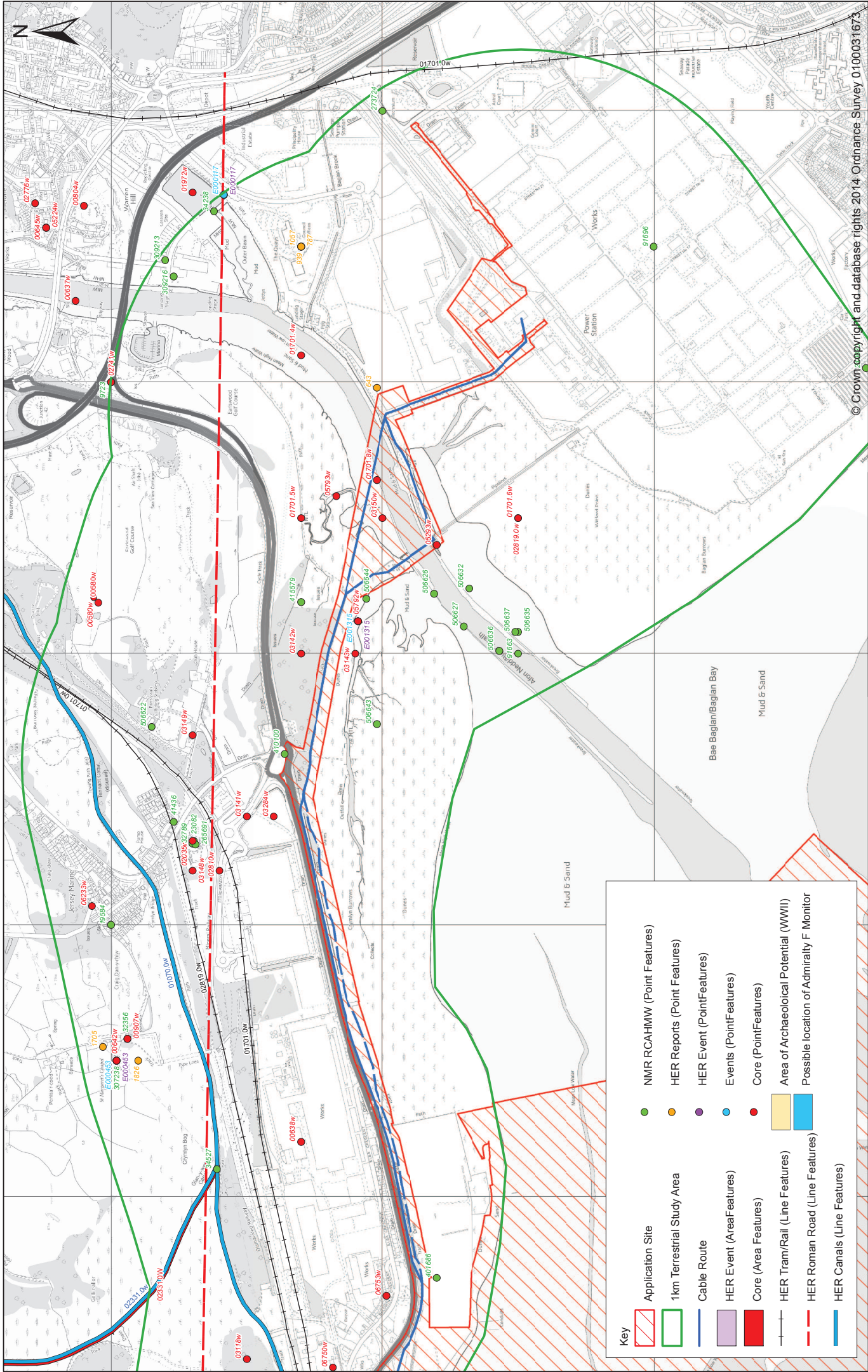
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Swansea Bay Tidal Lagoon		Archaeological assets within detailed study area		Figure 2		URF Internal Project No. 47065127		Scale @ A3 12,500		Date 14.01.2014		Approved AM		Checked AM		Drawn GB	
Client		Tidal Lagoon Swansea		14/01/14		1		GB		AM		By		Check		Suffix	
New cable route added and minor edits		Revision Details		1		1		1		1		1		1		1	

1.5 Legislation, Planning Policy and Guidance

- 1.5.0.1 Details regarding the legislation, planning policy and guidance relevant to the Project are given in **Chapter 21, Volume 1** of this Environmental Statement.

1.6 Assessment Methodology

- 1.6.0.1 The assessment is intended to conform to the Institute for Archaeologists' Standards in British Archaeology: Archaeological (re-named historic environment) desk-based assessments (1994, amended 1999, 2001, 2008 and November 2012).

- 1.6.0.2 There are two Scheduled Ancient Monuments within the detailed study area (1km, **Figures 1 and 2**) which are fully assessed but those that may be effected by the Project at a greater distance will also be considered. It is understood that CADW will be applying to schedule additional sites within the Project area that have been identified during the baseline study (WWII sites) in the near future. Equally, all Listed Buildings within the study area have been considered and potential impact on Grade I and Grade II* Listed buildings in the wider study area (5km, **Figure 3**) have also been assessed. The importance of each site is also assessed in terms of its relationship to any historic landscapes and the significance of the assets' setting.

1.6.1 The Detailed Study Area

- 1.6.1.1 The detailed study area encompassed the Project footprint and a buffer zone of 1 km around the site boundary at the western end (the docks) of the Project. A 2km corridor was also established around the proposed cable route options. Within this detailed study area, all designated assets (Scheduled Monuments, Conservation Areas, Listed Buildings, Registered Historic Landscapes, Parks and Gardens, Registered Historic Battlefields and World Heritage Sites) and undesignated assets (archaeological sites, findspots, locally listed buildings and landscapes) were identified and catalogued in **Appendix D** and shown on **Figures 1 and 2**.

1.6.2 The Wider Study Area

- 1.6.2.1 A buffer zone of 5km was used to assess all statutorily protected assets including Scheduled Monuments, Listed Buildings (Grade I and Grade II*), Registered Historic Landscapes, Parks and Gardens, Registered Historic Battlefields, World Heritage Sites and Areas of Historic landscape and essential setting. Those assets that may be impacted by the Project are considered in the discussion section and are listed in **Appendix E** and illustrated on **Figure 3**.

1.6.3 The Zone of Theoretical Visibility

- 1.6.3.1 Assessment has also been made of potential impact upon assets within potential view sheds up to a distance of 15km. The ZTV is illustrated in **Appendix G** and discussed in Section 1.13.

1.6.4 Site Visit

- 1.6.4.1 A site visit and walkover survey was conducted on 4th January 2013. Accessible areas within the cable route corridor were walked and photographed; all sites previously identified from a search of the regional Historic Environment Record (HER) and RCHAMW were consulted in order to assess their current condition. A sample of photographs illustrating the current

condition of the archaeological interests and the site in general can be seen in **Appendix B**. No previously unrecorded sites of archaeological interest were identified during the survey.

1.6.5 Sources

1.6.5.1 Data records were sourced from the regional Historic Environment Record (HER) and additional information requested from the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). Cartographic and documentary sources were studied at the West Glamorgan Archives Service, along with relevant published information. The Swansea Libraries Service was also consulted. The current Listed Building data and information on Scheduled Ancient Monuments and registered landscapes was obtained from Cadw. Collections of aerial photographs held by the Central Register of Air Photography for Wales (CRAPW) were examined.

1.6.5.2 Where the source data has identified an asset, it has been referenced with a unique HER or RCAHMW number in bold text. These assets are shown on **Figures 1** and **2**. The catalogue of Cultural Heritage Assets is included in **Appendix D** and this also presents the HER number and RCAHMW number for completeness.

Gwent and Glamorgan Historic Environment Records

1.6.5.3 The Glamorgan County History Series provides an overview of the archaeological and historical resource in the former County of Glamorgan. A county history for Gwent first Volume, Gwent in Prehistory and Early History was published in 2004 and the next volume is currently being prepared. The current standard work on Gwent in the historical periods remains Bradney's History of Monmouthshire published between 1906 and 1932 (although the final volume was only actually issued in 1997).

Royal Commission on the Ancient and Historical Monuments of Wales

1.6.5.4 The RCAHMW also holds a separate dataset of historic environment assets which have been assessed together with a large collection of online aerial photographs particularly of scheduled ancient monuments. Access to these photographs can be gained through the National Monuments Record (<http://www.coflein.gov.uk>).

CADW

1.6.5.5 Cadw is the Welsh Government's historic environment service, working for an accessible and well-protected historic environment for Wales. CADW holds the information on Listed Buildings. A third dataset was requested from CADW and has been considered as part of the assessment.

Cartographic Sources

1.6.5.6 Historic mapping was researched at West Glamorgan Archives Civic Centre, Oystermouth Road, Swansea SA1 3SN on the 4th and 15th of January 2013.

Aerial Photographs

1.6.5.7 Aerial photographs were researched at the Central Register of Air Photography for Wales (CRAPW) Aerial Photographs Unit Welsh Assembly Government Crown Offices Cathays Park

Cardiff CF10 3NQ Wales on the 14th December 2012. A selection of appropriate photographs were selected for reproduction in this report and subsequently provided by CRAPW in digital format.

Other Textual Sources

- 1.6.5.8 Further research was undertaken using archaeological reports and journal entries. Sources include, but are not restricted to, the following:

National

- a) Archaeology Cambrensis
- b) Archaeology in Wales
- c) Studia Celtica (formerly Bulletin of the Board of Celtic Studies)
- d) Transactions of the Honourable Society of Cymrodorian

Regional

- I. Gwent Local Historian

Local

- i. Gelligaer
- ii. Monmouth Archaeology
- iii. Transactions of the Neath Antiquarian Society
- iv. Transaction of the Cardiff Natural History Society

- 1.6.5.9 Place-name evidence can be of great importance for providing clues about earlier undocumented uses of sites. There are currently no national sources or dictionaries, but there are a number of regional studies. The most important for South-East Wales are:

- 1) Pierce G.O., 2002. Place-Names of Glamorgan Merton Priory Press, Cardiff;
- 2) Pierce G.O., 1968. The Place-Names of Dinas Powys Hundred University of Wales Press, Cardiff.

1.7 Archaeological Background

- 1.7.0.1 Archaeological Investigations including desk-based research and any field-based archaeological works such as excavation, evaluation or watching brief is recorded in the HER and RCAHMW. The location of each event is shown on **Figures 1** and **2** and prefixed by the letter 'E'.

- 1.7.0.2 GGAT Projects undertook a desk-based assessment of the archaeological effects of a proposed development at the Hasties site along Morfa Road in the Hafod, Swansea (**E00007**). The proposed development was assessed as having a major effect on three and a minor effect on eight archaeological assets. Recommendations included a Level 2 building survey on 19th century buildings (02014w) and a level 1 building survey for the Hasties site (05939w) to inform a planning decision. It also recommended a watching brief on any ground works.

- 1.7.0.3 **E000013** is the location of a watching brief conducted on a series of geotechnical trial trenches to the east of New Cut Road, Swansea, following an archaeological evaluation in July 2007. The trial trenches were designed to locate and investigate the remains of the former Villier's Dry Dock and the potential presence of unknown obstructions (Oxford Archaeology 2008). A sandstone wall was encountered in Trench 8 which may relate to the dock. The entrance to the dry dock and river walls were discovered in trenches 9 and 10. Also uncovered were features and pottery production waste relating to the Cambrian Pottery.
- 1.7.0.4 Oxford Archaeology undertook a watching brief following an evaluation at the former Unit Superheaters Engineering site in Swansea (**000015**) to meet planning application criteria for developments in the area. Following the excavation of the two evaluation trenches, a watching brief was undertaken to record any remains revealed during the removal of the factory footings. Following demolition, a watching brief was also undertaken on an additional eight geotechnical trenches positioned to investigate further the location of the Villiers Dry Dock. Only a single firebrick example was recovered from a structure within the watching brief areas. No other finds were encountered from these areas reflecting the limited archaeological impact of the demolition. A series of walls were recorded, a firebrick chimney, culvert inspection chambers, red brick structures, firebrick structures, two stone dock basin walls and stone pillars (patent Fuel Works). A series of walls were recorded which relate to the walls recorded during the subsequent watching brief, as well as a concrete tank (Oxford Archaeology 2009).
- 1.7.0.5 **000017** was an investigative survey of the Brunel Accumulator Tower, Briton Ferry, undertaken by Site Archaeological Services in 2007. The investigation comprised the removal of vegetation and debris from the standing structures and survey of the extent of survival of remains and their interpretation. A structure adjoining the tower is thought to be a workshop. Three small trial trenches were also excavated ahead of installation of flood lighting, no significant archaeological remains were discovered.
- 1.7.0.6 A partial excavation took place on St Margarets Chapel in 1931 (**E000453**).
- 1.7.0.7 A survey of red Jacket Pill was undertaken in 1991 (**000492**).
- 1.7.0.8 A watching brief survey of Swansea Glassworks was undertaken in 1981 (**000658**).
- 1.7.0.9 **001314/79** was a survey by GGAT of 76 Waterfronts in Southeast Wales. This project aimed to provide a deeper insight into the survival of archaeological remains in waterfront locations, which are increasingly under threat from a range of developments. The project has been concerned with trying to enhance understanding of the potential of maritime archaeological remains so that informed decisions regarding future conservation can be made. Phase 1 (Year 1) of the project studied the historic ports of Chepstow, Newport, Cardiff and Swansea and Phase 2 (Year 2) considered all other small harbours and ports along the coastal fringe and estuaries. Site visits were undertaken to assess the condition of these known archaeological assets and to identify and record any previously unrecorded sites, and an assessment of the potential for survival of maritime archaeological remains was made. **001315** was an associated field survey.
- 1.7.0.10 In 2008, GGAT prepared an archaeological desk-based assessment of the Lower Swansea Valley to determine the potential effects of regeneration on an area of conifer plantation (**001397**). A total of 103 archaeological sites were identified. The report identified a potential

minor impact for 39 sites. An archaeological watching brief with contingencies was recommended on any intrusive groundworks, dependent upon final information from the City and Council of Swansea regarding the exact nature of the proposed works.

- 1.7.0.11 In 2011, GGAT Projects were commissioned by Dwr Cymru Welsh Water, to undertake an assessment of the archaeological effects of a proposed development at the Swansea Water Treatment Works, Crymlyn Burrows, Swansea (**003425**). A total of 46 sites of archaeological interest were identified within the study area. Thirteen sites of archaeological interest have been identified within the bounds of the wastewater treatment works. The impact of the proposed development on these sites was assessed. No mitigation measures were required. This development is within the detailed study area for the current baseline assessment.
- 1.7.0.12 The RCAHMW records a pollen analytical study of Crymlyn Bog, conducted in the early 1990s which had the following aims:
- i. to investigate the degree and timing of human impacts on the vegetation of the Crymlyn area, including the lower Neath and Tawe valleys;
 - ii. to study the development of the bog recorded in the top 4m of peat.
- 1.7.0.13 The study concluded that the coastal forests in the western part of Swansea Bay remained intact until the medieval period. Lack of evidence for Iron Age activity (despite the archaeological record) was related to the low level of social and economic advancement of indigenous non-Celtic culture. Lack of evidence for Roman activity was attributed to the support of military installations by imported goods rather than through a developed local economy. It was recognised that low levels of evidence for early human impacts were perhaps due to the location of early settlement sites on the leeward side of Crymlyn in relation to the prevailing wind. Cores taken in the bay through the peat revealed a buried landscape characterised by birch and alder from 1m to 2m below the present ground surface, overlying drier woodland with oak and hazel. The founding of the medieval port and market town of Swansea possibly resulted in the initial major impacts detected in the Crymlyn, Neath and Tawe valleys. The timing of the clearance and abandonment of land, recorded in the pollen sequence, was possibly caused by the enforcement of the terms of the Swansea Charters. A second rapid phase of woodland clearance was related to the industrialisation of Swansea and the need for fuel for early copper and iron smelters. Continued clearance, following the dominance of coal as a fuel, was attributed to accelerated industrialisation after the construction of canals and railways.

1.8 Archaeological Baseline

- 1.8.0.1 There are 84 sites of archaeological interest identified in the HER and 67 sites in the RCAHMW dataset within the detailed study area (**Appendix D, Appendix G**). These figures include a further 15 sites of significance located just outside of the study area which have also been assessed in detail due to their potential significance. In addition to the above sites, there are six structures (3 pill boxes, 1 gun emplacement and 2 tank cubes) and the location of two former structures (2 tank cubes) of WWII date located on the Sea Wall of Queens Dock that have not previously been recorded. There are two Scheduled Ancient Monuments in the study area, GM445 Entrance to Briton Ferry Dock and St Margaret's Chapel, GM362. There are three Grade II Listed Buildings situated in the detailed study area. Further information relating to these designated assets can be found in the following sections. I

- 1.8.0.2 Due to the large scale of the Project within Swansea Bay (the offshore lagoon wall is assessed within the Marine Archaeological Baseline Report), designated assets within a wider search area of 5km have also been considered. There are 29 Scheduled Monuments and 7 Registered Historic Parks and Gardens (**Appendix E**), 3 Grade I and 18 Grade II* listed buildings (**Appendix F**) within the wider search area. The majority of the buildings are located within Swansea town.
- 1.8.0.3 Numbers ending with a 'w' are derived from the regional Historic Environment Record (HER). Five and six figure numbers without a letter are of the National Monuments Record, as supplied to the HER under the ENDEX agreement but also derived independently for this study. Numbers with a 'LB' prefix are Listed Buildings, as provided by Cadw. Numbers with a 'Gm' prefix are Scheduled Ancient Monuments (SAMs). All assets are colour coded according to type and designation and a key is included in each figure.
- 1.8.1 Prehistoric (500,000BC – AD43)**
- 1.8.1.1 The Swansea area contains some of the earliest evidence for human occupation in Wales. Evidence from Paviland cave on the Gower Coast includes the burial of the 'Red Lady', indicating that people were using the area some 26,000 years ago. The site is prominent in the understanding of Britain's development during the Upper Palaeolithic.
- 1.8.1.2 Evidence for activity within Swansea centre through the Prehistoric and Roman periods is limited to a few isolated find spots, such as a Neolithic leaf shaped arrowhead (**00452w**, location not illustrated) discovered in High Street and the find spot of a bronze flat axe (**00456w**).
- 1.8.1.3 To the north of Fabian Way is the location of a find spot comprising a bronze palstave and human skeleton (**00638**).
- 1.8.1.4 The River Neath (**05293w/91663**) has changed its course many times throughout history. There is a record as early as AD 1249 of a dispute between Lord Leison ap Margam ap Caradoc and Neath Abbey caused by the river, which marked the boundary between their estates, having changed its course. The frequent movements of the river have caused the periodic destruction of many of the former ground surfaces of the valley bottom and their replacement with new sediments. The frequent flooding of the area will also have caused the deposition of considerable quantities of silt.
- 1.8.1.5 **05793/2w** are unnamed pills (river inlets) depicted on the 3rd edition OS map (1918). The pills are relatively short and broad, and aligned northeast-southwest. The feature is approximately 500m in length and around 40m wide at its mouth, where it joins the River Neath.
- 1.8.1.6 **00580w** is a cairn of probable Bronze Age date located towards the eastern end of the cable route corridor towards the northern edge of the detailed study area. The cairn comprises a roughly circular stony mound with a pile of stones (stones up to 0.6m across) in the middle, mostly water-worn boulders of non-local stone but with a few slabs of sandstone.
- 1.8.1.7 Warren Hill Hillfort (**00804w**) is located just outside of the north eastern limits of the detailed study area, just east of the mouth of the River Neath, overlooking the site of the old ferry. The high point, just over 30m OD, is encircled by the remains of a strong bank and ditch, now reduced to a scarp with a terrace below. There seem also to be traces of a counterscarp bank.

The surface of the hill has been much disturbed by industrial activities, but the defences are well preserved around the southern and eastern sides where they now measure c.15m wide overall and c.5m high.

1.8.2 Roman (AD43 – 410)

- 1.8.2.1 Located just outside of the detailed study area, a group of Roman coins dating to the early 4th century was found in Castle Street, Swansea (**02923w**) and a Roman cooking pot (**00424w**) was discovered in the alluvium at the edge of the North Dock. Seven further coins were found on the foreshore where Prince of Wales Dock now stands (**03167w**) and another possible Roman coin to the south (**03169w**). **00433w** was a 3rd century hoard of 7 brass coins of the Emperor Carausius found in 1836. Another brass coin of Allectus was found on the same site three months later.

1.8.3 Early Medieval (410 – 1066)

- 1.8.3.1 There were no records of early medieval date within the assessed dataset for the detailed study area. It is however very likely that the foreshore areas of the site (assessed in the marine baseline report) and the mouths of both Rivers Neath and Tawe were intensively utilised during this period. It is generally thought that the origin of the name 'Swansea' derives from the Scandinavian name 'Sveinn', and 'ey' which describes an island or inlet (Williams 1990). It is likely, therefore, that Swansea originated as an Anglo-Scandinavian trading port, probably in the 9th and 10th centuries. Trading activity is likely to have been focused around the mouth of the River Tawe with initial settlement originating nearby (Howell 2000). There is little direct archaeological evidence for this, however, with so far only one find comprising a Norse ring-pin of 9th century date. The present boundaries of Swansea approximate the extent of the medieval Lordship that was divided into two areas. The upland part (Gower Supraboscus) appears to have retained a Welsh culture and the lower areas (Gower Subboscus) were probably much more Anglo-Norman in nature.

1.8.4 Medieval (1066 – 1485)

- 1.8.4.1 Swansea's role as an important trading centre really took off in the medieval period as a result of an increase in port trade. The port was also certainly a centre of ship building, which probably also contributed greatly to the economy of the medieval town and there are charter records of charges made for using timber from the Lordship of Gower's wood (Griffiths 1978, 265). The port traded notably in wine and merchants contributed significantly to the town's growth. Evidence suggests that pottery from Bristol and iron from Chepstow were traded along with fish from Iceland, as well as wine and salt from the southwest of France. Records of exports in corn, wool, coal and lime are also known (Howell and Dunning 2004).
- 1.8.4.2 Located approximately 300m to the north of the detailed study area, situated approximately 750m to the west of the Project area at the present town centre, Swansea Castle provides the earliest evidence for occupation in the wider area. Founded in the early 12th century in the present day location of Worcester Place, the Castle was the administrative centre for the Lordship of Gower. The 'Old Castle' was originally built as a conventional motte and bailey castle (RCAHMW 2000) but the present remains of the 'new' castle are domestic elements dating to the later 13th /14th century. The remains of both Swansea Old Castle (**00438w/Gm 441**) and New Castle (**00426w/Gm 012**) are Scheduled Ancient Monuments. Both are shown

on **Figure 3**. The new castle was built adjacent to the ditch of the earlier castle. The Castle was subsequently recorded as 'in decay' by 1583.

- 1.8.4.3 The town of Swansea was built in an almost 'L' shape, with the castle located close to the central position. The river originally ran just to the east of the castle and the medieval port area was located directly below the castle. The former riverbank was found in archaeological investigations with revetments of oak planks and piles (Howell and Dunning 2004).
- 1.8.4.4 Other medieval records refer to a quay and ferry (**00453w**) particularly William de Braose's charter of 1306. The ferry was probably located outside the South Gate of the castle (Howell and Dunning 2004).
- 1.8.4.5 During the later medieval period, Swansea saw a decline in trade and the population fell as a result of major plagues in the 14th and 15th centuries. It is estimated that up to half of the population was lost to the Plague.
- 1.8.4.6 It is possible that the current Fabian Way, which lies within the cable route corridor, follows the approximate line of a medieval route extending from the ferry crossing at Briton Ferry to the medieval city of Swansea. Just outside of the eastern end of the study area to the north east is the potential site of a medieval motte and bailey castle at Briton Ferry (**02919w**). It is possible that traces of the motte still remain, but so far the location has not been found.
- 1.8.4.7 Also just outside the detailed study area is the former crossing and settlement at Briton Ferry. The derivation of the place name Briton Ferry (**02920w**) is uncertain, it has been claimed that 'Briton' is a corruption of 'Bridgetown', from the tradition that a bridge existed on the site during the Roman period, although no evidence for such a structure has been forthcoming. There are however, records dating to the early 14th century which contain references to 'passagium aque de Bruttone', and more than a century later to 'passagium de Briton'.
- 1.8.4.8 At the western end of the detailed study area, approximately where the Prince of Wales Dock is now located, the Chapel of St Thomas (**00444w/412376**) once stood in what was formerly known as the Borough of Bettws, near the sea shore; tradition said it was destroyed by the sea or covered with sand (Arch Camb 1853, 233). The cemetery of the chapel is said to have been cut through when a salt works were constructed. Fourteenth century sources place the chapel as early as 1320. Saxton's map of 1610 (not illustrated) does not show the chapel. Eighteenth century estate maps of Dan-y-graig-fawr farm show 'the old chapel now in ruins' just above high water mark, in a strip of land between the fields and the sea. Swansea's decline in the sixteenth century and climate change leading to coastal erosion and sand encroachment, are likely contexts for the demise of the chapel (Dulley 2010). Nineteenth century development work for the Prince of Wales docks apparently revealed the chapel remains which were then finally destroyed.
- 1.8.4.9 In the northern part of the central section of the detailed study area is the Chapel of St Margaret's Grange (**00642w/307238**), belonging to Neath. The first record of St Margaret's chapel was in 1289. Early 20th century excavations revealed the outline of a building and the walls are still standing. The remains of the chapel are a Scheduled Ancient Monument (GM362), associated with St Margaret's Grange (**00906w**) and St Margaret's well (**00907w**) (Evans 2003). In the late 12th century the chapel of St Margaret (Ffynnon Verad/Ffynnon Farget) was built close to St Margaret's well.

- 1.8.4.10 Briton Ferry Church (**00645w**) is located outside of the north eastern extent of the detailed study area but is marked on **Figure 3**. The Church is Grade II Listed. The Church may be first mentioned in documentary sources in 1254, as Ponte Lunt.
- 1.8.4.11 Also just outside the detailed study area is **02024w**, the site of a medieval fulling mill.
- 1.8.4.12 Mount Vernon Earthwork (**02776w**), located to the north east of the detailed study area, is a possible medieval motte with post-medieval walls and foundations superimposed over the earthwork. It is certainly not natural. Modern (1970s) housing encroaches onto the feature.
- 1.8.4.13 At the western end of the detailed study area at **03122w** is also the location of a possible medieval ferry.
- 1.8.4.14 **03587.0w** is the Church Street route to the ferry crossing at Briton Ferry, shown on estate maps of 1840 (not illustrated) and earlier as leading to a ferry crossing point slightly further south at SS 7342 9407.
- 1.8.4.15 Briton Ferry Churchyard (**05224w**) is located outside of the detailed study area but is included here to assess any impact on the significance of its setting. The churchyard is largely quadrangular although with two rounded corners. It is mainly flat, but slopes up slightly to the north of the church.
- 1.8.4.16 The possible locations of two medieval fulling mills (**02023w**; **02024w**) are also recorded outside of the western end of the detailed study area. The exact location of the mills is not known.
- 1.8.5 Post-medieval (1485 – 1901)**
- 1.8.5.1 Following the decline of Swansea in the medieval period, the town began to recover during the post-medieval period, not least due to the increased use of the port. Swansea port had its own Customs House by 1573 and was administered through the Port of Cardiff. During the late 16th century, the Welsh Ports Books indicate that coal was exported to France, which resulted in the expansion of the Welsh ship trade. For a time, the construction of new quays and an increase in ship building affected port traffic (Howell and Dunning 2004). Docks were also constructed along the river with the first dock recorded in 1737. Larger river quays were also constructed in 1776 (Hughes 2000). The river was navigable by trading vessels as far inland as Morriston, 5km distant and the coal mining industry expanded as a result of easy access to transportation (Hughes 2000, 73). It was during the post-medieval period that the region became an important industrial centre and was soon established as a major copper-smelting centre. As well as copper, there were also zinc spelter, steel, iron and tin plate works thriving in Swansea (Jones 1922). The docks (580) played a significant role in the rapidly growing industries in Swansea.
- 1.8.5.2 During the 19th century the expansion of the port continued with the alteration of the course of the River Tawe by the creation of New Cut in 1845. Around this time, new quays and docks were built on the west bank of the River Tawe. The North and South Docks were constructed in 1852 and 1859 respectively (Barrie 1980). By 1900, the docks had shifted to the east side of the River Tawe as the demand for mooring space had expanded.

- 1.8.5.3 **00442w** represents the find spot of a shilling of the reign of Edward VI which was found in the back garden of a house in Back Lane in 1837.
- 1.8.5.4 **00941w** is a post medieval house known as Dan-Y-Beacon.
- 1.8.5.5 **01059.0w** Green Lane trackway, first recorded as a trackway of unknown date.
- 1.8.5.6 **01135.0w** Clawdd y Saeson (Englishman's Ditch) applies to a boundary stream in Crymlyn Bog. It has been suggested that it was an old canal used for transporting coal at an early period (Jones 1922). Jones suggests this is the case due to the remains of a boat found when the Glan-y-Wern Canal was dug.
- 1.8.5.7 The railway played a vital role in the transport of goods to and from the docks and the canals eventually became obsolete. The first surface railway was in use in Swansea by 1756 (Hughes 2000, 71). The Swansea Vale Railway (**01699.0w**) had its origins in a series of tramways built along the valley from the 18th century onwards. Industries that were built close to the railway often had their own sidings. Various railway companies operated within Swansea and the surrounding area. Two different companies had lines passing through the study area, namely the Rhondda and Swansea Bay Railway (**01701.0w**) and the Vale of Neath Railway (**02819.0w**). Briton Ferry Road station is at **41436**.
- 1.8.5.8 The Rhondda and Swansea Bay Railway (**01701.0w**) was promoted in the 1880s to connect the Rhondda and Afan coalfields with the port of Swansea. It ran from Blaengwynfi to Port Talbot and onto Swansea Docks. By 1890 trains reached Blaengwynfi and the Rhondda Tunnel was constructed. In the following year the line carried passenger traffic to and from the Docks Station at Port Talbot. The Docks Station closed to passengers in 1895 with the extension of passenger traffic through Swansea. The booming economy in the 18th and 19th centuries supported an increased population; with the population in Swansea rising from 1,792 inhabitants in 1707 to 10,117 in 1801, with this increasing again to 94,537 by 1901. This number only decreased following a period of general decline after the advent the First World War and of cheaper overseas copper and coal (Howell and Dunning 2004). The Depression years caused a further shrink in export markets, less need for transport facilities and consequently mass unemployment.
- 1.8.5.9 **01972w/34238** is the Scheduled Monument of Briton Ferry Dock (GM445), built between 1858 and 1861 and designed by Brunel. The dock consists of an outer tidal basin, with a total area of about 7.5 acres, and an inner floating basin of about 11 acres. Entry to the basin was through a single lock gate. The gate is the only surviving example of Brunel's experimental work in the development of buoyant lock gates. To the south of Briton Dock there are a number of navigation buoys (**506626**, **506627**, **506635**, **506636**, **506637**, **506643**) within the channel and a riverside wall light (**506632**).
- 1.8.5.10 Briton Ferry Ironworks was located further upstream on the east bank of the river (**309213**). The ironworks was established in the 1840s. It was reconstructed in the 1890s, still as an iron smelter and closed in 1958. The site has been completely cleared with the exception of the blast engine house of c.1910 which housed a Richardson, Westgarth quarter crank blowing engine. It is constructed of concrete blocks in a steel frame, and has two rows of classical-style fenestration, now filled in (Association for Industrial Archaeology 1989).

- 1.8.5.11 **506644** is the site of a fish trap visible on an historic Admiralty chart (1883-4) and is described as 'stones and wattling'. It comprises a linear stone scatter, approximately 370m length and 40m at its widest point. The diffuse scatter of stones depicted suggests that the fish trap was already out of use at the time the chart was produced. It probably originally comprised low stone walls set with wooden posts supporting wattle fences. The fishtrap is orientated north-south and is located approximately 450m east of NPRN 506643 (Swansea Bay Fish Trap 31 (River Neath)).
- 1.8.5.12 **01974w/19116** is the location of former Lamberts Cottages Port Tennant Copper works.
- 1.8.5.13 The Jersey Marine Tower (**02035w/23082**) was built before 1867, a 4 storey octagonal, castellated tower, once housing a camera obscura. It is a Grade II listed building (11846 II) and was built as part of the development of Jersey Marine as a holiday resort. Having fallen into disrepair, there were proposals to restore the camera obscura but it was eventually fully restored in 2006 as part of the Towers Hotel (**265691**) and is now used as a bridal suite.
- 1.8.5.14 **02741w** was a post-medieval rabbit warren dating to c. 1578, located outside of the north eastern end of the detailed study area. The warren was probably owned by the barrister Leyshon Price, Commissioner for Peace (1561-86), who built himself 'a fair new house' near the church there. The site called Warren Hill (804W) nearby may reflect the presence of this asset.
- 1.8.5.15 **02810w/32789** are the remains of a post-medieval handball court dating from 1862. The remains are Grade II listed (11850).
- 1.8.5.16 The Neath and Tennant (**01070.0w/407339**) canals provided twenty one miles of waterway from Aberdulais to Swansea and from Glynneath to Briton Ferry. The two canals were built separately, the Neath under Acts of Parliament of 1791 and 1793. These waterways were vital to the industrial development of the Vale of Neath in the days before the railways. With their locks, bridges and associated buildings, the canals, which are currently being restored by the Neath and Tennant Canals Preservation Society, form both an important tourist attraction and a major educational resource. Two locks at the dock end of the canal are recorded in the RCAHMW (**411301, 411304, 403571**). There are several bridges across the canal recorded in the RCAHMW (**411305, 407338**) and a junction (**34527**). A Lengthman's house (**34538**) was located on the south side of the canal near Port Tennant Copper works, now the general area of Swansea Docks.
- 1.8.5.17 Glanywern Canal (**02331w**) was built to connect Richard Jenkins' colliery at Glan-y-wern with the River Neath at Trowman's Hole (or Red Jacket Pill), an inlet across the mud flats from the main channel of the river. Jenkins obtained a lease to build it from Lord Vernon on 14 August 1788, but died on the same day. Edward Elton took over the management of the colliery and the canal was constructed by 1790. It was a 3.5 mile canal across the Crymlyn bog in Glamorganshire from Glan-Y-Wern to Red Jacket pill on (but not connected with) the River Neath. The canal was completed in about 1790, disused after 1810, revived as part of the Tennant Canal around 1816, and derelict in 1918.
- 1.8.5.18 Other post-medieval sites and structures include **02399w/34282**, a Grade II Listed Building (11652) of post-medieval date used as a pilot office; a post-medieval paint factory (**03116w**), a post-medieval canal basin, the site of the Burrows Chemical Works (**03118w**) and the site of the remains of a dwelling near to the Marine Tower called Burrows Lodge and garden (**03148**)

all shown on the 1st edition Ordnance Survey map; **34284** refers to bollards located on the North Dock.

- 1.8.5.19 **24958** represents the location of a corn mill. A record derived from a survey of Kilvey (1686) states that a water mill called New Mill was erected by Bussy Mansell Esq in c.1680.
- 1.8.5.20 Work began in 1884 on a tunnel at Neath on the Rhondda and Swansea Bay Railway (**01701.4/8w**), but was discontinued at Baglan in April 1885 and at Swansea in the summer of 1885 due to lack of funds. The resulting depression was filled in with sand and grass. **01701.5w** is an associated railway cutting designed to serve the proposed Neath River Railway Tunnel (PRN 1701.4w) for the Rhondda and Swansea Bay Railway, which was also never completed and was filled in.
- 1.8.5.21 The remains of the Port Talbot Branch Line (**01701.6w/02819.0w**) are recorded as a section of post-medieval line at Port Talbot branching from the Rhondda and Swansea Bay Railway. This is also recorded in the HER as the Vale of Neath Railway which took over this coastal route that another company had promoted. SWR had also tried to take it over. Passenger traffic opened in August 1863 using Wind Street Station and a new station at East Dock opened in March 1873.
- 1.8.5.22 Other sites include:
- i. **13562**, the Grade II Listed Church of St Stevens, located outside of the detailed study area;
 - ii. **03121w**, a post-medieval salt works located to the north side of the Prince of Wales Dock;
 - iii. **03113w**, the breakwater for the West pier shown on the 1st edition Ordnance Survey map;
 - iv. **03114w**, the breakwater for the East pier shown on the 1st edition Ordnance Survey map;
 - v. **03119w**, the location of a post-medieval arsenic works;
 - vi. **03112w**, a post-medieval jetty on the west side of the River Tawe Ferry port (on the 1st edition Ordnance Survey map);
 - vii. **03120w**, groynes along the North dock; and,
 - viii. **80402**, the location to the south of the Kings Dock of the Craigola Merthyr fuel works.
- 1.8.5.23 Located to the north of the cable route corridor approximately mid-way along, is site of the Crymlyn Burrows colliery shown on the 1st edition OS map (**03149w/ 506622**). Crymlyn Colliery is shown as a cluster of four buildings on an historic Admiralty chart (published 1885). The site is now occupied by Pant-y-sais Riding Stables.
- 1.8.5.24 Just outside the 1km detailed study area are Swansea West Pier Harbour lights (**05133w**). The first recorded light was erected to mark the west pier in 1792 and known as the 'Lanthorn Beacon'. This was first established in 1792 when a lamp was erected on a post to mark the proposed new pierhead. In 1803 a lighthouse, designed by William Jernegan, was established on the head of the finished pier. This was a vertical octagonal tower made of iron cast at Neath Abbey. It stood on a stone plinth and was 6.1m (20ft) in height. It had a smaller octagonal

lantern, consisting completely of rectangular panes with thick vertical glazing bars (the lantern had no lower cast-iron walling), crowned by a domed top with a prominent ventilating pipe. In 1810 it was lit by candle and in 1845 by oil. Its elevation above high-water was 8.53m (28ft). It shared many of the characteristics of the other harbour lights. In 1845 it was recorded that the harbour light at Swansea was only lit when there was 2.44m (8ft) of water at the piers. No dues were ever collected for this light which was maintained at the expense of the Harbour Trustees. In 1878, the old structure was moved to the end of the extended wooden pier built by James Abernethy, where the structure had a height of 7.01m (23ft) and an elevation above the sea of 10.67m (35ft). However, in 1909, the pier was again extended in wood by P.W. Meik and a new lighthouse fitted. This second west harbour light consisted of a square wooden trellis surmounted by a wooden platform on which stood an octagonal iron lantern with a lower iron wall and vertical light windows. There was a fully domed top with a large ball finial. In 1971 the pier was reconstructed by Richard Costain in reinforced concrete. The lighthouse was demolished and replaced by a concrete post showing a red light.

- 1.8.5.25 The great eastern pier was built in 1800 and is recorded in the RCAHMW data at **706**. The HER records **05134w** as the East Pier Harbour Lights. A 6.1m (20ft) high white tower stood on the early 19th century inner East Pier (the end of this still remains) and was replaced by the light on the present East Pierhead (SS 667 915), established in 1909. This consists of a 7.01m (23ft) high wooden framework tower supporting a small lantern. The light has an elevation of 9.75m (32ft) above high water.
- 1.8.5.26 To the north and outside of the detailed study area is the J-Shed Warehouse (**05403w**) which dates from c.1895. The 'J'-Shed is typical of those buildings constructed during the massive expansion of the South Wales docks generally at the end of the 19th century. It is situated directly alongside the Prince of Wales dock and backs onto King's Road, the main estate road into Port Tawe docks. Originally constructed as a grain warehouse, the property is a 'massive' two-storey brick built building with pitched slate roof over an 'open-plan arched concrete intermediate floor supported on metal lattice columns'.
- 1.8.5.27 The northern retaining wall at Prince of Wales Dock (**05785w**) was built between 1845 and 1878. The wall continued to survive through continued use of the boundary to define land ownership, until it was recently demolished.
- 1.8.5.28 Graig Dew Lime Kiln (**06233W**) and a building known as Gelli Grafog (**06726w**) are shown on the 1879, 1899 and 1918 editions of the OS maps.
- 1.8.5.29 Also on these maps is **06727w**, a gravel pit not visible on modern mapping. The pit was marked as 'old' on the 1918 edition, suggesting it was out of use.
- 1.8.5.30 Other quarries shown on the 1879, 1899 and 1918 maps include **06728w** and **06729w** marked as 'old' on the 1918 edition, suggesting they were out of use, but still evident on modern mapping. **06730w** is Crymlyn Coal level marked on the 1879 map only and not on subsequent mapping.
- 1.8.5.31 **06730w** is a coal level marked on the 1st (1879) edition OS map only and is not marked on subsequent mapping.
- 1.8.5.32 **06731w** Tir John North is shown on the 1st (1879), 2nd (1899) and 3rd (1919) edition OS maps but has since been demolished.

- 1.8.5.33 **06733w** Well at Crymlyn shown on the 1st (1879) and 2nd (1899) edition maps only. The well was located near Tir John North PRN 06731w.
- 1.8.5.34 **06734w** is a coal drift and was identified on the 2nd (1899) and 3rd (1919) edition OS maps. The drift is not marked on modern mapping.
- 1.8.5.35 **06735w** quarry is visible on the 1st (1879), 2nd (1899) and 3rd (1919) edition OS maps, it is shown on modern mapping.
- 1.8.5.36 **06736w** Swansea Wagon Works, Crymlyn. The wagon works is marked on the 1st (1879) and 2nd (1899) edition OS maps, but is not shown on subsequent mapping.
- 1.8.5.37 **06737w** Gas Works, Crymlyn. A gas works is shown on the 1st (1879) and 2nd (1899) edition OS maps. It appears to be present on the 3rd (1919) edition OS map but is not labelled. It is not shown on subsequent mapping.
- 1.8.5.38 **06738w** Crown Spelter Works. Spelter works was identified on the 1st (1879), 2nd (1899) and 3rd (1919) edition OS maps, but is not shown on modern mapping. The spelter works was owned by Crown, which owned a paint factory (**03116w**) to the immediate north.
- 1.8.5.39 **06742** is a tank or small structure of unknown function was identified on the 3rd (1919) edition OS map only.
- 1.8.5.40 **06743/4/5w** three buildings at Crymlyn on an east-west alignment. The structure has three small outbuildings associated with it and is enclosed within a small parcel of land. The structures appear to be associated with the railway sidings and are only shown on the 3rd (1919) edition OS map. Aerial photographic coverage of the area suggests they were extant until at least 1952, but were not visible on coverage dating to 1960. **06746/7/8w** are also similar structures at Crymlyn.
- 1.8.5.41 **06750** is the location of a former Carriage and Wagon Repairing Shop and is shown on the 2nd (1899) and 3rd (1919) edition OS maps.
- 1.8.5.42 **06753w** is a row of post medieval terraced houses at Baldwin's Crescent, Crymlyn.
- 1.8.5.43 **19584** is the site of a post medieval dwelling recorded in the RCAHMW.

1.8.6 Modern (1914 – Present)

Queens Dock

- 1.8.6.1 The first large dock on the east side was the Prince of Wales Dock, which opened in 1881 and was extended in 1898. This was followed by the King's Dock, which opened in 1909 and a further extension, which opened as the Queen's Dock in 1920 (Howell and Dunning 2004). Queens Dock is of historic importance and contributes to the story of the industrial development of Swansea in the 19th and 20th centuries. Queens Dock was the last major Dock to be built in the 1920s. The dock was built to accommodate the expansion in trade by the Anglo-Asian Oil Company. The 1922 plan (**Plate 16**) shows that the basic structure and one of the industrial buildings associated with the dock has survived. Structural additions have been made over the years including several further jetties.

- 1.8.6.2 With the Kings Dock in operation, the exportation of coal, coke and patent fuel quickly grew, reaching a record level of 5.5 million tons in 1913. Tinplate exports reached their peak in 1924, when 621,000 tons were shipped through the port. However, with a change in industrial energy resources from coal to oil in the early 20th century, the UK's first oil refinery, the Llandarcy Refinery at nearby Skewen, was completed in 1918.
- 1.8.6.3 The Llandarcy Refinery was named in honour of Sir William Knox D'Arcy (1849-1917), a co-founder of the Anglo-Persian Oil Company. The refinery was linked by a pipeline directly to the Queens Dock. The dock handled up to 2,000 tankers a year, discharging millions of tons of crude oil from the Middle East and loading petroleum and other refined oil products for the UK, and for destinations such as Africa, Europe and Scandinavia.
- 1.8.6.4 Oil traffic peaked in the 1950s at around eight million tons per annum, but declined rapidly when in 1961 a pipeline connection between Llandarcy Refinery and the new Angle Bay oil terminal at Milford Haven was opened. A resurgence of use came in the early 1970s when BP's Chemical plant at Baglan Bay was linked by pipeline to the Queens Dock. This increased the port's tanker traffic through imports and exports of liquid petro-chemicals. The Llandarcy oil refinery and chemical plant at Baglan Bay are no longer in operation with Queens Dock no longer used for tankers.
- 1.8.6.5 A tragic incident occurred at Queens Dock at around 5.00 a.m. on Friday, 2nd February 1951, when a catastrophic explosion aboard the Livanos tanker 'Atlantic Duchess' killed seven of the crew. The fire raged for over 24 hours before fire-fighting tugs and the crews of fire appliances from all over the Swansea area were able to bring the blaze under control. A second explosion resulted in six fire crew being injured. The Atlantic Duchess had only recently been constructed by William Gray & Co. of Hartlepool, and had just undertaken her maiden voyage. The tanker was berthed at No. 2 Jetty. Her cargo of crude oil had just been discharged when the explosion occurred. Thirty-one of the crewmen survived the incident, with only seven of these requiring hospital treatment. Being beyond repair the tanker was later cut in two, and both sections were towed to West Hartlepool for reconstruction (Watts 1951).
- 1.8.6.6 Around 4.30 a.m. on the 27th November 1954 there was a huge explosion aboard the tanker 'Olav Ringdal Jr.' which was moored on the east layby berth at Queens Dock. Several of the 42 crew were forced to jump overboard. Sadly three of the crew were killed and twelve were injured in this incident.
- 1.8.6.7 In the early hours of the 8th December 1965, an explosion occurred aboard the BP tanker 'British Flag', which was berthed at No. 2 Jetty, Queens Dock. Fire fighters attended quickly but the intensity of the fire was such that additional fire-fighting appliances were summoned until there were almost a hundred fire-fighters tackling the blaze. Fortunately there were no casualties suffered by the Fire Service during this incident, but, sadly, one crew fatality (ibid).
- 1.8.6.8 Queens Dock is within the detailed study area but is not itself recorded as an historic environment asset.
- 1.8.6.9 During the 19th century Swansea was still a centre for production of non-ferrous metals. By the start of the Second World War, the port was also used to export weapons and reinforcements from and to the Empire and Commonwealth nations, putting Swansea firmly on the radar of the German High Command and making it a target for the Luftwaffe. However, while the city centre was extensively devastated by bombing in four major Blitz raids, requiring

subsequent demolition and redevelopment in the post-War era, the industrial quarters in Swansea were by comparison relatively unscathed (Arthur 1988). There are a number of World War II British military sites within the detailed study area that are reflective of the home defenses put in place due to fear of invasion by sea which are discussed later in this section.

- 1.8.6.10 Records held at the West Glamorgan Archives and a study of aerial photographs suggest that the land east of Crymlyn Burrows and west of Jersey Marine Golf Club was occupied by the British military, as a claim ‘for making good the damage under section 2 (i) (6) of the Act in respect of the taking possession of land for buildings on behalf of His Majesty’ is detailed and also quotes for the demolition of Block Houses and a pill box are provided. The exact location of the structures is not stated, but the area in which they were located is outlined on a plan and is outside the development area (West Glamorgan Archives D/D BF/E 353).
- 1.8.6.11 **415579** was the approximate site of the Jersey Marine Airfield recorded in the RCAHMW. Aerial photographs show an area of scrub and developing woodland covering the area that once encompassed the airstrip. A hangar was constructed at the western end of the airstrip, but it is uncertain if the building presently visible close to the road in the west is contemporary or more modern. The land was purchased by Mr. Whitney Straight from the Earl of Jersey to develop a terminus for his company, Western Airways, which ran scheduled flights to Cardiff (Pengam Moors) to connect to services to Weston-Super-Mare and Bristol. An Air Ministry license was obtained on 14 July 1938, and the company began to operate De Havilland 84 Dragons and De Havilland 89 Rapides. They began a Manchester-Penzance service in May 1939. Sources suggest that over the Whitsun weekend of that year, demand was such that a world record number of 2555 passengers were carried. Although extensions to the airport were planned, none had been implemented by the time the war began. The aircraft were pressed into the National Air Communications Organisation in September 1939 and, by 1940, had been takeover by the RAF (Jones 2007).
- 1.8.6.12 **03284w** is the former location of the Jersey Marine Battery, shown on Luftwaffe air photograph (ref NARA GX 11955 SG015) taken in February 1941 (Robins 1993, 13: plate 8). Although none of the battery sites survives, Swansea’s system of anti-aircraft defences comprised a ring of Heavy Anti-Aircraft batteries around the limits of the town at 4km intervals, supplemented by Light Anti-Aircraft emplacements around key targets such as the refinery. In addition, barrage balloons deterred overflying of the targets. The final element of defence was a Z battery, rocket-launching site, on the Oystermouth Road. Further AA batteries are thought to have been located further to the north at **03141w** and south east at **03412w**.
- 1.8.6.13 Despite the overwhelming devastation of the Second World War, modern day Swansea has recovered, becoming a centre for tourism and the arts. The redevelopment of the maritime quarter is also reflective of the resurgence of the town (Howell and Dunning 2004).
- 1.8.6.14 The development of the new docks system on the east side of the River Tawe, together with the progressive reduction of coal exports due to the increasing use of oil, resulted in the docks on the west side of the river becoming largely obsolete. The North Dock closed in 1930, although the lower basin remained open until 1969, and the South Dock closed in 1971, only to be thoroughly revitalised in later years as Swansea’s prestigious Maritime Quarter. Today, the Prince of Wales Dock is the centrepiece of the new SA1 redevelopment scheme, whilst the Queens Dock has been rendered virtually redundant by the closure of both the Llandarcy Oil

Refinery and the BP Chemicals plant at Baglan Bay. Principally, therefore, it is the Kings Dock that continues to handle the remaining commercial traffic of the Port of Swansea.

- 1.8.6.15 **40168** is the location of storage drums associated with the fuel industry at the eastern end of Queens Dock shown on an aerial photograph (**C879789**).
- 1.8.6.16 **03143w** is a modern sewage pipeline.
- 1.8.6.17 **30898/200** are the east and west pier lights located at the end of the outer breakwaters. Both comprise 7.01m (23ft) high wooden framework tower, supporting a small lantern. The light has an elevation of 9.75m (32ft) above high water. The current lights were erected in 1909 replacing early 19thc lights which were previously located on the inner pier.
- 1.8.6.18 Two unnamed pills are depicted on modern OS maps: **05792w** is generally aligned northeast-southwest. The feature is approximately 1.5m in length and around 10m wide at its mouth where it joins the River Neath; **05793w**, depicted on the 1918 OS map, is relatively short and broad, and is aligned northeast-southwest. The feature is approximately 500m in length and around 40m wide at its mouth where it joins the River Neath (Dunning and Howell 2005: Phase 2, Volume 2, gazetteer 2062).
- 1.8.6.19 **06752** is a hydraulic power station identified on the 3rd (1919) edition OS map only.
- 1.8.6.20 **06755w** represents a group of structures including one large square building and a long narrow building on an east west alignment. The square building appears similar to one shown on the 3rd (1919) edition OS map associated with railway sidings, but on the 1945 map the sidings have been removed and the building has slightly different dimensions. Between approximately 1960 and 1970 the buildings appear to form a timber yard. The buildings are shown on modern mapping relatively unchanged in layout.
- 1.8.6.21 The RCHAMW records Fabian Way (**410100**), or Jersey Marine Road, now the A483, as being constructed between May 1946 and September 1950. The earthworks for the dual-carriageway road were mapped by the Ordnance Survey in 1947 (6in sheet XXIV.NW, 1951) between Earlswood and a point to the west of Elba Crescent, Crymlyn Burrows, with a spur off towards Jersey Marine. The south (westbound) carriageway and part of the north (eastbound) carriageway had been laid by 10 August 1948 (Aerofilms images A18001, A18002). The 'bridges' section of the A48 Neath by-pass (91602) road was opened in 1955 to join Fabian Way at Earlswood roundabout (NGR SS 7299 9432) and the two roads thus linked the A48 Fishguard to London trunk road and Swansea Docks.
- 1.8.6.22 The BP Chemical Works at Baglan Bay (**91696**) manufactured Isopropanol, a widely used solvent and cleaning fluid. The plant closed in 2003, after more than 40 years of production, and the site was developed as a gas fired power station.

1.9 Built Heritage Baseline

- 1.9.0.1 There are three Grade II listed buildings located within the detailed study area. There are three Grade I Listed Buildings and 19 Grade II* Listed buildings with 5km of the Project.

Listed buildings within the detailed study area

- 1.9.0.2 The Jersey Marine Tower (**02035w**) was built before 1867, a four-storey octagonal, castellated tower, once housing a camera obscura. It is a Grade II listed building (11846 II) built as part of the development of Jersey Marine as a holiday resort. Having fallen into disrepair there were proposals to restore the *camera obscura* but it was eventually fully restored in 2006 as part of The Towers Hotel and is now used as a bridal suite.
- 1.9.0.3 The post-medieval Pilot House (**02399w**) is listed at Grade II (11655) and is now surrounded by mostly modern residential development.
- 1.9.0.4 **02810w** are the remains of a post-medieval hand ball court dating from 1862. Jersey Marine ball court was built during 1860s by Captain Evan Evans as part of the Jersey Marine complex. Its highest wall bears the inscription 'Gwrol Galon Hyd Angau'. The remains are Grade II listed (**11850w/32789**).
- 1.9.0.5 In the northern part of the central section of the detailed study area is the Chapel of St Margaret's Grange (**00642w**, Scheduled Monument **GM326**). The first record of St Margaret's chapel was in 1289 at which time the chapel belonged to Neath Abbey (Williams 2001). Early 20th century excavations revealed the outline of a building and the walls are still standing as a low ruin, about 25m east-west by 6.3m.

1.9.1 Undesignated Historic Buildings

- 1.9.1.1 Queens Dock is not a designated structure but is of historical significance through its association with the earlier docks to the north. Queens Dock represents the last phase of dock construction and was principally built to serve the import of fuel stores. The dock retains many of its original features including some of the jetties and dockside furniture such as bollards and rope stays.
- 1.9.1.2 At the western end of Queens Dock, immediately to the northwest of the wind turbine and within the Project area, stands a large steel framed industrial building which is apparent on the 1922 plan of the docks (Plate 2). The building was almost certainly built as a warehouse or workshop upon completion of Queens Dock in the early 1920s. The building is rectangular with a double gable roof and low structures on the dock side. It is of steel frame construction and now only partially clad in corrugated iron sheeting. The lower portion of some of the walls comprises three or four railway sleepers laid horizontally. The floor of the building is concrete. Although now missing most of the sheet cladding on the seaward side, the basic structural integrity of the building is intact and it is overall in reasonable condition. Along with various jetty structures, the building contributes to the industrial setting of Queens Dock and is an original feature.
- 1.9.1.3 The most significant built elements at Queens Dock relate to military defensive structures of WWII date. During the early part of WWII, five pill boxes were constructed into the sea wall to defend the harbour and docks against any sea borne attacks. A gun emplacement was also built to accommodate a 4.7" naval gun originally of late 19th century date. The platform for the gun still survives in the sea wall along with three of original five the pill boxes. . The gun emplacement (4.7" gun) had a crew of 7 with a sand bagged post close by (Jon Berry Pers

Comm). During the site inspection (10/09/13), an area of disturbed and truncated ground was observed to the immediate east of the gun emplacement. Mr Berry indicated that this may represent the remains of the sand bagged crew post. There is the potential for remains relating to the post to exist below ground level (such as a magazine store or crew shelter). Towards the eastern end of the seawall at Queens Dock there are two in situ tank cubes and a further two close by that are no longer in situ. The pill boxes are all constructed of brick with concrete foundations and thick rendering which generally survives. All, of the surviving structures of WWII date are in good condition although significant structural cracks are present across the roofs of two of the pill boxes. The western most pill box (K8) no longer exists but its former location is represented by an area of repair in the sea wall. The eastern most pill box has been demolished and the debris of the structure is still present (Q5). A further defensive measure was located on the eastern breakwater. This was an Admiralty 'F' station which consisted of a monitor structure designed to pump ignited fuel onto the water surface between the dock entrance. The monitor was connected to a pipe and fuel store located at some distance to the west possibly also along the sea wall (Jon Berry pers Comm). The WWII structures mentioned are shown on a Great Western Railway plan of the docks dating to late 1930's but adopted and amended by the military to show strategic locations of defensive measures for the docks. Due to copyright, the plan is not reproduced here but the location of the WWII structures has been extrapolated from this plan and are illustrated on **Figure 1**. A summary of the above structures is given below:

- i. Five World War II pill boxes built into the sea wall to the south of Queens Dock between 1940 and 1941, two of which are recorded in the HER (**02264/5w**).
- ii. The RCAHMW records three pill boxes, the information for which is derived from the Defence of Britain Project (ref number included in *italics*). The westernmost is **270416** (6636), then **270418** (6638), finally **270417** (6637);
- iii. **270419** is listed as an anti tank cube but actually four anti tank cubes are located in a group;
- iv. **270843** is a gun emplacement with a reinforced concrete base and semi-circular niche in a protective brick and concrete wall;
- v. **270842** is a brick-built structure to the south of the Prince of Wales Dock which was probably a WW2 observation post.

1.9.1.4 Although not currently statutorily protected, all of these structures are of high historic significance. A site visit (10.09.13) undertaken by Jon Berry of CADW and Andy Mayes of URS has revealed evidence that the pill boxes are unique in their design and as such are likely to be of at least National significance. Together with the gun emplacement and tank cubes the surviving pill boxes form a distinctive group of structural remains which represent a rare survival in Wales. As such, it is understood that CADW will apply for scheduling of the WWII structures in the near future to ensure their long term protection.

1.10 Cartographic and Documentary Analysis

1.10.0.1 A review of the three tithe map sources (the 1840 Swansea tithe Map (**Figure 4**), the 1844 Parish of Llsamlet tithe map (**Figure 5**), the 1844 Cadaxton tithe and the 1879 and 1899 edition OS maps (**Figure 4** and **5** respectively)) covering the development area show that at the time these maps were produced between 1841 and 1844, the entire development area was within the foreshore or marine environment. The only potential archaeological feature would

be the oval racetrack located on the beach towards the western end of the Project. This feature is likely to have been destroyed during development in the 20th century.

- 1.10.0.2 Towards the eastern end of the Project, the 1844 Parish of Llansamlet tithe map shows open undeveloped land on Crymlyn Burrows. The apportionment for part of the land above the high tide mark shows it belonged to the Earl of Jersey. The occupier was William Bowen and the use of the land was not specified. The name Crymlyn derives from the Welsh 'crwm llyn' meaning 'curved pool' (Owen and Morgan 2007). This is a poorly studied area, and there is no dated information on its formation, although the burrows are marked in a similar form as they have today on the Llansamlet tithe map of 1844 (**Figure 5**). It is possible that it is the result of the same movement of sand, which is documented elsewhere on the coast in the later Middle Ages, but it may have formed well before this.
- 1.10.0.3 The 1879 and 1899 Ordnance Survey maps (**Figures 4-9** show the conversion of the western end of the Project to the docks and industrial land shown on later edition OS maps).
- 1.10.0.4 The Project area is shown on the 1st (1879) edition OS map (**Figure 6.2**) as Crymlyn Burrows to the east and land below the high tide mark to the west, as on the tithe map. The 2nd (1919) edition OS map (**Figure 7**) shows the high tide mark has receded slightly and the industrial activity to the north has expanded considerably. In a revised 2nd Edition OS map of the same year (**Figure 8**) the landscape in the development area has changed fairly dramatically. The sea wall related to the construction of Queen Docks to the west enabled this part of the burrows (**Figure 9**) to be used for industrial purposes, and demonstrates the growth of industry in Swansea at this time.
- 1.10.0.5 The 1921 and 1947 edition OS maps (**Figure 10 and 11**) show the area within which the cable for the Project may be laid prior to the construction of Fabian Way. There are still very few features marked. Perhaps of most interest is the linear feature located towards the eastern end of the Project. Although not labeled, it seems likely that the linear feature is the remains of the runway of the Jersey Marine Airfield (**415579**) which operated from the early 1920s to the late 1930s. There do not appear to be any buildings associated with the feature but a tank (for fuel?) is marked at the eastern terminus of the linear feature where the line changes orientation very slightly. The aircraft flown from the airfield were De Havilland 89 Dragon Rapides, which had a minimum take off distance of 265m (www.aircraft.co.za/Encyclopedia/D/429.php).
- 1.10.0.6 Charters written in the 12th century indicate the presence of the town and port of Swansea. The trade allowed by the port was also documented as forming an important part of Swansea's economy (Griffiths 1978). There are several early pictorial records of Swansea with one of the earliest known examples by Francis Place (1678) which shows the shore of Fabian's Bay (now the harbour) and the town. Other post-medieval views of Swansea suggest only limited settlement to the north of the study area at this time and indicates that the area now occupied by Queens Dock was not terrestrial. A plan of 1771 by B Jones (**Plate 13**) shows the natural harbour and lack of development in the harbour mouth. By the 1870s plans for the development of the harbour show the east of Prince of Wales Dock with the future site of Queens Dock to the south within the marine environment (**Plate 15**). A general plan of the docks produced in 1922 (**Plate 16**) shows the newly built Queens Docks. The building (discussed further in Section 1.9, Plate 2) is at the western end of Queens Dock and is visible on this plan at the landward end of the eastern pier. Two oil containers are located

immediately to the north west adjacent to the building. Several sets of trackway and a pipeline are shown running parallel to the harbour wall to terminate at a fuel store located on the large jetty to the east of the building at the western end of the dock. Further tracks are located on the northern side of the dock (south side of Kings Dock) where a large shed at the eastern end is marked 'Grain Storage No 2 Shed'. The grain store no longer exists and the area is currently hard standing. These have either been removed or are buried by more recent surfaces. A small separate dock is present on the 1922 plan at the western end of the main dock that appears to have been converted into two narrow docks. A causeway appears to have once existed across the mouth of the 'arrow shaped' dock at the south western end of the main dock. There are three jetties marked in bold presumably existing at the time and a further three dotted in at the south western end of the dock. There are five jetties present in similar locations today. Six oil storage tanks (two further tanks are dotted in) are shown at the eastern end of Queens Dock on what appears to be the foreshore.

1.11 Aerial Photography

- 1.11.0.1 A study of all available aerial photographs provides a useful insight into the nature of the detailed study area from the 1940s to the present. A selection of relevant aerial photographs is reproduced with permission in **Appendix C**.
- 1.11.0.2 Few changes are apparent on photographs taken following WWII. Features such as the railway sidings and structures shown on the 3rd (1919) edition OS map (**Figure 6**) and the railway sidings and wagons remain visible until 1992, when the line has fallen into disuse and become overgrown. Part of the eastern side of the development area had been fenced off and the railways sidings removed.
- 1.11.0.3 AP 4202-12-13 and 14 (**Plate 21**) were taken on an RAF sortie in 1944. They provide a valuable insight into the use of Crymlyn Burrows during the latter part of WWII as it shows the location of anti-aircraft batteries and other military equipment.
- 1.11.0.4 Another particularly informative aerial photograph shows Fabian Way under construction on the 10th August 1948 (RCAHMW DI2010_0240). This photograph shows the newly laid carriageway on a raised bed. The old road can be seen in the distance to the right of the new carriageway which has extended to the south with an additional two lane road. No development is apparent to the south (seaward) side of the road in the area known as Crymlyn Burrows.

1.12 Historic Landscape

- 1.12.0.1 The landscape in which the Project lies has been shaped by human activity. However, for the majority of the Project area, since the beginning of the twentieth century, the scale and pace of change has intensified and the historic character of the landscape has changed. In order to accommodate mostly industrial development. Cadw, the Countryside Council for Wales (CCW) and the International Council on Monuments and Sites (ICOMOS UK) have produced the Register of Landscapes of Historic Interest in Wales as a means of identifying, and to provide information on, the most important and best-surviving historic landscapes in Wales. The Royal Commission on the Ancient and Historical Monuments of Wales, the four Welsh Archaeological Trusts (in the case of the current development Gwent and Glamorgan Archaeological Trust) and the Welsh local authorities also collaborated in the Project.

1.12.0.2 The Register has been issued in two parts, covering thirty-six 'outstanding' and twenty-two 'special' historic landscape areas, and forms Part 2 of the wider exercise to compile an overall Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales. The term 'historic landscape' refers to an area identified on the Register of Landscapes of Outstanding Historic Interest in Wales (published as Part 2.1, by Cadw, in 1998, ISBN 1 85760 007 X), or on the Register of Landscapes of Special Historic Interest in Wales (published as Part 2.2, by Cadw, in 2001, ISBN 1 85760 187 4). The Guide does not deal with Part 1 of the Register, which is concerned with historic parks and gardens.

1.12.0.3 Further to consultation undertaken by Tidal Lagoon Swansea Bay with Archaeological Advisor Neil Mayland of GGAT and CADW, it is considered that the Project will not effect any areas of registered historic landscape. As a result an Assessment of the Significance of Impact of Development on Historic Landscapes (second edition) (ASIDOHL2) is not required as part of the baseline assessment stage.

1.13 Zone of Theoretical Visibility

1.13.0.1 **Appendix G** shows the location of designated assets within a 15km radius of the site. The assets are colour coded to type and those areas that may have a potential view of the proposals (primarily the lagoon wall) are clearly marked. Designated assets located within Swansea are shown on **Figure 3**. No designated sites within the ZTV will be significantly affected by the terrestrial components of the Project.

1.13.0.2 Oystermouth Castle is a Scheduled Monument (GM007, 94508) located on the west side of Swansea Bay. The castle at Oystermouth was founded in 1107 by William de Londres I, when Henry Beaumont conquered Gower. The primary castle of earth and timber was surmounted by a stone keep around 1138 and in the early 13th century an extended central block (incorporating the earlier keep) was added. The northwest block and part of the west range appear to have been added in the mid-13th century and in the late 13th century the gatehouse and curtain wall were constructed. In the early 14th century a chapel was added and other additions, including the southern offices and latrine turrets, were made before the end of the medieval period. There are traces of wall paintings in the southern recess of the chapel and on an area of plaster beneath the vault. The castle was built close to the coastline to monitor and protect the coastal routes. Following the first phase of conservation works, Oystermouth Castle reopened to the public in mid-July 2011. The conservation works includes new visitor facilities, an educational space, improvements to access and a 30-foot high glass viewing platform and bridge that leads to Alina's Chapel. The chapel marks the attraction's highest architectural point and features a tracery window with views over Swansea Bay. Terrestrial elements of the Project will not affect the historic setting of the castle.

1.13.0.3 The Scheduled Monument of Kenfig Castle (GM042, 300455) is located some 13km to the south west on the coast. The remains of Kenfig Castle, a once great medieval fortress, are located in the dunes beside the Kenfig River. The castle was established in the early 12th century by the Lord of Glamorgan and was set at the northern end of a walled borough. The castle was set on a low knoll washed by the river on the west and north. It originally consisted of a roughly circular embanked and palisaded court some 37m across, enclosing a magnificent square-plan tower, as well as a hall and its offices. The facades of the 14m square tower were articulated by slim dressed stone buttresses at the corners and centre of each side. It would have risen high above the court dominating the borough skyline. In about 1300 the castle was

substantially reconstructed. The rampart was thrown down to level up the court and a stout curtain wall was built in its stead with a large masonry gatehouse facing into the borough. The tower was also reconstructed and its south-west wall completely rebuilt.

- 1.13.0.4 Another Scheduled Monument within the view shed but at 12km distant is Mynydd-Y-Castell Camp (GM162, 301336) is located to the south west of the site. A roughly bean-shaped enclosure, c.270m N-S by 140m, on the summit of an isolated hill, is defined by a bank and ditch, generally reduced to scarps, counterscarped in places. At the south end, the site is marked by crags. A single possible roundhouse site within may be associated with the construction of either the modern reservoir or ruined park building. A further camp known as Moon Camp is located at (301319 not shown) to the north.
- 1.13.0.5 Very distant views may be afforded from the Scheduled Monument Margam Radar Station (GM488, 308125). The station at Margam was part of the World War II Chain Home low radar network used to detect shipping and low flying aircraft in the Bristol Channel. Three concrete buildings and a platform remain, set on the edge of the scarp overlooking Groes village.
- 1.13.0.6 Mynydd March Hywel East II (GM326, 15387) is a Scheduled Monument of a house platform approximately 7km to the north of the site.

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Cartographic

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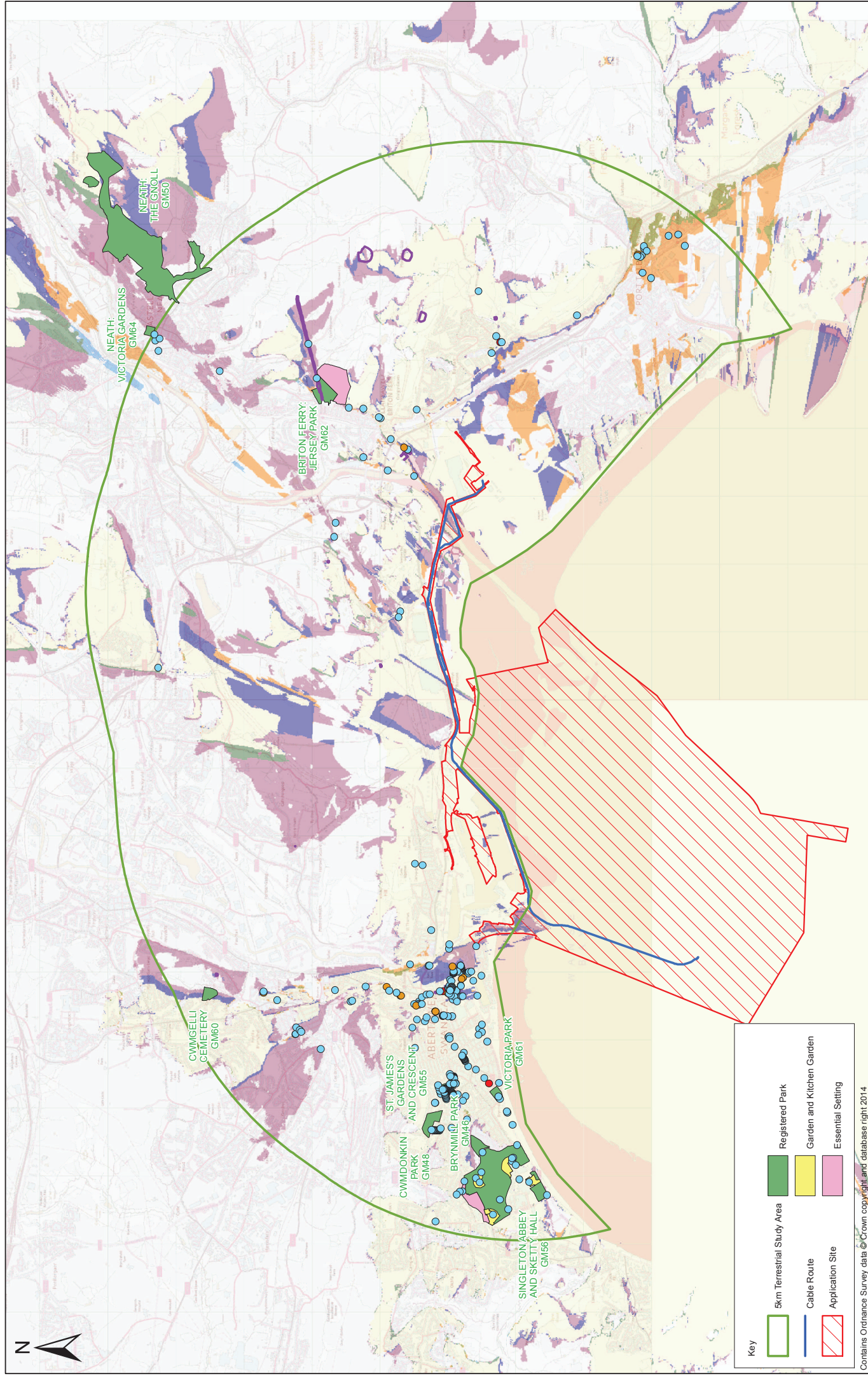
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FIGURES



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APPENDIX A MAP REGRESSION



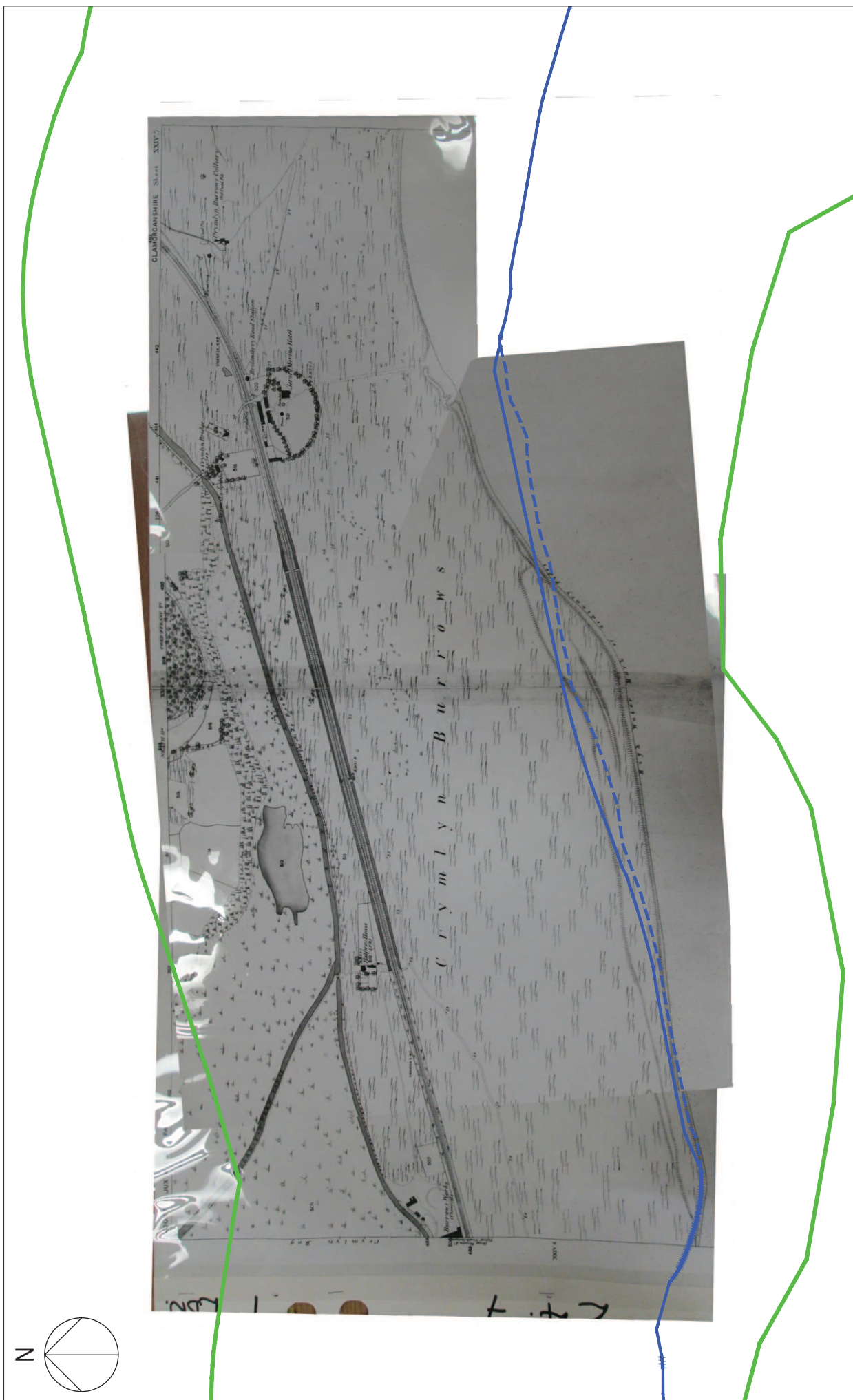
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Cable route updated	GB	By	14.01.14	AM	1
Revision Details	By	Check	Date	Suffix	

Project Title		Client	
Swansea Bay Tidal Lagoon		1	
Tidal Lagoon Swansea		Suffix	

Drawing Title	
Figure 5 Extract from Ordnance Survey 1st Edition 1:2500 1879 (West end Project)	

Purpose of issue		FOR INFORMATION	
Designed	AM	Drawn	GB
Checked	AM	Checked	AM
Approved	AM	Approved	AM
Date	16.01.13	Suitability	-
URS Internal Project No.	47065127	Zone / Mileage	-
Scale @ A3	NTS		

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Drawing Number	47065127/AR/006
Rev	1



KEY  Detailed study area  Cable route	Project Title		Drawing Title		Purpose of issue FOR INFORMATION Designed AM Drawn GB Checked AM Approved AM Date 16.01.13 URS Internal Project No. 47065127 Scale @ A3 NTS Zone / Mileage - -	This document has been prepared in accordance with the scope of URS appointment with its client and is subject to the terms of that appointment. URS accepts no liability for any use of this document other than by the client and only for the purposes for which it was prepared and for which provided. Only written amendments shall be used. © URS Infrastructure & Environment UK Limited	URS Infrastructure & Environment UK Limited WESTONE Wellington Street Leeds LS1 1BA Tel: (0113) 204 5000 Fax: (0113) 204 5001 www.ursglobal.com	
	Cable route updated Revision Details	GB AM By Date	Client 1 Date	Drawing Number 47065127/AR/007 Rev 1				



KEY	Detailed study area Cable route	Project Title		Drawing Title		Figure 7 Extract from Ordnance Survey 2nd edition (rev) 1:2500 1919				Purpose of issue				FOR INFORMATION				This document has been prepared in accordance with the scope of URS' appointment with its client and is subject to the terms of that appointment. URS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. Only written dimensions shall be used. © URS Infrastructure & Environment UK Limited				URS Infrastructure & Environment UK Limited WESTONE Wellington Street Leeds, LS1 1BA Tel: (0113) 204 5000 Fax: (0113) 204 5001 www.ursglobal.com			
		Swansea Bay Tidal Lagoon		Client		1		Date		16.01.13															
		Cable route updated		GB / AM		14.01.14		By		Check		Date		Suffix											
		Revision Details		Drawing Number		47065127/AR/009		Rev		1															



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Revision Details		Cable route		Detailed study area	
Cable route updated	GB	By	AM	14.01.14	1
				Date	Suffix

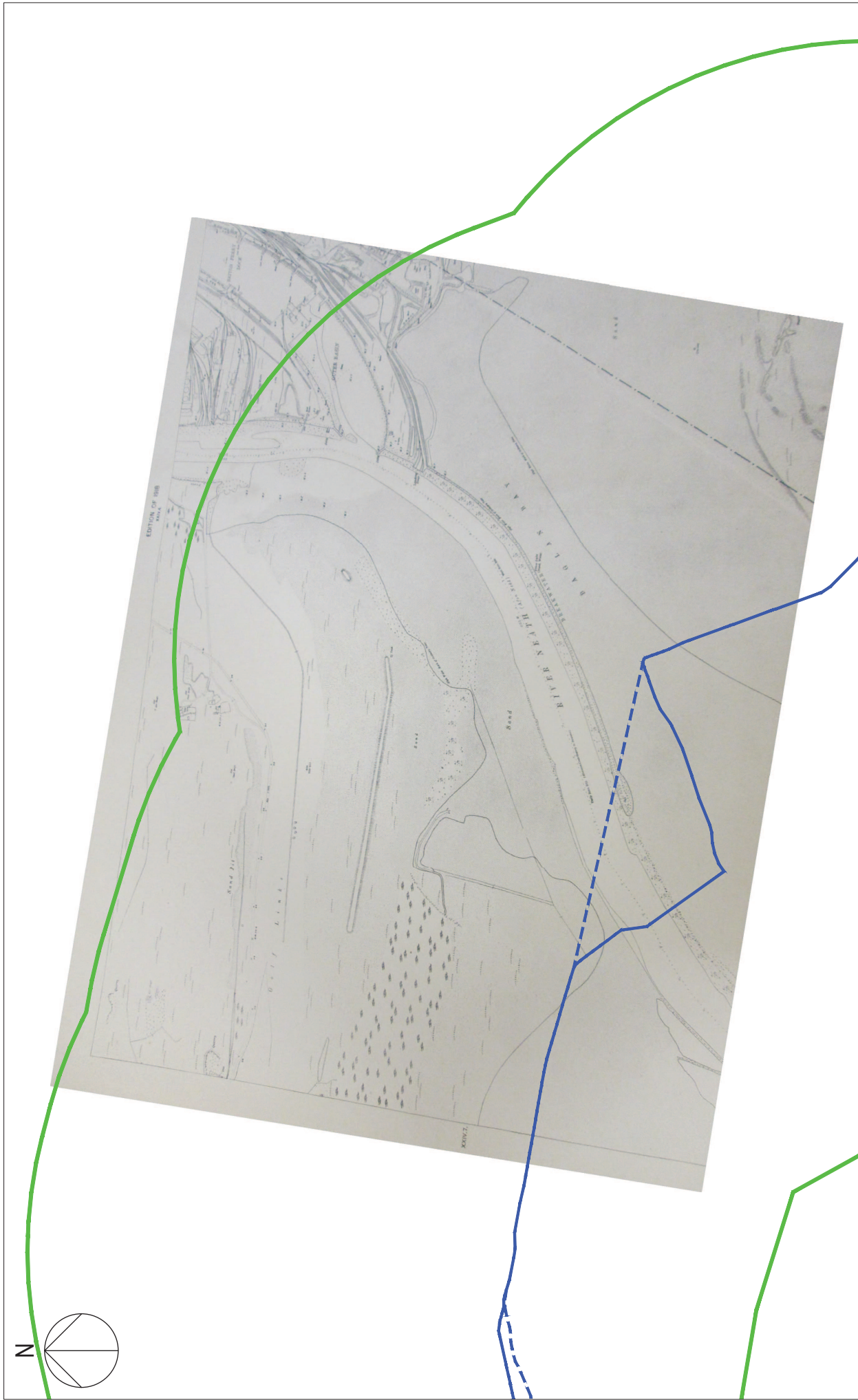
Project Title		Client	
Swansea Bay Tidal Lagoon			
		Tidal Lagoon Swansea	

Drawing Title	
Figure 8 Extract from Ordnance Survey 2nd edition (rev) 1:2500 1919 (Initial Queens Dock structures)	

Purpose of issue					
Designed	Drawn	Checked	Approved	Date	
AM	GB	AM	AM	16.01.13	
URS Internal Project No.				Suitability	
47065127				-	
Scale @ A3				Zone / Mileage	
NTS				-	

Drawing Number		Rev	
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Cable route updated	GB	AM	14.01.14	1	Suffix	Client	

Project Title		Drawing Title	
Swansea Bay Tidal Lagoon		Figure 9 Extract from Ordnance survey 2nd Edition 1919 (East end of Project)	

Purpose of issue				FOR INFORMATION			
Designed	Drawn	Checked	Approved	Date	AM	AM	AM
AM	GB	AM	AM	16.01.13	AM	AM	AM
URS Internal Project No.				Sustainability			
47065127				-			
Scale @ A3				Zone / Mileage			
NTS				-			

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Revision Details	By	Check	Date	Suffix	Client
Cable route updated	GB	AM	14.01.14	1	Client

Project Title	
Swansea Bay Tidal Lagoon	
Tidal Lagoon Swansea	

Drawing Title
Figure 10 Extract from Ordnance Survey 1:2500 1921

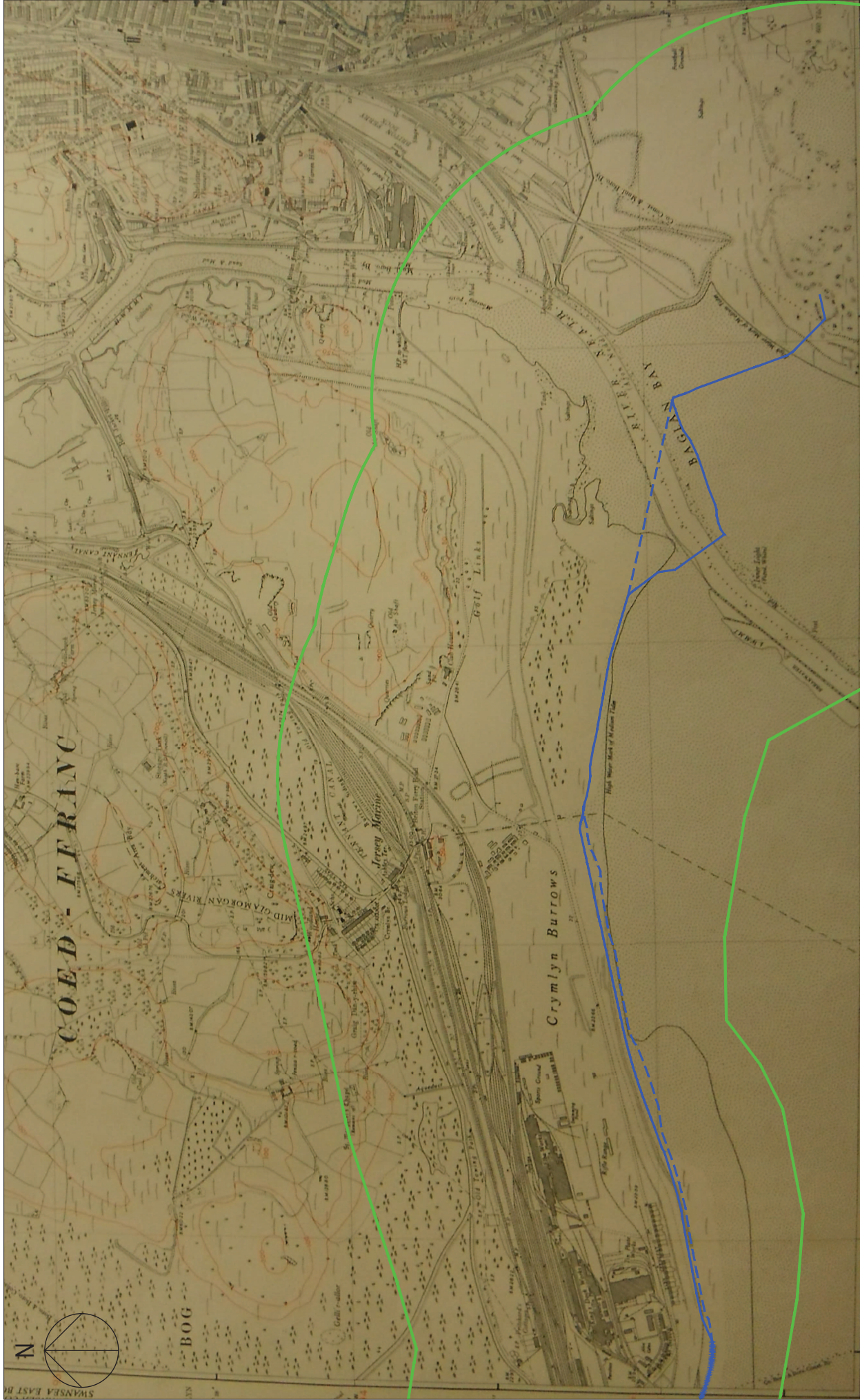
Purpose of issue				
Designed	Drawn	Checked	Approved	Date
AM	GB	AM	AM	16.01.13
URS Internal Project No.				Suitability
47065127				-
Scale @ A3				Zone / Mileage
NTS				-

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KEY
Detailed study area
Cable route

Cable route updated	GB	14.01.14	1	Client
Revision Details	By	Date	Suffix	

Project Title	Swansea Bay Tidal Lagoon
Client	Tidal Lagoon Swansea

Drawing Title
Figure 11
Extract from Ordnance Survey 1:2500 1947
(East end of Project)

Purpose of issue	Designed	Drawn	Checked	Approved	Date
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	URS Internal Project No.	47065127	Suitability	-	
Scale @ A3	NTS	Zone / Mileage	-		

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APPENDIX B: SITE WALKOVER PHOTOGRAPHS



Plate 1 View of Listed Harbour lights from western end of Queens Dock (14th January 2013)



Plate2 Derelict building at Western end Queens Dock(14th January 2013)



Plate 3 Queens dock view north from western end(14th January 2013)



Plate 4 Queens dock view North East(14th January 2013)



Plate 5 Sea wall with Pill box 270418 (Q2), Queens Dock to left(14th January 2013)

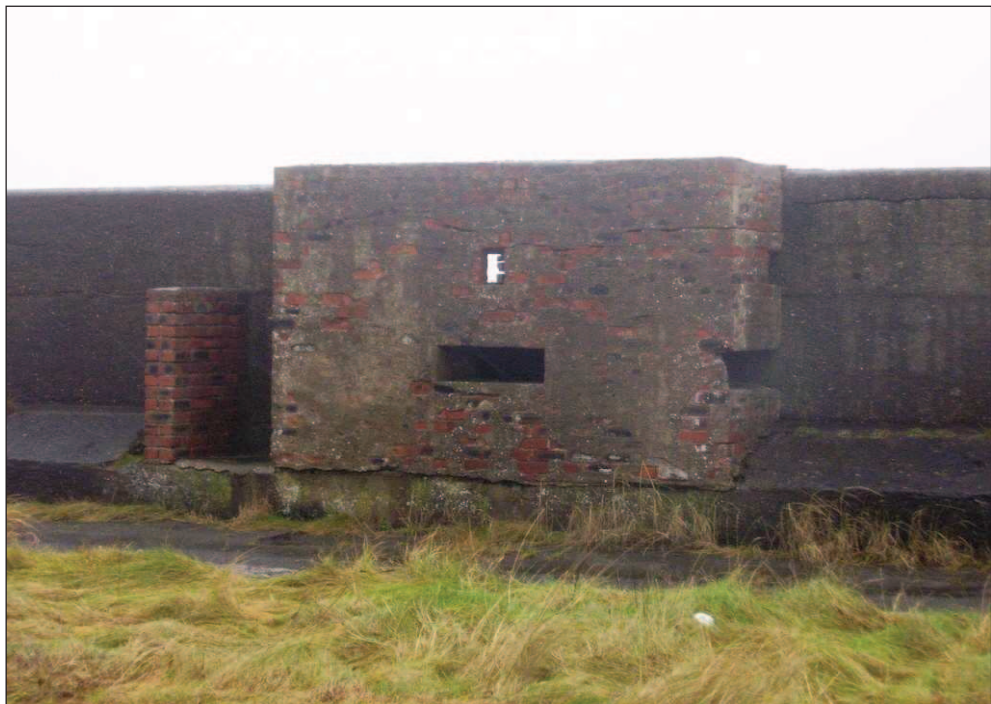


Plate 6, Pill Box 02264 (Q3) (14th January 2013)



Plate 7 Pill Box 270418 (14th January 2013)



Plate 8 Gun Emplacement(14th January 2013)

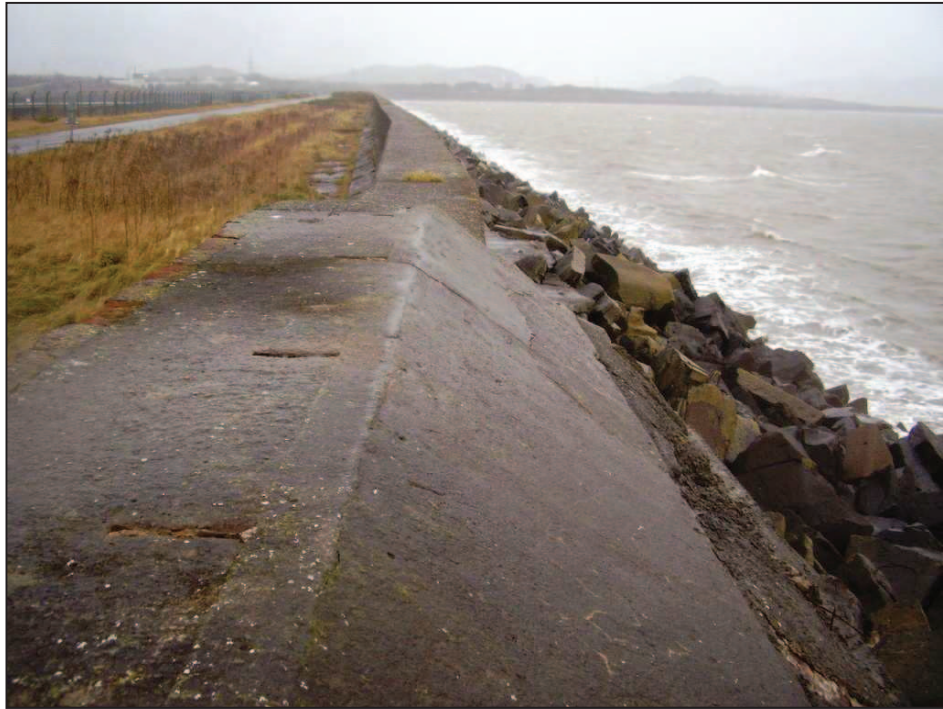


Plate 9 Sea wall looking east(14th January 2013)



Plate 10 Briton Ferry Entrance 05293w View South West(14th January 2013)



Plate 11 Jersey Marine Tower(14th January 2013)

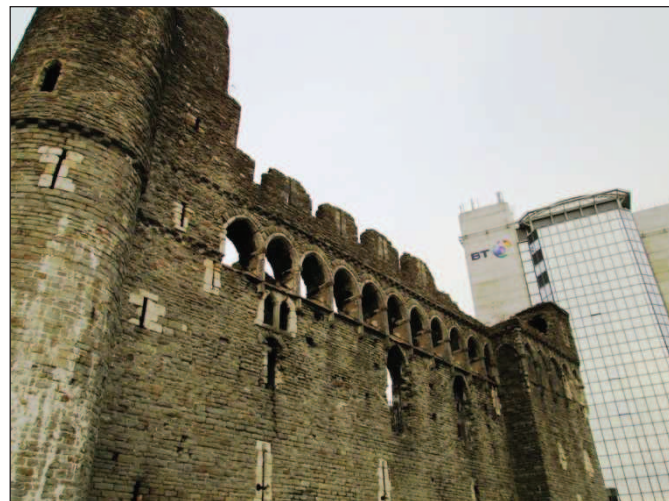


Plate 12 Swansea castle(14th January 2013)

APPENDIX B HISTORIC IMAGES

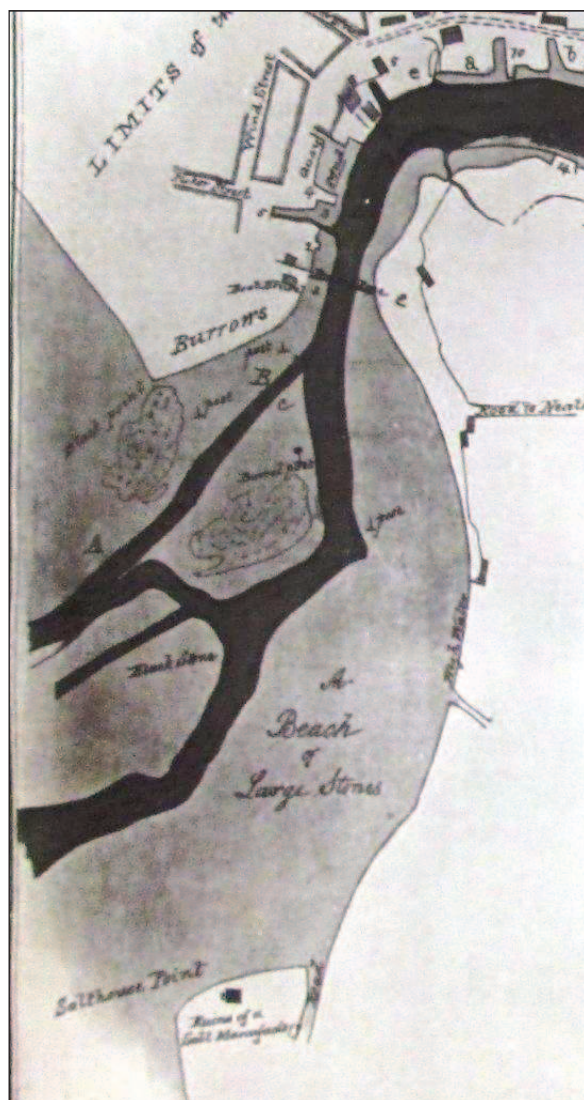


Plate 13 Extract from a Plan of the River Swansea by B Jones (1771)



Plate 14 Baglan Bay by P Rothwell (1792)

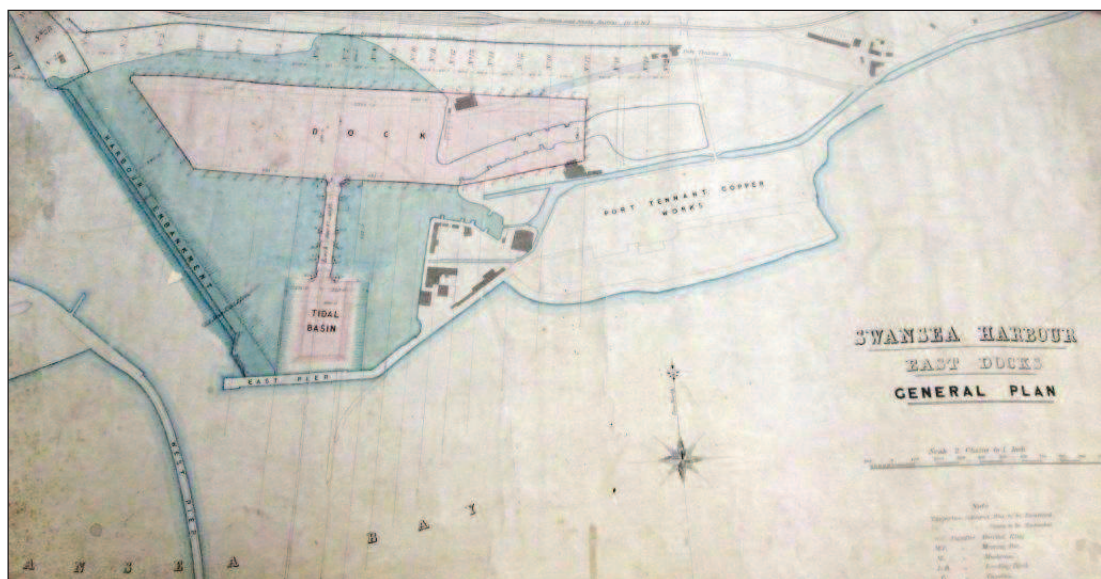


Plate 15 General Plan of the Docks 1870

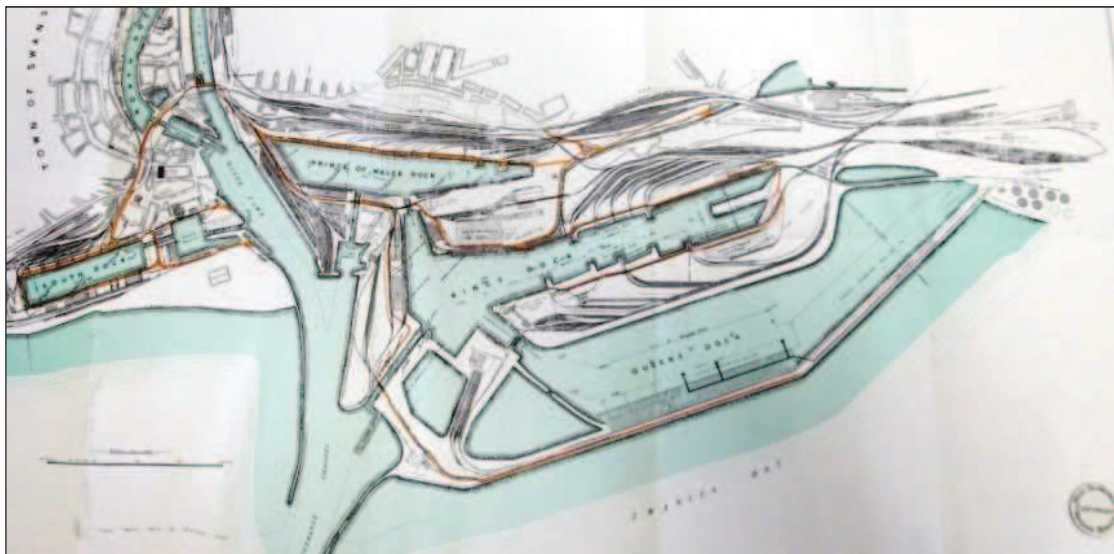


Plate 16 General Plan of the Docks showing Queens Dock Phillips, P.W 1921



Plate 17 AA Gunners In South Wales August 1940 (Arthur, N 1988)



Plate 18 Baglan Bay My 1970

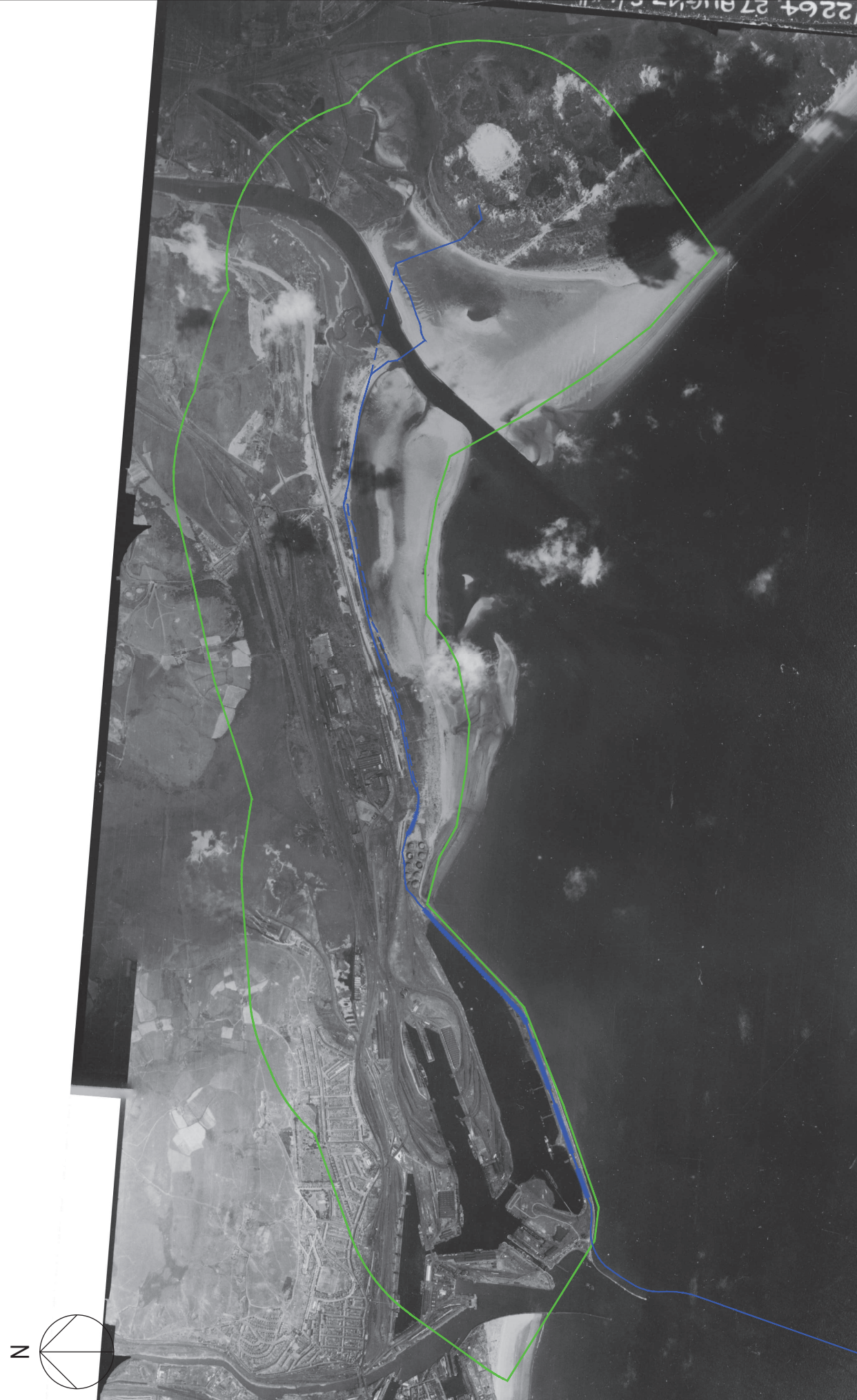


Plate 19 Queens Dock In the 1920's

APPENDIX C AERIAL PHOTOGRAPHS

Sortie	Scale	Air Survey Org	Date	Frames
106G UK 624	1:2500	RAF	10/08/1945	6150-5, 6200-6
106G UK 1275	1:4800	RAF	23/03/1946	5303-05, 5317-19
106G UK 1419	1:9900	RAF	15/04/1946	3226-28
106G UK 1625	Various	RAF	07/07/1946	6266-68
CPE UK 1989	1:4800	RAF	12/04/1947	5141-44, 5126-30
CPE UK 2107	1:4800	RAF	28/05/1947	5065-68
CPE UK 2264	1:2690	RAF	27/08/1947	5014-15
540 RAF 332	1:20000	RAF	13/05/1950	5015-16
58 RAF 922	1:5000	RAF	22/07/1952	5100-02
58 RAF 3506	1:19999	RAF	21/04/1960	F22: 108-9
OS 62 014	1:24000	Ordnance Survey	14/04/1962	82-83
OS 63 069	1:25000	Ordnance Survey	24/05/1963	5-6
Meridian 68/66	1:6000	Meridian	07/03/1966	4/66: 140-2, 90-2.
OS 67 091	1:7500	Ordnance Survey	10/05/1967	47-49
Meridian 66/67	1:6000	Meridian	09/07/1967	66/67: 46-9, 86-8
Meridian 20/68 1:	1:6000	Meridian	12/04/1968	20/68: 137-9, 100-3
Meridian 3/69	Various	Meridian	19/01/1969	5/69: 3-5, 3/69: 202-5

Sortie	Scale	Air Survey Org	Date	Frames
Meridian 49/70	1:6000	Meridian	21/06/1970	49/70: 112-4, 76-8
Meridian 75/70	1:10000	Meridian	23/09/1970	75/70: 151-2, 164-5
Meridian 26/71	1:6000	Meridian	25/04/1971	26/71: 37-40, 55-8
Meridian 3/72	1:5000	Ordnance Survey	19/01/1972	3/72: 3-7
Meridian 22/75	1:6000	Meridian	25/04/1975	22/75: 172-174
OS 78 085	1:23000?	RAF	11/06/1978	128-9
Meridian 37/79	Various	Ordnance Survey	10/09/1991	37/79: 94+6, 133-5
1 PRU RAF 2301	1:2500	Geonex (NRSC)	10/09/1991	40
OS 92 039	1:5500	Ordnance Survey	04/04/1992	70-72/123-5



KEY
Detailed study area
Cable route

Cable route updated	GB	14.01.14	1	Client
Revision Details	By	Check	Date	Suffix

Project Title	Swansea Bay Tidal Lagoon
Client	Tidal Lagoon Swansea

Drawing Title
Historic Aerial Photograph of 1947

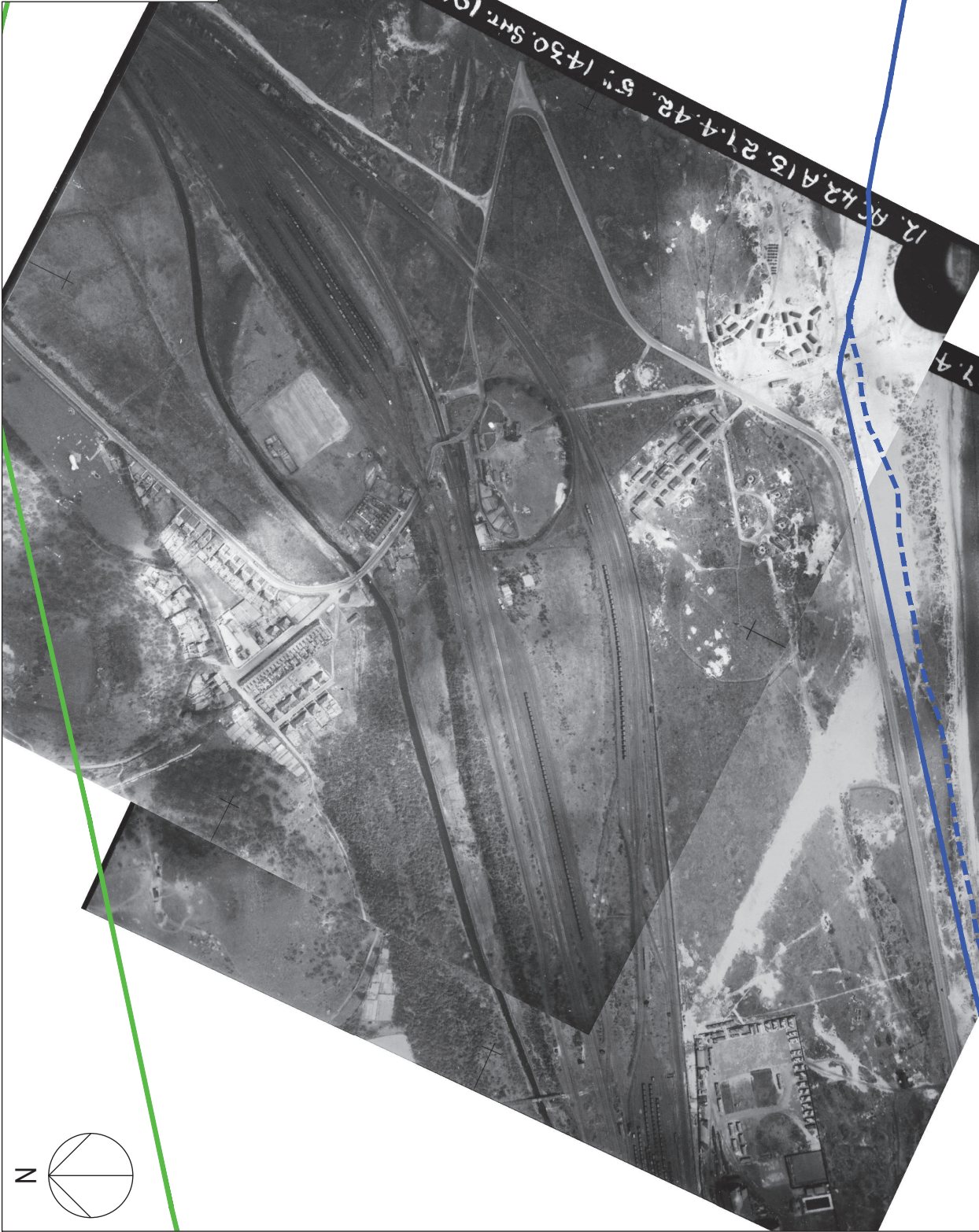
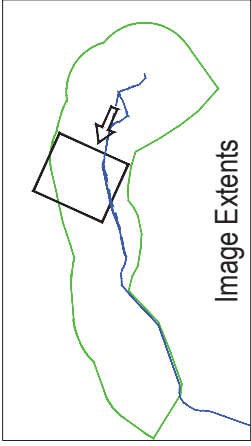
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AM	GB	AM	AM	09.05.13
URS Internal Project No.		Suitability		
47065127		-		
Scale @ A3		Zone / Mileage		
NTS		-		

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KEY  Detailed study area  Cable route	Project Title			
	Swansea Bay Tidal Lagoon			
	Tidal Lagoon Swansea			
Cable route updated	GB	14.01.14	1	Client
Revision Details	By	Date	Suffix	
	Check			

Drawing Title Historic Aerial Photograph of 1942	Purpose of Issue					
	FOR INFORMATION					
	Designed	Drawn	Checked	Approved	Date	
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	URS Internal Project No. 47065127			Suitability -		
	Scale @ A3			Zone / Mileage		
	NTS			-		

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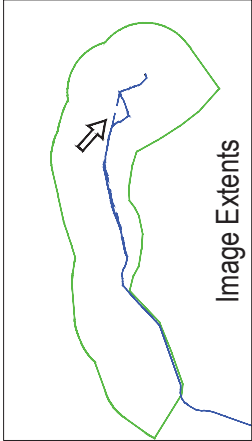


Image Extents



KEY		Project Title		Drawing Title		Purpose of issue		FOR INFORMATION		This document has been prepared in accordance with the scope of URS' appointment with its client and is subject to the terms of that appointment. URS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. Only written dimensions shall be used. © URS Infrastructure & Environment UK Limited		URS Infrastructure & Environment UK Limited WESTONE Wellington Street Leeds, LS1 1BA Tel: (0113) 204 5000 Fax: (0113) 204 5001 www.ursglobal.com					
Detailed study area		Swansea Bay Tidal Lagoon		Historic Aerial Photograph of 1992		Designed AM		Drawn GB		Checked AM		Approved AM		Date 16.01.13		Rev 1	
Cable route		Tidal Lagoon Swansea				URS Internal Project No. 47065127		Sustainability -		Zone / Mileage -		Drawing Number 47065127/AR/102					
Cable route updated		Client				Scale @ A3 NTS											
Revision Details		1		Suffix		By GB		Date 14.01.14		Check							

APPENDIX D HISTORIC ENVIRONMENT ASSETS (1KM)

ID	Name	Period	NGR	Value
00453w*	SWANSEA FERRY	Medieval	SS662929	
00456w	FINDSPOT	Bronze Age	SS6893	
00637w*	BRITON FERRY SITE	Medieval	SS73309413	SAM
00638w	FINDSPOT PALSTAVE	Bronze Age	SS702933	
00642w	ST MARGARETS CHAPEL	Medieval	SS70509398	
00645w*	CHURCH OF THE HOLY VIRGIN AT BRITON FERRY	Medieval		Grade II
00804w*	WARREN HILLFORT	Iron Age	SS73659410	
00907w	ST MARGARETS WELL	Medieval	SS70589394	
00941w	DAN Y BEACON	Post-medieval	SS690938	
01027.0w	NEATH CANA	Post-Medieval,	SS734149406 0	
01059.0w	GREEN LANE (Trackway)	Post-Medieval	SS67829350, SS68029490	
01070.00w	TENNANT CANAL (LINEAR FEATURE)	Post-Medieval	SS669499277 9	
01070.02w	RED JACKET PILL RIVER BARGE LOCK, LLANDARCY, TENNANT CANAL	Post-Medieval	SS725929465 9	

ID	Name	Period	NGR	Value
01070.08w	CANAL SLUICE, TENNANT CANAL	Post-Medieval	SS7239994662	
01070.12w	TENNANT CANAL PUMP HOUSE	Post medieval	SS7200994256	
01135.0w	CLAWDD Y SAESON	Post medieval	SS6993	
01473w*	OLD GUILDHALL	Post-Medieval	SS662929	listed building 11643 II*
01699.0w	SWANSEA VALLEY RAILWAY	Post-Medieval	SS7122413921, SS6637093154	
01701.4w	NEATH RAILWAY TUNNEL	Post-Medieval	SS731009300	
01701.5w	RAILWAY CUTTING	Post-Medieval	SS72509330	
01701.6w	PORT TALBOT BRANCH LINE	Post-Medieval	SS725925, SS775825	
01701.8w	RAILWAY TUNNEL	Post-Medieval	SS72649302	
01848w	QUARRY	Post-Medieval	SS72429445	
01972w*	BRITON FERRY DOCK	Post-Medieval	SS73709370	scheduled ancient monument GM445
01974w	LAMBERTS COTTAGESPORT TENNANT COPPER	Post-Medieval	SS68389277	
02017w	DAN Y GRAIG	Post-Medieval	SS676934	
02023/4w*	FULLING MILL (SITE)	Medieval	SS6993	

ID	Name	Period	NGR	Value
02035w	JERSEY MARINE TOWER	Post-medieval	SS71319370	listed building 11846 II
02264w	QUEENS DOCK (PILL BOX)	Modern	SS680921	
02331.0w	GLANYWERN CANAL	Post-medieval	SS693769542 7, SS701169360 9	
02399w	PILOT HOUSE	Post-Medieval	SS663925	listed building 11655 II
02639w	GELLI BWCH	Post-Medieval	SS71919494	Local
02640w	PANT Y SAIS	Post-Medieval	SS71429440	
02757w	PILL BOX	Modern	SS68789307	
02776w*	MOUNT VERNON EARTHWORK	Medieval	SS73669428	
02810w	HANDBALL COURT	Post-Medieval	SS712936	listed building 11850 II
02819.0w	VALE OF NEATH RAILWAY - SWANSEA NEATH EXTENSION	Post-Medieval	SS725975, SS675925	
02920w*	BRITON FERRY (SITE OF?)	Medieval	SS73759452	
02923w	FINDSPOT COINs	Roman	SS721947	
03109.0w	SWANSEA DOCK	Modern	SS674918	
03113w*	WEST PIER	Post-Medieval	SS667920	

ID	Name	Period	NGR	Value
03114w*	EAST PIER	Post-Medieval	SS670923	
03116w	CROWN WORKS PAINT FACTORY	Post-Medieval	SS684932	
03117w	CANAL BASIN	Post-Medieval	SS684934	
03118w	BURROWS CHEMICAL WORKS	Post-Medieval	SS694935	
03119w	ARSENIC WORKS	Post-Medieval	SS678929	
03120w	GROYNES	Post-Medieval	SS678928	
03121w	SALT WORKS	Post-Medieval	SS6793	
03141w	ANTI-AIRCRAFT BATTERY	Modern	SS720933	
03142w	ANTI-AIRCRAFT BATTERY	Modern	SS720933	
03143w	PIPELINE	Modern	SS720931	
03148w	8 BURROWS LODGE (house)	Post-Medieval	SS712937	
03149w	CRYMLYN BURROWS COLLIERY	Post-Medieval	SS717937	
03150w	BREAKWATER	Post-Medieval	SS725930	
03167w	FINDSPOT COIN	Roman	SS67259290	
03169w	FINDSPOT COIN	Roman?	SS67009200	
03284w	JERSEY MARINE HAA BATTERY	Modern	SS714934	
03581w	IRON WORKS	Post-Medieval	SS73459405	

ID	Name	Period	NGR	Value
03583w	CANAL BRIDGE	Post-Medieval	SS73439411	
03600w	HOUSE	Post-Medieval	SS73469456	
03601w	LANDING STAGE	Post-Medieval	SS73409467	
03607w	HOUSE	Post-Medieval	SS73469474	
04582w	HOUSE PLATFORM	Post-Medieval	SS7006394316	
05133w*	WEST PIER, SWANSEA HARBOUR LIGHTS	Post-Medieval	SS664925	
05134w*	EAST PIER, SWANSEA HARBOUR LIGHTS	Post-Medieval	SS666925	
05224w*	BRITON FERRY CHURCHYARD	Medieval	SS73579424	
05293w	RIVER NEATH	NA	SS72409280	
05403w*	WAREHOUSE	Post-Medieval	SS66409297	
05785w	WALL OF PRINCE OF WALES DOCK	Post-Medieval	SS67279305	
05792w	PILL		SS7212093090	
06233w	GRAIG DEW LIMEKILN	Post-Medieval	SS7107094070	
06726w	GELLI GRAFOG BUILDING	Post-Medieval	SS6840093490	
06727w	GRAVEL PIT	Post-Medieval	SS6843893607	
06728w	QUARRY	Post-Medieval	SS6901292985	

ID	Name	Period	NGR	Value
06729w	QUARRY	Post-Medieval	SS6860693605	
06730w	COAL LEVEL	Post-Medieval	SS6878793599	
06731w	TIR JOHN NORTH BUILDING	Post-Medieval	SS6871193760	
06733w	WELL	Post-Medieval	SS6871793745	
06734w	COAL DRIFT	Post-Medieval	SS6868993743	
06735w	QUARRY	Post-Medieval	SS6827593608	
06736w	SWANSEA WAGON WORKS	Post-Medieval	SS6846093180	
06737w	GAS WORKS	Post-Medieval	SS6871393207	
06738w	SPELTER WORKS	Post-Medieval	SS6828593096	
580	DOCKS	Post medieval	SS6707892575	
706	GREAT EASTERN PIER	Post medieval	SS6675092517	
8964	CHAPEL	Post medieval	SS6753993276	
8969	CRAIG	Poet medieval	SS6793	
8970	HEN GAPEL	Post Medieval	SS6793	
9012	CHAPEL	Post Medieval	SS6757493369	
9723	HALL	Post Medieval	SS7394	
13562	CHURCH	Post Medieval	SS6777793382	

ID	Name	Period	NGR	Value
18539	DAN Y CRAIG	Post Medieval	SS676934	
19116	COTTAGES	Post Medieval	SS67379276	
19584	PANT Y SAIS	Post medieval	SS7194	
23082	JERSEY MARINE TOWER	Post medieval	SS7131093695	
24958	NEW MILL	Post medieval	SS6793	
32356	St MARGARETS WELL	Medieval	SS70589394	
34238	BRITON FERRY DOCK	Post Medieval	SS7194	
34282	PILOT HOUSE	Post Medieval	SS6638092577	
32789	HANDBALL COURT	Post Medieval	SS713937	
34284	BOLLARD	Post Medieval	SS672930	
34527	TENNANT CANAL JUNCTION	Post Medieval	SS70109361	
34538	LENGTHMANS HOUSE	Post medieval	SS67479285	
41436	STATION	Post Medieval	SS73639362	
80402	FUEL WORKS	Post Medieval	SS6738992418	
91663	NEATH NAVIGATION	Modern	SS720925	
91696	BP CHEMICALS	Post Medieval	SS735920	
265691	JERSEY MARINE HOTEL	Post Medieval	SS7129693689	

ID	Name	Period	NGR	Value
270416	PILLBOX	Modern	SS677920	
270417	PILLBOX	Modern	SS689927	
270418	PILLBOX	Modern	SS682922	
270419	TANK CUBES (4)	Modern	SS688926	
270842	OBSERVATION POST	Modern	SS667489269 7	
273724	SOUTHPORT	Post medieval	SS7493	
307238	ST MARGARETS CHAPEL	Medieval	SS70509398	
308198	WEST BREAKWATER LIGHT	Modern	SS666599148 9	
308200	EAST BREAKWATER LIGHT	Modern	SS666599148 9	
308355	WATCH HOUSE	Post medieval	SS663979256 5	
309213	IRONWORKS	Post medieval	SS73459380	
309216	TINPLATE WORKS	Post medieval	SS73399377	
401686	STORAGE DRUMS	Modern	SS697928	
403571	PORT TENNANT DOCK	Modern	SS6793	
407338	BRIDGE	Post medieval	SS681749318 4	
407339	TENNANT CANAL	Post medieval	SS675759295 3	
411301	TENNANT LOCK	Post medieval	SS67489225	
411304	TENNANT LOCK	Post medieval	SS67099285	

ID	Name	Period	NGR	Value
411305	BRIDGE	Post medieval	SS68049312	
412376	CHAPEL	Medieval	SS673928	
415579	JERSEY MARINE AIRFIELD	Modern	SS72199330	
506622	CRYMLYN BURROWS COLLIERY	Post medieval	SS7173093850	
506626	RIVER NEATH BOUY	Modern	SS72229281	
506627	RIVER NEATH BOUY	Modern	SS72109270	
506632	RIVER WALL LIGHT	Modern	SS72249268	
506635	NAVIGATION AID	Modern	SS72089250	
506636	NAVIGATION AID	Modern	SS72019257	
506637	NAVIGATION AID	Modern	SS72089251	
506643	NAVIGATION AID	Modern	SS7174093020	
506644	FISH TRAP	Modern	SS7220293059	
410100	FABIAN WAY	Modern		
	GUN EMPLACEMENT Q4	Modern	SS69819274	High
	PILL BOX Q5 (SITE OF)	Modern	SS69809270	High
	F MONITOR (SITE OF)	Modern	N/A	Med
	PILL BOX K8 (SITE OF)	Modern	SS69811792	Hlgh

APPENDIX E DESIGNATED ASSETS (5KM)

ID	Name	Period	NGR
GM394	Tennant Canal: Skewen Cutting and tram road bridge	Post Medieval	SS731970
GM389	Neath Abbey Ironworks	Post Medieval	SS737977
GM006	Neath Abbey & Gatehouse	Medieval	SS738974
GM489	Ynysmaerdy Railway Incline	Post Medieval	SS751950
GM054	Buarth y Gaer, Mynydd y Gaer	Post Medieval	SS765939
GM358	Plas Baglan	Post Medieval	SS756922
GM428	Ruins of St Baglan's Church	Medieval	SS753922
GM263	Craig Ty-Isaf Camp		SS756933
GM362	St Margaret's Chapel	Medieval	SS705939
GM291	Llandarcy Round Cairn	Bronze Age	SS718953
GM445	Briton Ferry Dock Entrance	Post Medieval	SS736936
GM290	Gelli-Bwch Round Cairn	Bronze Age	SS720947
GM207	Court Herbert Cross & Grave Slab	Medieval	SS740976
GM484	Landore New Quay	Post Medieval	SS662958
GM483	Hafod Copper Works Musgrave Engine and Rolls	Post Medieval	SS661949
GM289	Cwm-Clais Castle Mound		SS767920
GM170	Carreg Hir Standing Stone, Pen-Rhiw-Tyn		SS744953

GM055	Mynydd y Gaer (Lower) Camp		SS765942
GM441	Original Swansea Castle		SS657931
GM468	Townshend's Great Leat & Waggonway	Post Medieval	SS696978
GM430	Gwernllwynchwyth Engine House	Post Medieval	SS697979
GM012	Swansea Castle	Medieval	SS657930
GM177	Bon y Maen Standing Stone		SS678952
GM371	Morris Castle	Medieval	SS659964
GM392	Morfa Bridge and Quays	Post Medieval	SS664954
GM315	Earthwork on Kilvey Hill		SS673947
GM482	Foxhole River Staithes	Post Medieval	SS662941
GM481	White Rock Copper Works	Post Medieval	SS662947
GM62	Briton Ferry: Jersey Park	Post Medieval	SS7458194815
GM64	Neath: Victoria Gardens	Post Medieval	SS7543397388
GM46	Brynmill Park	Post Medieval	SS6343492523
GM48	Cwmdonkin Park	Post Medieval	SS6376093226
GM60	Cwmgelli Cemetery	Post Medieval	SS6561996502
GM50	Neath: The Gnoll		SS7763098249
GM55	St. James's Gardens and Crescent	Post Medieval	SS6436992939
GM56	Singleton Abbey and Sketty Hall	Post Medieval	SS6284291687
GM61	Victoria Park	Post Medieval	SS6420492287

KEY LISTED BUILDINGS (5KM)

ID	Name	Period	NGR	Status	Value
1471	Church of St Catherine	Post Medieval	275269, 192225	Grade I	
11568	Swansea Castle	Medieval	265716, 19306	Grade I	
14594	Swansea New Guildhall	Post Medieval	264360, 192391	Grade I	
11548,	Offices of Associated British Ports (Formerly Swansea Harbour Trust)	Post Medieval	265999, 192878	Grade II*	
11553	Glynn Vivian Art Gallery	Post Medieval	265503, 193463	Grade II*	
11554,	Bethesda Baptist Church		265783, 193897	Grade II*	
11570,	Midland Bank	Post Medieval	265690, 192997	Grade II*	
11574	Ebenezer Baptist Chapel,ebenezer Street	Post Medieval	265652, 193682	Grade II*	
11575	Ebenezer Baptist Chapel Hall,ebenezer Street	Post Medieval	265652, 193682	Grade II*	
11590	Mount Pleasant Baptist Church Hall,kingsway	Post Medieval	265426, 193184	Grade II*	
11591	Mount Pleasant Baptist Church Hall,kingsway	Post Medieval	265426, 193184	Grade II*	
11592	Mount Pleasant Baptist School Blocks,kingsway	Post Medieval	265421, 193180	Grade II*	
11643	Royal Institution of South Wales (Swansea Museum) Victoria Road	Post Medieval	265918, 192768	Grade II*	
11654	Royal Institution of South Wales (Swansea Museum) Boundary Walls & Railings,victoria Road	Post Medieval	265900, 192795	Grade II*	
11655	Former Pilot House,wharf at West Pier	Post Medieval	266379, 192577	Grade II*	
11697	Musgrave engine house and chimney	Post Medieval	266179, 194957	Grade II*	Also SAM
11703	New Siloh (Seilo Newydd) Congregational Chapel, including gates and railings.	Post Medieval	265697, 195712	Grade II*	
14174	Ebenezer Chapel	Post Medieval	276556, 190201	Grade II*	

ID	Name	Period	NGR	Status	Value
23299	Dock walls and gate between inner dock and outer basin at Briton Ferry Docks	Post Medieval	273721, 193641	Grade II*	
82332	No. 1 Blast Furnace at former Neath Abbey Ironworks	Post Medieval	273793, 197785	Grade II*	
82333	No. 2 Blast Furnace at former Neath Abbey Ironworks	Post Medieval	273793, 197753	Grade II*	

APPENDIX F ZONE OF THEORETICAL VISIBILITY



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Revision Details	By ☐ Check ☒	Check Date	Suffix
Client	Swansea Bay Tidal Lagoon Tidal Lagoon Swansea		
Drawing Title	Designated Heritage Assets Within 15km		
Purpose of Issue	Drawn GB	Checked AM	Approved AM
FOR INFORMATION	Date	21.12.12	
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