Awel Y Môr
Onshore Project Area
Denbighshire

Written Scheme of Investigation for Archaeological and Geoarchaeological Monitoring of Ground Investigation

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1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology has been commissioned by Awel Y Môr Offshore Wind Farm Ltd. ('the Client') to produce a written scheme of investigation (WSI) for archaeological and geoarchaeological monitoring of selected ground investigation works across the Onshore Project Area for the Awel Y Môr Offshore Wind Farm.

1.1.2 The Onshore Project Area consists of the Landfall Zone, the Onshore Export Cable Corridor (ECC) and the Onshore Substation (OnSS). Landfall will be made at Rhyl and the Onshore ECC runs from the coast to the east of Rhyl, to the OnSS to the south of the A55 and which will connect to the existing National Grid Bodelwyddan Substation to the west of St Asaph. The Onshore Project Area extends for approximately 12km (**Figure 1**).

1.2 Scope of Works

1.2.1 The total number of GI interventions for geotechnical purposes comprise 58 Cable Percussion boreholes, 97 Test Pits and 7 Cone Penetration Tests (CPT). Where possible archaeological considerations have been taken into account for the positioning of the interventions to avoid known geophysical anomalies, where the aims of the geotechnical investigations can still be met. Due to the changing geology across the route and varied archaeological potential, selected Ground Investigation interventions have been chosen for monitoring. Those selected for monitoring are shown in colour on **Figures 1-26**, those which will not be archaeologically monitored are shown in grey.

1.2.2 A number of boreholes have been chosen for geoarchaeological monitoring on the basis of the superficial geological deposits mapped by the British Geological Survey (BGS) in the area of those boreholes. These include areas where Alluvium is mapped, on the basis that these deposits have the potential to mask or contain sediments of high geoarchaeological potential such as peat or buried land surfaces, and features such as palaeochannels that may contain sediments of high potential (see **Figures 1-26**). The boreholes monitored along with the borehole logs from the remainder of the unmonitored interventions, will be used to create a deposit model to inform the scope of purposive geoarchaeological borehole survey along the cable route. This would be agreed as part of a separate WSI for the cable route works.

1.2.3 Due to the size of the proposed test pits (measuring 4m long and 2m wide) it is also proposed to monitor some test pits for archaeological remains where these lie close to known areas of archaeological potential or geophysical anomalies. All interventions to be monitored are listed in **Table 1** below.

Table 1 Ground Investigation Interventions to be Monitored

ID	Location	Type	Depth (m)	Easting	Northing	Reason for Monitoring
BH 2/0-04	LANDFALL	CP	30	303624	382097	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/0-01	NEAR SHORE	CP	30	303505	382677	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/1-01	RHYL CUT CROSSING	CP	20	303630	381983	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/1-02	RHYL CUT CROSSING	CP	20	303626	381909	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
TP 2/1-05	RHYL CUTTING-DYSERTH ROAD CORRIDOR	TP	4	303625	381779	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/0-02	NEAR SHORE	CP	25	303287	382805	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/2-07	HAUL ROAD RUNNING WEST OF HDD8 and BRIDGE FOUNDATIONS	CP	20	301690	378805	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/2-04	AFON FFYYDDION CROSSING	CP	20	301942	378888	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
TP 2/3-01	RIVER CLWYD	TP	4	301321	378435	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/3-03	A547 ABERGELE ROAD CROSSING	CP	20	301154	377756	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/3-01	WELSH WATER SEWER CROSSING	CP	20	301064	377986	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/3-05	BEACHES DRAIN CROSSING	CP	20	301289	377303	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/3-08	MAJOR WATER MAINS CROSSING	CP	20	301444	376918	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
TP 2/3-03	RIVER CLWYD - WELSH WATER SEWER	TP	4	301142	378144	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits

ID	Location	Type	Depth (m)	Easting	Northing	Reason for Monitoring
BH2/2-03	CARAVAN STORAGE	CP	20	302086	378976	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
BH 2/3-13	ERW'R GASEG WOODLAND	CP	20	301385	376206	Geoarchaeological- Palaeoenvironmental potential of alluvium/potential peat deposits
TP 2/1-24	BRYN - A525	TP	4	302695	379363	Archaeological- Close to potential feature identified in geophysics
TP 2/4-02	A55 CROSSING	TP	4	301376	374772	Archaeological-Close to potential features identified in geophysics
TP 2/4-08	SUBSTATION	TP	4	300789	374324	Archaeological-Close to potential features identified in geophysics
TP 2/4-10	SUBSTATION	TP	4	300873	374258	Archaeological-Close to potential features identified in geophysics

1.3 Scope of Document

1.3.1 This WSI sets out the aims of the proposed watching brief, and the methods and standards that will be employed. In format and content, it conforms to current best practice, as well as to the guidance in *Management of Research Projects in the Historic Environment* (MoRPHE, Historic England 2015a), the Chartered Institute for Archaeologists' (CIfA) *Standard for archaeological archaeological monitoring and recording* (CIfA 2023a) and *Universal Guidance for archaeological monitoring and recording* (CIfA 2023b) and Historic England's technical guide to Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (Historic England 2015b).

1.3.2 This document will be submitted to the Development Control Archaeologist at Clwyd Powys Archaeological Trust (CPAT), for approval, prior to the start of the work.

1.4 Location, topography and geology

1.4.1 The northern extent of the Onshore ECC makes landfall on the beach between Rhyl and Prestatyn. To the south of the coastal area beyond the sea wall is the Rhyl Golf Course, Holiday Park and the railway. To the south of the railway embankment is an area of low lying poorly drained ground with a number of drainage ditches cut through it. The route steadily inclines to the south to a height of around 15m aOD near Rhydorddwy Goch Farm and then gradually drops away again towards the River Clwyd to approximately 3m aOD. On the southern side of the Clwyd the land begins to rise again to approximately 11m aOD close to Pengwern, and continues to rise to the south to approximately 21m aOD at Faenol-Bropor. The southern part of the Onshore ECC to the north and south of Glascoed Road lies between 48-58m aOD.

1.4.2 Due to the length of the Onshore ECC and the changing environment, low lying coastal areas to higher inland areas, the superficial geology of the route is varied. The northern part of the Onshore ECC, at the landfall in Section A are Marine Beach deposits of sand. Section B is underlain by Tidal Flat deposits of clay, silt and sand in its northern part and Devensian till deposits in its southern part. Section C is largely underlain by Devensian till deposits with areas of Devensian Glaciofluvial sheet deposits of sand and gravel around Bryn Cwnin Farm. The northern part of Section D is a mix of Devensian Glaciofluvial sheet deposits, Devensian till and Tidal Flat Deposits. The southern part of Section D and the northern part of Section E around the River Clwyd are Tidal Flat Deposits. The southern part of Section E and the entirety of Sections F and G are underlain by Devensian till deposits.

1.4.3 Bedrock geology across the northern part of the route comprises Permian Rocks of interbedded sandstone and conglomerate with the southern part of the route comprising Warwickshire group siltstone, sandstone and subordinate mudstone (British Geology Viewer).

2 GEOARCHAEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (Wessex Archaeology 2022a), which considered the recorded historic environment resource within a 1 km study area of the full cable route including the proposed substation and construction compound area. A summary of the results is presented below, with relevant entry numbers from the CPAT Historic Environment Record (HER) and the

National Heritage List for England (NHLE) included. Additional sources of information are referenced, as appropriate.

2.2 Previous investigations

Gradiometer Survey (Wessex Archaeology 2021b)

2.2.1 Wessex Archaeology conducted a gradiometer survey across the proposed route for the onshore cable route and OnSS Zone for the Awel Y Môr Onshore area. The evaluation area covers areas 7e-7k of the Geophysical survey report. Within 7h within the central western part of the evaluation area, eight positive circular, penannular and semi-circular anomalies have been identified thought to relate to evidence for settlement, comprising at least eight probable Iron Age to Romano-British roundhouses. Another concentration of anomalies has been identified on the opposite side of the OnSS zone approximately 165m to the east. These are also thought to be a series of ring ditches this time surrounded by a sub-rectangular enclosure. In the south eastern corner of the Site another possible ring ditch has been recorded outside of the two main concentrations of activity described above.

2.2.2 Numerous additional anomalies are noted elsewhere across the OnSS zone comprising possible linear ditch-like features and pit-like features associated with the settlement activity. A possible linear anomaly in the southern part of the OnSS zone may be part of an enclosure due to the protrusions on its northern and southern ends.

2.3 Archaeological and Geoarchaeological Background

Route Section A- Intertidal Area and Route Section B- Intertidal to B5119

2.3.1 The proximity of the onshore ECC to the Irish Sea would likely have made this landscape attractive for early prehistoric populations, and there is evidence of Mesolithic and Neolithic settlement at Prestatyn and Rhyl, indicating the exploitation of coastal resources (CPAT Report no. 266). Recent foreshore surveys undertaken by CPAT in April 2021 and for the purposes of this assessment in December 2021 have identified a number of historic assets on the foreshore. Those identified during December 2021 are plotted on Figure 6, listed in Appendix 2 of Volume 5, Annex 8.1: Archaeological Desk-Based Assessment (application ref: 6.5.8.1). These remains included tree stumps, logs, peat deposits and concrete sheets and pillars located on the foreshore.

2.3.2 Archaeological investigations on the beach at Rhyl, to the west of the Scheme (CPAT Report no. 1582) have identified that the existing sea defences have been built on an embankment of medium dense to dense sandy gravel, with a variable cobbles and fine content. The beach sands typically comprised slightly gravelly fine to coarse sands with shell fragments. The underlying geological background beneath this surface consisted of:

- Tidal flat deposits – organic silty clays with subordinate peat and sand layers
- Glaciofluvial deposits
- Glacial Till deposits
- Weathered sandstone

2.3.3 Where there were lenses of peat and other organic remains identified within the geology, these have the potential to preserve important evidence relating to coastal change and human activity during the Mesolithic and later prehistoric periods. These types of archaeological remains are expected to run through this section of the Scheme.

2.3.4 The earliest evidence of human occupation along the northern coastline of Wales is at the Pontnewydd Cave site near Llandudno, dating to c. 225 ka (thousand years) Before Present (BP) (Flemming 2005). Later Palaeolithic sites along this coastline include Kendricks Cave on the Great Orme Peninsula near Llandudno, from which Late Upper Palaeolithic materials (c.10ka BP) were found (Flemming 2005).

2.3.5 In the wider area, along the coast to the north east, worked flint and chert of Mesolithic date have been recovered from several locations around Prestatyn as well as shell middens of Mesolithic date indicating the consumption of mussels. Objects dating to the prehistoric periods such as bone, shell and bronze have also been found on the Welsh coastline dating to the Neolithic and Bronze Age.

2.3.6 Mesolithic 'Fossil Forests' have been identified on the Welsh coastline at Rhyl, Borth, Cardigan Bay and Conwy. The Mesolithic fossil forest was first recorded at Rhyl in 1893, recorded as 'thirty trees rooted as they grew, whilst there are a number of horizontal trunks which appear to rest as they fell' (North Wales Chronicle, 11 February 1893). The tree stumps were recorded again in 1912 when 200 tree stumps were recorded between Rhyl Pier and halfway between Rhyl and Prestatyn. In 1918, 100 tree stumps were noted (CPAT 2019).

2.3.7 Bronze Age archaeology was uncovered in the northern part of the route near the shore at Rhyl during evaluation of the Burbo Bank Offshore Wind Farm Extension onshore area. The remains included boundary ditches and scatters or groups of pits and postholes. Most of the remains were considered to be agricultural in nature though evidence of burning recovered from the pits may suggest the presence of domestic dwelling. The Bronze Age activity extended across a 2km section of the route suggesting that the activity extended over a large area just inland from the present shoreline (Oxford Archaeology 2016).

2.3.8 There is a distinct absence of Romano-British evidence within this landscape, which is reflected as a theme across the north-eastern region of Wales (Archaeoleg 2003). Although, little archaeological investigation has taken place within these two sections.

2.3.9 The Domesday Survey indicates that the landscape in Section A and B was very sparsely settled by the medieval period, with settlements within the vicinity of the route (Cefn Du and Rhyd Orddwy) only having populations of approximately two households. There is no evidence of Saxon activity within this part of the route; however, these sparse settlements may have originated in earlier Saxon settlements.

2.3.10 Significance changes occurred in Section A and B during the post-medieval period and 19th century. This included the enclosure of the Rhyl Marsh to develop new farmlands, creation of new farms, development of the London and Northwestern Railway in the area and creation of the Rhyl Golf Course, believed to have been created in 1890. Further changes during the 20th century include changes to the local road network and alterations to the golf course.

Section C- B5199 to A525

2.3.11 There is a lack of prehistoric evidence within Section C, however, this absence could relate to a lack of targeted archaeological investigation.

2.3.12 Bryn Cwnin Cropmark (102650) has been interpreted as a Romano-British enclosure, located 125m south east of the Order Limits. A 'C' shape cropmark can be seen in this

location on the 2006 aerial images. However, it can't be identified on any of the other more recent aerial images. The LiDAR data in this area shows a sub-rectangular feature of unknown origin to the south of the Historic Environment Record (HER) point, but this is unlikely to relate to the cropmark.

2.3.13 The Domesday Survey (1086) indicates that the landscape was settled by the medieval period, with a number of small settlements running in Section C. Although there is no evidence of Saxon activity within the landscape, these sparse settlements may have originated in earlier Saxon settlements.

2.3.14 It is likely that the landscape continued to be predominantly agricultural in nature during the early medieval and medieval periods, made of a regularly formed fields containing ridge and furrow.

2.3.15 As with Section A and B, historic mapping from the 19th century onwards shows that Section C was predominantly used for agricultural purposes, with a complex agricultural landscape present. Only a few small areas of woodland had survived the creation of this agriscape. Other features represented in Section C include a small number of depressions and ponds that may reflect past extraction activities. The area continued to be used primarily for agriculture during the 20th century.

Section D- A525 to A547

2.3.16 There is evidence of early prehistoric activity within Route Section D, with areas of Mesolithic activity (35030 and 81662) identified within the landscape being situated near to the River Clwyd near Rhuddlan. The river would have provided the natural resources which would have made this landscape attractive for early prehistoric populations. During this period this area would have been 10 km inland of the former Mesolithic coastline. As a result of rising sea levels, an estuary formed at the mouth of the Clwyd between Abergele and Rhyl. Finds from the Rhuddlan area include worked flint, hazelnut shells and other charred plant remains some of which came from small pits.

2.3.17 Excavations that took place in the area (35030) in advance of the Rhuddlan bypass identified scatters of flint and chert flakes in a context of brown clay layer containing gravel, as well as timbers, hazelnuts and snail shells in upper grey clay associated with a nearby barrow pit. A Neolithic axe was also found to the east of the onshore ECC at Rhuddlan (102029). Furthermore, excavations at Gwindy Street in Rhuddlan (81662) found a total of 38 flints and tools which included scraper, fabricator and utilised/retouched pieces.

2.3.18 Evidence of Bronze Age activity within the landscape includes excavations that identified domestic refuse tip (57749), as well as a further pit containing pottery (57747) both within the town of Rhuddlan. Furthermore, fieldnames suggest that there was a Bronze Age cairn (101478) located in the landscape of the southern part of the onshore ECC.

2.3.19 An Iron Age enclosure is recorded 230m to the north of the Onshore ECC within Route Section D, identified from aerial photographs, and is believed to be a possible defended enclosure (101858; CPAT 2008). However, there is limited evidence of Romano-British activity.

2.3.20 Rhuddlan was one of the principal centres of activity in the area during the medieval period. The burh of *Cledemutha* (the name perhaps derived from 'Clwydmouth;) is documented as having been constructed by Edward the Elder in 921AD. Excavations have revealed that

Rhuddlan was enclosed by a large ditch and bank earthwork (the town ditch), may represent the late Saxon Burh. Earlier evidence dating to the Roman period may indicate that Rhuddlan was already an important early medieval centre before the construction of the late Saxon burh. Evidence of the late medieval settlement of Rhuddlan has been uncovered during archaeological investigation within its centre.

2.3.21 The historic maps marked the Site of the Battle of Morfa Rhuddlan which was a battle between the Welsh and the Saxons in 795, where the Welsh were defeated and their King Carradog was slain by the Saxons. The exact location of the battle is unknown although the label on the 1st edition Ordnance Survey is positioned over Gipsy Lane which lies within the ECC.

2.3.22 Historic maps of Section D predominantly depict a continuation of the agricultural landscape found in other sections. They also highlight the presence of marshy areas, the continuation of the Northwestern Railway line, and the ongoing presence and growth of the main settlements.

Section E – A547 to A55

2.3.23 There is limited evidence of human activity in Section E during the Prehistoric, Romano-British, Anglo-Saxon and medieval periods. Post-medieval activity in Section E is characterized by the presence of several farmsteads indicating the development of a agriscape in the region.

2.3.24 Historical maps of Section D predominantly depict a continuation of the agricultural landscape found in other sections. They also highlight the presence of area of woodland, the continuation of the Northwestern Railway line, and the ongoing presence and growth of the main settlements.

2.3.25 Within an area of woodland to the west of Pengwern farm are the remains of a Chain Radar Station at Erw'r-gaseg close to the Order Limits, known as the Rhuddlan Chain Home Radar Station. The Chain Home Low was the system used by the RAF during WWII as an early warning system to detect aircraft flying as low as 500ft. The example at Rhuddlan is of the 'West Coast' type and is thought to have originally had two pairs of 325" guyed steel transmitting masts and two 240" wooden receiving towers.

2.3.26 The Radar Station is shown on a map dating to 1941 showing two separate buildings within the wooded area at Erw'r-gaseg labelled as '7' 'T Block' and '11' 'Standby Sethouse'. Geophysical survey results indicate the sub-surface presence of related structures to the north east of the woodland, which corresponds with the map from the 1940s. The map and geophysical anomalies show the possible anchor points for stays to the transmission towers arranged in a square with projections to the north and the east.

Section F- A55 to B5381 including proposed OnSS

2.3.27 As with previous sections, the absence of evidence of extensive prehistoric activity within this landscape could relate to the lack of previous targeted intrusive archaeological investigations, and therefore raises the possibility that there remains a background potential for further, as yet undiscovered archaeological remains within the immediate vicinity of the onshore ECC. A possible standing stone is speculated on the HER records, 100 m to the east of the onshore ECC, although little information is available (102568).

2.3.28 It is thought that St Asaph, located 1.6 km to the east of Section F, may have been the site of a monastery and episcopal see as early as 560AD by St Kentigern. St Asaph is thought to have succeeded Kentigern as bishop. The earlier settlement was referred to as Llanuile (Llanelwy) in the Domesday book but around the middle of the 12th century the name was changed to St Asaph. In 1239 construction for a cathedral began but this was burned by the troops of Edward I in 1282.

2.3.29 The HER records extensive ridge and furrow within Section F identified from aerial photography, however, limited above ground evidence was found during the walkover survey and represented on the LiDAR imagery. It is though that they likely date to the post-medieval period.

2.3.30 The ECC runs along the boundary of Bodelwyddan Castle Park. Documentary evidence suggests that the estate originated in the 15th century, while the current layout of the estate dates to a period of mid-19th century refurbishment. This includes the estate wall and formal garden. The house and pleasure grounds lie on the western side of the park and to the east and south east are a fishpond, mill and mill ponds. Although the grounds are now closed to the public, the castle structure continues to be used as a hotel and is Grade II* listed.

2.3.31 The grounds also contain the scheduled monument relating to WWI practice trenches which extend beyond the scheduled area over several hectares (2231). These were initially excavated for practice to excavate the trenches and then subsequently used for infantry combat training. It appears that several distinct groups were created perhaps as opposing lines. Circular craters across much of the area indicate that the practice was intended to be as realistic as possible, replicating the battlefield landscape. Overlooking the training area is what is thought to be a remote command post on slightly higher ground (CPAT 2014). Geophysical Survey results did not reveal any responses indicating trenches/features of this nature However, magnetometer survey does reveal traces of features of possible archaeological origin, some of which may be traces of ploughing and former agricultural activity. These cannot be definitively dated or characterised by non-intrusive means.

Section G- B5381 to National Grid Connection

2.3.32 A possible cairn was noted in 1911, 340 m to the south west of the ECC, after a visit by Royal Commission of the Ancient and Historical Monuments in Wales (RCAHM), where a mound of stones was speculated to be a possible cairn (101478). In the wider area a Neolithic chambered tomb lies to the south of Section G at Cefn Meiriadog, 1 km to the south of the ECC (Tyddyn Bleiddyn Burial Chamber Scheduled Monument; DE007). An Iron Age Hillfort is also located within the same area, approximately 1.2 km to the south of Section G, known as Bedd-y- Cawr Hillfort (DE037).

2.3.33 The conjectural route of Romano-British Road runs east to west along Glascoed Road along the northern part Section G. The road leads west from the legionary fortress of Deva (Chester) to the forts at Canovium (Conwy) and Segontium (Caernarvon) (46826-46830/104607/104608/102985). This would suggest that Section G of the ECC would have been a part of the Romano-British agricultural hinterland, with smaller rural settlements to support the agricultural production within the landscape. It has been suggested that St Asaph could be the location of a documented Roman Fort recorded as Verae, as this lies at the crossroads of two roman roads and links to an occupation site at Prestatyn.

2.3.34 The HER has recorded areas of ridge and furrow covering the entirety Route Section G, which are recorded from aerial photographs.

2.3.35 Historic mapping shows a continuation of the agricultural landscape seen all other sections with later changes in the 19th and 20th century associated with amalgamation of field systems.

3 AIMS AND OBJECTIVES

3.1 General aims

3.1.1 The aims of the archaeological and geoarchaeological monitoring of GI works are to:

- To determine, as far as is reasonably possible, the nature of the detectable archaeological resource;
- Assess the archaeological and geoarchaeological potential of the deposits across the Site;
- Correlate the results of the GI works to produce a deposit model for the site, mapping the extent of superficial deposits across the Site;
- Consider the possible significance of any archaeological and geoarchaeological evidence present, or potentially present, in the context of national and regional research priorities and agendas;
- Inform on the need for and scope of any further archaeological or geoarchaeological investigations at the Site.

3.2 Overarching objectives

3.2.1 In order to achieve the above aims, the general objectives of the evaluation are to:

- determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the specified area;
- establish, within the constraints of the evaluation, the extent, character, date, condition and quality of any surviving archaeological remains;
- place any identified archaeological remains within a wider historical and archaeological context in order to assess their significance; and
- make available information about the archaeological resource within the site by reporting on the results of the evaluation.

3.3 Geoarchaeological objectives

3.3.1 The specific objectives of the geoarchaeological monitoring are as follows:

- To record the sequence of superficial deposits at the selected GI locations;
- To obtain geoarchaeological samples of relevant deposits (where possible within the scope of the GI works);
- To undertake deposit modelling of the data arising from geoarchaeological monitoring, integrating any available existing GI data and relevant BGS archive boreholes, in order to map the extent, thickness and depth of Quaternary superficial deposits;

- Interpret the probable environments represented;
- Determine the importance of the deposits with regard to their archaeological and geoarchaeological (including palaeoenvironmental) potential; and
- Make specific recommendations for further work, where appropriate, which may include geoarchaeological borehole survey, palaeoenvironmental assessment and/or scientific dating.

3.4 Site-specific objectives

3.4.1 The above aims will be fulfilled through the following specific objectives:

- Identify the presence of sequences of alluvium, peat and former land surfaces (e.g. soil or insipient soil horizons);
- Obtain representative samples through the deposits;
- Assess the geoarchaeological and archaeological significance of the deposits;
- Make suitable, proportionate recommendations for further action; and
- test the results of the geophysical survey (Wessex Archaeology 2022b);

4 FIELDWORK METHODS

4.1 Introduction

4.1.1 The watching brief will involve the monitoring of 13 Cable percussion boreholes and 7 Test Pits (outlined in **Table 1**). The drilling of each borehole will be preceded by a hand dug test pit which will also be monitored.

4.1.2 It is not anticipated that samples suitable for subsequent palaeoenvironmental assessment and scientific dating will be obtained during the works, but where it is possible to do so, such samples will be retained.

4.1.3 The archaeological contractor and the GI Contractor will provide a commitment to maintaining effective communication as the works proceed.

4.1.4 Health and safety will override archaeological considerations in all works since, as stated in CIfA guidance, Health and Safety regulations and requirements cannot be ignored no matter how imperative the need to record archaeological information; hence Health and Safety will take priority over archaeological matters.

4.1.5 All works will be undertaken in accordance with the detailed methods set out within this WSI. Any significant variations to these methods will be agreed in writing with the Archaeological Officer at CPAT and the client, prior to being implemented. All intrusive works will be monitored in accordance with the relevant CIfA standards and guidance for archaeological monitoring and recording.

4.2 Archaeological monitoring of hand excavated starter pits

4.2.1 A small pit up to approximately 0.45m in width will be dug by hand to test for services at each GI location to a depth of 1.2m. The hand dug test pits will be archaeologically monitored and recorded at the selected locations. Without causing unnecessary delay to

the groundwork programme, the archaeologist may ask for the groundwork to be temporarily halted whilst investigation/recording is carried out. Any finds recovered will be assessed on Site and retained if considered to be significant. Artefacts and other finds will be collected and bagged by context.

4.3 Geoarchaeological monitoring of boreholes and test pits

4.3.1 Boreholes will be drilled using a cable percussion rig by the onsite GI team. A geoarchaeologist will monitor the boreholes set out in **Table 1**. Test Pits will be excavated by machine by the onsite GI team. These will measure 4m x 2m wide and approximately 4m in depth. Test Pits to be monitored are set out in **Table 1**.

4.3.2 The attending geoarchaeologist/archaeologist will liaise closely with the GI team(s) on Site to ensure effective communication is maintained as the GI works proceed, and that all parties understand their role and the broad aims with regarding the monitoring/sampling. This can be achieved by means of a tool-box style talk from the geoarchaeologist at project start and when appropriate.

4.3.3 Ground Investigations will be carried out by experienced geotechnical engineers under the supervision of a suitably experienced geoarchaeologist. Whilst coring is in progress the geoarchaeologist must maintain a safe distance from the drilling crew but will be afforded access to the work area to describe, and if appropriate, request a sample of the deposits observed.

4.3.4 The supervising geoarchaeologist/archaeologist will record, describe and interpret the sequence of deposits encountered in order to allow assessment of likely geoarchaeological potential.

4.4 Recording of deposits

4.4.1 Deposits revealed during the archaeological watching brief on the test pits and geoarchaeological monitoring of the boreholes will be recorded through the use of a graphic log and written description by the attending archaeologist/geoarchaeologist, to include information such as:

- Sample Unique identification Number
- Location (XY coordinates)
- Level of the top of the sample (mOD)
- Depth for top and bottom of each lithological unit and poor/no sediment retrieval
- Texture
- Composition
- Colour
- Inclusions
- Structure (bedding, ped characteristics etc)

- Contacts between deposits
- Sampling locations

4.4.2 Interpretations will be made regarding the likely depositional environments and formation processes of the sampled deposits. The data will be tabulated by borehole and depth.

4.4.3 A photographic record must accompany the watching brief and monitoring where relevant, using a digital camera equipped with an imager sensor of not less than 10 megapixels. The photographic record should include general site shots and specific/detailed shots (e.g. of trial pits and boreholes). Photographs must include a suitable photographic scale and a photo-board (to include details on the trial pit/borehole). A detailed register should be maintained of the location, subject and direction of view of all photographs.

4.5 Sample collection

4.5.1 Where possible/appropriate, any sampling will be carried out following the principles outlined in Historic England guidance (Historic England 2011 and Historic England 2015a).

4.5.2 The archaeological contractor will liaise with the GI team regarding the possible retention of material against the requirement for subsequent palaeoenvironmental assessment and scientific dating.

Finds

4.5.3 All archaeological finds from excavated contexts will be retained and recorded in accordance with the standards of the CIfA (2014b).

4.5.4 Certain classes of material (e.g. post-medieval pottery and building material) may be discarded after recording if a representative sample is retained. No finds will be discarded without the prior approval of the archaeological representative of the local authority and receiving museum.

4.5.5 Any finds requiring conservation or specific storage conditions will be dealt with immediately in line with *First Aid for Finds* (Watkinson and Neal 1998).

4.5.6 Assessment of finds shall include provision for X-radiography after an initial screening to exclude obviously modern objects in line with Historic England guidance on X-radiography of archaeological metalwork (Historic England 2015b). Where necessary, active stabilisation and consolidation shall be carried out to ensure long-term survival of material with due consideration to possible future investigation.

4.5.7 On discovery of any material covered, or potentially covered, by the *Treasure Act 1996* (as amended by *The Coroners and Justice Act 2009*), the finds will be moved to a safe place for recording with all information required by the Treasure Act (i.e., finder, location, material, date, associated items etc.) reported to the Coroner within 14 days.

5 POST-EXCAVATION AND REPORTING

5.1 Laboratory-based sediment description

5.1.1 Any deposits felt appropriate for sampling may be retrieved for possible laboratory-based description which would include the following information;

- Depth
- Texture
- Composition
- Colour
- Inclusions
- Structure (bedding, ped characteristics etc)
- Contacts between deposits

5.1.2 A written description will be made of all geoarchaeological deposits encountered, in the hand dug test pits and boreholes. Details of all contexts will be provided in borehole tables in the appendix of the report.

5.2 Deposit modelling

5.2.1 Data obtained during the monitoring and the results of the unmonitored interventions will be incorporated into a deposit model, which will be used to create a Geoarchaeological Landscape Characterisation (GLC) for the evaluation area.

5.2.2 Deposit modelling maps the lateral extent and depth of superficial deposits across the evaluation area. Deposit modelling will be carried out in accordance with *Deposit modeling and archaeology: guidance for mapping buried deposits* (Historic England 2020).

5.2.3 Lithological and stratigraphic data will be entered into a digital (Rockworks 23) database. The Rockworks data will be utilised to produce a range of outputs that may include representative stratigraphic profiles (transects) and/or be exported into ArcPro to produce digital elevation models (DEMs), thickness plots and/or surface horizons of deposits.

5.3 Palaeoenvironmental assessment and scientific dating

5.3.1 If samples suitable for palaeoenvironmental assessment are recovered during the GI works, following completion of the GI monitoring report, a subsequent phase of palaeoenvironmental assessment may be recommended.

5.3.2 The principal aim of palaeoenvironmental assessment is to date key deposits and determine the preservation and concentration of the various remains outlined below. The results of the assessment provide a framework for establishing the potential of a given deposit to contribute towards the overarching aims and objectives and specific research objectives outlined in **Section 3**.

5.3.3 The precise scope of any palaeoenvironmental assessment will be determined following completion of the GI monitoring report and deposit model. Additional purposive geoarchaeological boreholes may be required in order to obtain samples suitable for assessment, the scope for which will be outlined in the GI monitoring report.

5.3.4 Palaeoenvironmental assessment involves a suite of complimentary techniques in accordance with Historic England guidelines on good practice in Environmental

Archaeology (Historic England 2011) and Geoarchaeology (Historic England 2015), providing a comprehensive understanding of the deposits and environmental context.

5.3.5 Deposits of high geoarchaeological value include peat and other organic rich sediment that have the potential to preserve a range of palaeoenvironmental remains, or deposits that are significant for understanding the physical evolution of the wetland and associated dry ground landscape and the site.

5.3.6 Targeted assessment of samples from retained cores should focused on the follow key techniques to establish the date of deposits and the preservation quality of key remains, including.

AMS Radiocarbon dating

5.3.7 Targeted sections of peat (typically 2cm thick) will be extracted from retained cores for AMS (Accelerator Mass Spectrometry) radiocarbon dating (initial range-finder dates) with the aim of establishing the broad date range of peat formation. Samples will be processed, and suitable terrestrial plant remains (representing short-lived plants) selected and submitted for dating. Where thick peats are present, radiocarbon dates from the top and base of peats are recommended.

Plant macrofossils

5.3.8 Targeted sections of retained core extracted from peat deposits and processed through a nest of sieves to recover suitable short-lived terrestrial plant material for AMS radiocarbon dating. Plant macrofossils also provide information on local vegetation and evidence for possible human activity.

Pollen

5.3.9 Pollen is one of the principal techniques used in environmental archaeology to investigate past vegetation environments and the impact of human communities on the landscape. In the case of the Site pollen will be best preserved in the peat and requires small 1cm^3 samples taken at increments through the deposit. Where pollen is well-preserved it is likely to provide important evidence informing on past manipulation of the wetland, wetland edge and associated dry ground vegetation by hunter-gatherers and early agricultural communities.

Diatoms, foraminifera and ostracods

5.3.10 Diatoms (unicellular algae), foraminifera (marine protozoa) and ostracods (bivalve Crustacea) occur in a wide range of marine and semi-terrestrial environments (e.g. saltmarsh) and provide important indicators on past coastal change. For example, they can help to distinguish freshwater from marine environments and help to understand past patterns of sea-level and coastal change. These techniques each require roughly 50g of sediment per sample.

5.4 Reporting

5.4.1 Following completion of fieldwork, and assessment of the stratigraphic evidence, a draft assessment report will be submitted for approval to the Client. Once approved, a final version will be submitted.

5.4.2 The report will include:

- Summary sheet used to create an initial HER event;
- Non-technical summary;
- Contents list, including list of tables and figures etc.;
- Introduction;
- Project background;
- Site location, geology and topography;
- Archaeological and historical background;
- Aims and objectives;
- Methods;
- Results of the works, including;
    - Geoarchaeological monitoring
    - Archaeological watching brief
    - Deposit modelling
- Discussion, including the following;
    - Statement of geoarchaeological and archaeological significance of the site
    - Consideration of the results both in site-specific and wider context
- Conclusion and recommendations for further targeted works where appropriate
- Bibliography;
- Appendices, including trench and borehole records, suitable illustrations and drawings as appropriate and an updated data management plan and selection strategy, along with an archive content list and a statement on the archive deposition location;
- Copy of the OASIS form

5.4.3 Copies of all stages of reporting will be sent to the Client prior to acceptance by LPA archaeologist; final copies of the report will also be deposited with the Welsh Archaeological Trust Historic Environment Record and the National Monuments Record, RCAHMW (along with the final deposited archive). The non-technical summary will also be provided in Welsh to meet the requirements of the CPAT HER deposition.

6 ARCHIVE STORAGE AND CURATION

6.1 Museum

6.1.1 It is recommended that the finds archive resulting from the watching brief be deposited with the Denbighshire Museums Service. The museum will receive notification of the project prior to fieldwork commencing, and an accession number will be obtained if appropriate. The documentary archive will be deposited with the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW).

6.2 Transfer of title

6.2.1 On completion of the evaluation (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (i.e., the landowner), with the exception of human remains and any objects covered by the *Treasure Act 1996*, to transfer their ownership to the museum in a written agreement.

6.3 Preparation of archive

Finds archive

6.3.1 Any finds (artefacts and ecofacts) will be prepared following the standard conditions for the acceptance of excavated archaeological material by the appropriate museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014c; NPAAW 2017; SMA 1995). The archive will usually be deposited within one year of the completion of the project, with the agreement of the client.

Documentary and Digital archive

6.3.2 The physical archive (paper records and graphics) and born digital data (site records, finds and environmental data, photographs, survey data and reports) will be prepared following the standard conditions for the acceptance of excavated archaeological material by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) and in general following nationally recommended guidelines (Brown 2011; CIfA 2014c; NPAAW 2017; SMA 1995). The physical and digital data will be managed in accordance with the Data Management Plan set out in **Appendix 1**.

6.4 Selection strategy

6.4.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of future researchers and the receiving Museum.

6.4.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; archaeological contractor's internal selection policy) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

6.4.3 The project-specific selection strategy is presented here as **Appendix 2**, which at this stage includes the on-site collection strategy for finds. Further modifications are expected to be made to the selection strategy as the project progresses; specific review points will be at assessment stage, and on project completion prior to final archive preparation.

6.5 Security copy

6.5.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

7 COPYRIGHT

7.1 Archive and report copyright

7.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by the archaeological contractor under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

7.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) in accordance with the *Guidance for the Submission of Data to the Welsh Historic Environment Records* (Welsh Archaeological Trusts 2022), where it can be freely copied without reference to the archaeological contractor for the purposes of archaeological research, or development control within the planning process.

7.2 Third party data copyright

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303000 303100 303200 303300 303400 303500

383200
383100
383000
382900
382800
382700

BH 2/0-03
CPT-2/0-03
Section A
CPT 2/0-02
BH 2/0-02
Section B
BH 2/0-01

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
WA 2024 GI Indicative Locations
CP (To be Monitored)
CP (Not Monitored)
CPT (Not Monitored)
Superficial Geology
Marine Beach Deposits

0 100 m

Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 1: GI watching brief location

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303200 303300 303400 303500 303600 303700

382800 382700 382600 382500 382400

BH 2/0-02

CPT 2/0-02

BH 2/0-01

Section B

CPT 2/0-01

CPT 2/0-04

Rhyl Coast Road

A548

Shenvoodhive

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
WA 2024 GI Indicative Locations
CP (To be Monitored)
CPT (Not Monitored)
Superficial Geology
Blown Sand
Marine Beach Deposits
Tidal Flat Deposits

0 100 m

Rhyl
Rhuddlan
Abergele
St Asaph

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Figure 2: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

382400
382300
382200
382100
382000
381900

303400
303500
303600
303700
303800
303900

Rhyl Coast Road
Dod Ave
Ffiet Dr

CPT 2/0-05
BH 2/0-04
TP 2/0-01
TP 2/1-01
BH 2/1-01
TP 2/1-03
BH 2/1-02
BH 2/1-03
TP 2/1-02
TP 2/1-04

Order Limits
Onshore ECC
Landfall HDD Compound
TJB Construction Compound

WA 2024 GI Indicative Locations
CP (To be Monitored)
CP (Not Monitored)
CPT (Not Monitored)
TP (Not Monitored)

Superficial Geology
Blown Sand
Tidal Flat Deposits

0 100 m

Date: 23/02/2024 | Created by: OD
Scale: 1:2,000 at A3 | Revision: 0

Figure 3: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

303400 303500 303600 303700 303800 303900

381900 381800 381700 381600 381500

TP 2/1-01
BH 2/1-01
TP 2/1-03
BH 2/1-02
BH 2/1-03
TP-2/1-02
TP 2/1-04
TP-2/1-05
TP-2/1-06
TP 2/1-07
TP-2/1-08
TP 2/1-09

Order Limits
Onshore ECC
TJB Construction Compound
WA 2024 GI Indicative Locations
CP (To be Monitored)
TP (To be Monitored)
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Tidal Flat Deposits
Till, Devensian

0 100 m

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Figure 4: GI watching brief location

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303300 303400 303500 303600 303700 303800

381500 381400 381300 381200 381100

TP-2/1-08
TP 2/1-09
TP 2/1-10
BH 2/1-04
TP 2/1-11
BH 2/1-05
TP 2/1-12
Section C
Golysta Clwyd
Rhuddlan Bypass/Ffordd Osgoi Rhuddlan

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 5: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

303300 303400 303500 303600 303700 303800

381100 381000 380900 380800 380700

TP 2/1-12

TP 2/1-13

TP 2/1-14

TP 2/1-15

BH 2/1-06

Ffhyddorddwy-Gôch

Order Limits

Onshore ECC

WA 2024 GI Indicative Locations

CP (Not Monitored)

TP (Not Monitored)

Superficial Geology

Till, Devensian

0 100 m

Coordinate system: OSGB 1936 British National Grid

Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 6: GI watching brief location

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303100 303200 303300 303400 303500 303600

380700 380600 380500 380400 380300 380200

BH 2/1-06
BH 2/1-07
BH 2/1-08
TP 2/1-16
TP 2/1-17

Covert Cottage

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Tidal Flat Deposits
Till, Devensian

0 100 m

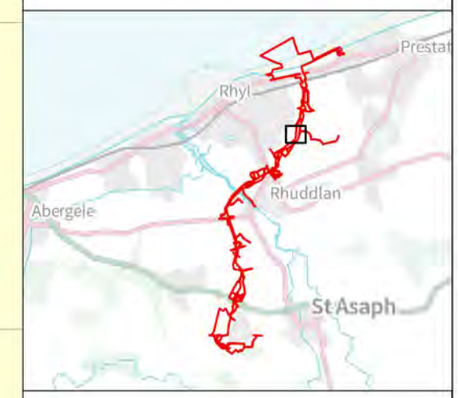

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Figure 7: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

302900 303000 303100 303200 303300 303400

380300
380200
380100
380000
379900
379800

TP 2/1-17
TP 2/1-18
TP 2/1-19
TP 2/1-20
BH 2/1-09

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Glaciofluvial Deposits, Devensian
Till, Devensian

0 100 m

Date: 23/02/2024	Created by: OD
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Figure 8: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

302500 302600 302700 302800 302900 303000

379900 379800 379700 379600 379500

Bryn Cwnin Rd

TP 2/1-20

BH 2/1-09

TP 2/1-22

TP 2/1-21

TP 2/1-23

Bryn Cwnin Farm

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Glaciofluvial Deposits, Devensian
Lacustrine Deposits
Till, Devensian

0 100 m

Prestat
Rhyl
Rhuddlan
Abergele
St Asaph

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Figure 9: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

302300 302400 302500 302600 302700 302800

379500 379400 379300 379200 379100 379000

TP 2/1-23
TP 2/1-24
TP 2/1-25
TP 2/1-26
TP 2/2-01
TP 2/2-02
TP 2/2-03
TP 2/2-04
BH 2/2-01

Section D

A525

Bryn-y-Wal

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations

WA 2024 GI Indicative Locations
- TP (To be Monitored)
- CP (Not Monitored)
- TP (Not Monitored)

Superficial Geology
- Glaciofluvial Deposits, Devensian
- Lacustrine Deposits
- Tidal Flat Deposits
- Till, Devensian

0 100 m

Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 10: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301900 302000 302100 302200 302300 302400

379200 379100 379000 378900 378800 378700

Cwybr Villa

BH 2/2-01

TP 2/2-01

BH 2/2-02

BH 2/2-03

BH 2/2-04

BH 2/2-05

A525

Afon Elwy

Afon Clwyd

Afon Ffyddion

Ffordd Ffynnon

Lon Cwybr

Ffordd Aber

Rhodfa Anwyl

Ffordd Gandy

Ffordd Rhosyn

Order Limits
Onshore ECC
TCC Locations

WA 2024 GI Indicative Locations
- CP (To be Monitored)
- CP (Not Monitored)
- TP (Not Monitored)

Superficial Geology
- Glaciofluvial Deposits, Devensian
- Tidal Flat Deposits
- Till, Devensian

0 100 m

Prestatyn
Rhyl
Rhuddlan
Abergele
St Asaph

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Figure 11: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

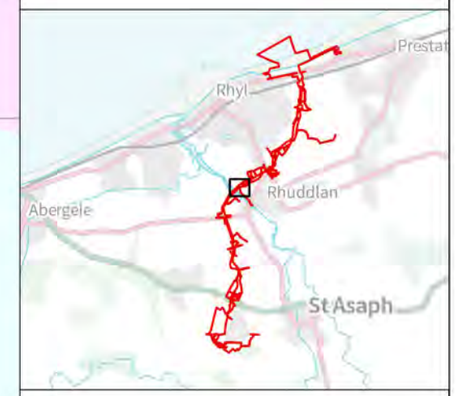
301400 301500 301600 301700 301800 301900

378900 378800 378700 378600 378500

BH 2/2-04
BH 2/2-07
BH 2/2-05
BH 2/2-06
CPT 2/2-01
CPT 2/3-01
TP 2/3-01

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
CP (To be Monitored)
TP (To be Monitored)
CP (Not Monitored)
CPT (Not Monitored)
Superficial Geology
Glaciofluvial Deposits, Devensian
Tidal Flat Deposits
Till, Devensian

0 100 m



Date: 23/02/2024 | Created by: OD
Scale: 1:2,000 at A3 | Revision: 0

Figure 12: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

300900 301000 301100 301200 301300 301400 301500

378600 378500 378400 378300 378200 378100

CPT 2/3-01

TP 2/3-01

TP 2/3-03

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
TP (To be Monitored)
CPT (Not Monitored)
Superficial Geology
Tidal Flat Deposits

0 100 m

Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 13: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

300800 300900 301000 301100 301200 301300

378100 378000 377900 377800 377700

Gipsy La

Gipsy La

Hafod-Uwyn

TP 2/3-03

BH 2/3-01

BH 2/3-02

BH 2/3-03

BH 2/3-04

Section E

Hordd Abergele / Abergele Road

A547

Coed Park

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (To be Monitored)
TP (To be Monitored)
CP (Not Monitored)
Superficial Geology
Tidal Flat Deposits

0 100 m

Coordinate system: OSGB 1936 British National Grid
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Figure 14: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301000 301100 301200 301300 301400 301500

377800 377700 377600 377500 377400

BH 2/3-03

BH 2/3-04

Section E

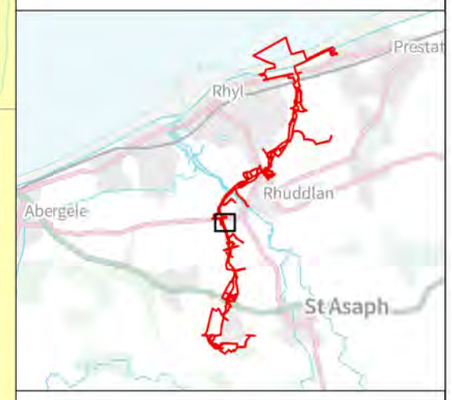
Ffordd Abergele / Abergele Road

Coed Park

Ty-Gwyn

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (To be Monitored)
CP (Not Monitored)
Superficial Geology
Tidal Flat Deposits

0 100 m



Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 15: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301100 301200 301300 301400 301500 301600

377400 377300 377200 377100 377000

Ty-Gwyn

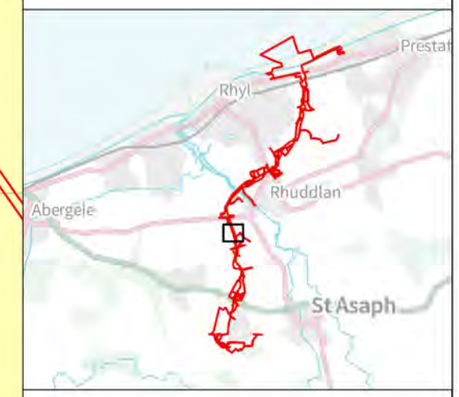
BH 2/3-05

BH 2/3-06

BH 2/3-07

Order Limits
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (To be Monitored)
CP (Not Monitored)
Superficial Geology
Tidal Flat Deposits
Till, Devensian

0 100 m



Coordinate system: OSGB 1936 British National Grid
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Scale: 1:2,000 at A3	Revision: 0	

Figure 16: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301100 301200 301300 301400 301500 301600 301700

377000 376900 376800 376700 376600

BH 2/3-07
BH 2/3-08
BH 2/3-09
BH 2/3-10
BH 2/3-11

Bryn-Carrog Farm
Ty Isa Farm

Order Limits
Onshore ECC
TCC Locations

WA 2024 GI Indicative Locations
CP (To be Monitored)
CP (Not Monitored)

Superficial Geology
Tidal Flat Deposits
Till, Devensian

0 100 m

Coo·dinate system: OSGB 1936 British National Grid
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Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 17: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301200 301300 301400 301500 301600 301700

376600 376500 376400 376300 376200

BH 2/3-11

BH 2/3-12

BH 2/3-13

BH 2/3-14

Nant-Y-Faenol Rd

Sam Wood

Sam Larches

Little Pengwern

Order Limits

Onshore ECC

WA 2024 GI Indicative Locations

CP (To be Monitored)

CP (Not Monitored)

Superficial Geology

Tidal Flat Deposits

Till, Devensian

0 100 m

Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 18: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301300 301400 301500 301600 301700 301800

376200 376100 376000 375900 375800

BH 2/3-13

BH 2/3-14

BH 2/3-15

BH 2/3-16

Little Pengwern

Order Limits

Onshore ECC

WA 2024 GI Indicative Locations

CP (To be Monitored)

CP (Not Monitored)

Superficial Geology

Tidal Flat Deposits

Till, Devensian

0 100 m

Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 19: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

301300 301400 301500 301600 301700 301800

375800 375700 375600 375500 375400 375300

BH 2/3-15

BH 2/3-16

BH 2/3-17

BH 2/3-18

Order Limits
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

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Scale: 1:2,000 at A3	Revision: 0

Figure 20: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

375500
375400
375300
375200
375100
375000

301200
301300
301400
301500
301600
301700

BH 2/3-17
BH 2/3-18
BH 2/3-19

Tyddyn Isaf

Section F

A55

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations

WA 2024 GI Indicative Locations
CP (Not Monitored)

Superficial Geology
Till, Devensian

0 100 m

Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 21: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

375100
375000
374900
374800
374700
374600

301100
301200
301300
301400
301500
301600

BH 2/3-19
BH 2/4-01
BH 2/4-02
TP 2/4-02
BH2/4-03
BH2/4-04

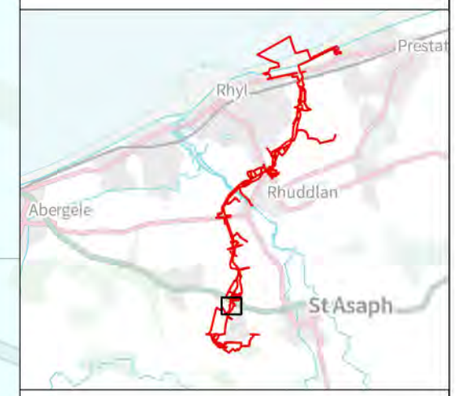
Section F

A55

Faenol-Bropor
Goed Faenol-bropor
Alder House

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
WA 2024 GI Indicative Locations
TP (To be Monitored)
CP (Not Monitored)
Superficial Geology
Till, Devensian

0
100 m



Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 22: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

300800 300900 301000 301100 301200 301300

374800 374700 374600 374500 374400 374300

BH2/4-03
BH2/4-04
BH2/4-05
BH 2/4-06
BH2/4-07
BH 2/4-08
TP 2/4-08

Faenol-Bropor
Coed y Gore

Order Limits
Onshore ECC
WA 2024 GI Indicative Locations
TP (To be Monitored)
CP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

Date: 23/02/2024 | Created by: OD

Scale: 1:2,000 at A3 | Revision: 0

Figure 23: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

300700 300800 300900 301000 301100 301200

374400 374300 374200 374100 374000 373900

BH 2/4-06
BH2/4-07
TP 2/4-08
BH 2/4-08
BH 2/4-09
TP 2/4-10
BH2/4-10
TP-2/4-11
BH2/4-11
BH 2/4-12

Glascoed Road

Section G

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
TP (To be Monitored)
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

Coordinate system: OSGB 1936 British National Grid
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Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 24: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

374000
373900
373800
373700
373600
373500

300600
300700
300800
300900
301000
301100

Bryn Celyn Lodge

BH 2/4-12
BH 2/5-01
BH 2/5-02
BH 2/5-03
BH 2/5-04
BH 2/5-05

Section G

Order Limits
Onshore Cable Route Section Breaks
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

Date: 23/02/2024 | Created by: OD
Scale: 1:2,000 at A3 | Revision: 0

Figure 25: GI watching brief location

S:\PROJECTS\231905\Geomatics\Setup\231905_setup.aprx

373800
301100
301200
301300
301400
301500
301600
373700
373600
373500
373400
373300

Waen Meredydd

BH 2/5-07
BH 2/5-06
TP 2/5-10
TP 2/5-09
TP 2/5-08

Order Limits
Onshore ECC
TCC Locations
WA 2024 GI Indicative Locations
CP (Not Monitored)
TP (Not Monitored)
Superficial Geology
Till, Devensian

0 100 m

Date: 23/02/2024	Created by: OD
Scale: 1:2,000 at A3	Revision: 0

Figure 26: GI watching brief location

APPENDICES

Appendix 1 Data Management Plan

Section 1: Project Administration

Project ID / OASIS ID
• A unique project ID will be produced by the archaeological contractor for the archaeological watching brief. • An OASIS ID will be obtained for the project.
Project Name
• Project Name: Awel Y Môr, Onshore Project Area, Archaeological and Geoarchaeological Monitoring of Ground Investigation
Project Description
Archaeological and Geoarchaeological monitoring of ground investigation works along Onshore Export Cable Corridor for Awel Y Môr Offshore Windfarm
Project Funder / Grant reference
Awel Y Môr Offshore Wind Farm Ltd
Project Manager
TBC
Principal Investigator / Researcher
TBC
Data Contact Person
TBC
Date DMP created
13/10/23
Date DMP last updated

Issue	***Date***	***Description/summary of revisions***
1	17/01/24	DMP created
2	tbc	Revised at project review/reporting stage
3	tbc	Revised at archiving stage

Version

1
Related data management policies
Wessex Archaeology 2024. Awel Y Môr, Onshore Project Area, Denbighshire: Written Scheme of Investigation for Archaeological and Geoarchaeological Monitoring of Ground Investigation. Unpublished report 231905.03 *Archaeology Data Service [ADS] 2013. Caring for Digital Data in Archaeology: a guide to good practice.* *Archaeology Data Service & Digital Antiquity Guides to Good Practice. Oxford: Oxbow Books.* *Archaeology Data Service [ADS] 2019. Guidance on the Selection of Material for Deposit and Archive, https://archaeologydataservice.ac.uk/advice/selectionGuidance.xhtm.* *Brown, D. H. 2011. Archaeological Archives: A guide to best practice in creation, compilation, transfer, and curation (2nd edition). Reading: Institute of Field Archaeologists/Archaeological Archives Forum.* *Chartered Institute for Archaeologists [CIfA] 2014. Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (revised edition October 2020). Reading: Chartered Institute for Archaeologists.* *Chartered Institute for Archaeologists [CIfA] 2014. Standard and guidance for the collection, documentation, conservation, and research of archaeological materials (revised edition October 2020). Reading: Chartered Institute for Archaeologists.* *Chartered Institute for Archaeologists [CIfA] 2022. Toolkit for Selecting Archaeological Archives https://www.archaeologists.net/selection-toolkit.* *Chartered Institute for Archaeologists [CIfA] 2022. Toolkit for Managing Digital Data https://www.archaeologists.net/digdigital.* *English Heritage 2012. MIDAS: the UK Historic Environment Data Standard Version 1.1. Best practice guidelines. Forum on Information Standards in Heritage (FISH).* *Forster, M. 2019. Work Digital/Think Archive. A Guide to Managing Digital Data Generated from Archaeological Investigations. Historic England, Chartered Institute for Archaeologists and DigVentures.* *Historic England 2015. Digital Image Capture and File Storage. Swindon: Historic England.* *National Panel for Archaeological Archives in Wales 2017. The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017.* *Welsh Archaeological Trusts 2022. Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs). https://ggat.org.uk/cms/wp-content/uploads/2022/11/Guidance-for-the-Submission-of-Data-to-Welsh-HERs-V2_reducedEN.pdf* *Whyte, A. and Wilson, A. 2010. How to Appraise & Select Research Data for Curation (revised 15/08/16, v.1.1). Digital Curation Centre, https://www.dcc.ac.uk/guidance/how-guides/appraise-select-data*

Section 2: Data Collection

What data will you collect or create?

Data types that may be collected/created as part of this project are tabulated below.

Detail on data types/formats/quantities intended for deposition will be added to this DMP as the project progresses; archive quantities will be specified prior to deposition.

Type	***Format***	***Archive quantity***
Digital pro forma site records (context sheets, environmental sample records, trench sheets etc)	PDF (deposited in .pdf and converted to .pdf/a by ADS)	tbc prior to deposition
Spreadsheets (stratigraphic/contextual data, specialist data tables, metadata tables etc)	MS Excel (.xlsx, deposited in .xlsx and converted to .csv by ADS) and/or .csv	tbc prior to deposition
Spatial/survey data	ESRI shapefile (.shp, .shx and .dbf, plus associated files)	tbc prior to deposition
Site photographs (record, working and condition monitoring)	Raster image file (.jpeg)	tbc prior to deposition
Digital security copy scans of site permatrace drawings (plan and section drawings)	Raster image file (.tiff or .jpeg)	tbc prior to deposition
Digital security copy scans of paper site registers/records (context index, finds and samples registers, photo register, drawing register etc)	PDF (deposited in .pdf and converted to .pdf/a by ADS)	tbc prior to deposition
Grey literature/client reports (e.g., Written Scheme of Investigation, Post-excavation assessment and Updated Project Design) and individual specialist reports	MS Word (.docx, compiled and converted to .pdf at each issue, final versions deposited in .pdf and converted to .pdf/a by ADS)	tbc prior to deposition
Other specialist data (e.g., x-ray images, radiocarbon dating data and certificates, finds photographs)	Varies (typically doc.x, .xlsx, .csv, .pdf, .svg., png., .jpeg, etc)	tbc prior to deposition
Ortho-photogrammetric (composite) images	Georeferenced raster image file (e.g., .tiff (GeoTiff) or .jpeg and associated world files; .jgw/.jgpw)	tbc prior to deposition

How will the data be collected or created?
Data will be collected/created in accordance with the Project Design and informed by relevant best practice guidance and standards (see Section 1). standardised procedures for data collection and creation include: • data capture through site recording, survey and photography • data processing and management • post-excavation (e.g., specialist finds and environmental) data recording • digital archive preparation (including metadata creation) Data collected/created during the project will preferentially employ standardised file formats and be version controlled in accordance with best practise guidance and standards. Standardised project will be used to organise and compartmentalise project-specific data held Standardised file naming conventions, which include unique identifiers, will be used for site records and photographs, geospatial/survey data and project/client reports. For example: • Context record: *ProjectName_ProjectNumber_ContextNumber*_Context_Record.pdf • Site photographs: *ProjectNumber_CameraNumber_Timestamp_ImageNumber*.jpeg • Post-excavation assessment report: *ProjectNumber_SiteName*_PXA.docx/.pdf To facilitate data sharing and promote long-term future re-use, deposition file formats will be of archival standard, open-source and accessible in nature (e.g., standardised, openly documented and, where possible, non-proprietary), following national guidance (see Section 1) and the requirements of the Trusted Digital Repository (see Section 6).

Section 3: Documentation and metadata

What documentation and metadata will accompany the data?
Data collected/created as part of the project will preferentially employ standard formats that maximise opportunities for use and re-use (see Section 2). Archived data will be accompanied by metadata in line with Archaeology Data Service (ADS) guidance. The metadata will be created automatically and/or manually during data collection/creation and preparation of the archive for deposition. Where archives are suitable for ADS 'easy' deposition, Collection Level Metadata will be automatically applied on deposition from the associated OASIS record. A Collection Level Metadata Summary will be completed prior to deposition for projects requiring 'bespoke' ADS deposition; this will combine the overarching project details and a register of data types and number of objects included in the archive, along with all other archive components. Metadata tables will be populated using the standard format for each data type as recommended by the ADS.

A catalogue documenting the contents of the physical and digital archive will be deposited with the Museum and Trusted Digital Repository (see Section 6).

Data documentation will meet the requirements of the Museum and Trusted Digital Repository.

Section 4: Ethics and legal compliance

How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?
The archaeological contractor will ensure that policies and procedures for dealing with personal information meet the requirements of the *Data Protection Act 2018* (see Section 1). These detail what information the archaeological contractor collects, the purpose of collecting this data, how it will be processed, stored, transferred and disposed of. Any sensitive data will be handled according to national data policies to ensure it is stored and transferred securely. The identity of individuals will be protected in line with the *General Data Protection Regulation* (GDPR). If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and other relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligations. The full copyright of the project archive will be retained by archaeological contractor under the *Copyright, Designs and Patents Act 1988* with all rights reserved. Formal permission to include data from external specialists and contractors is secured on the engagement of the specialist or contractor. The project archive (including project reports) may contain material that is under copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties. The copyright is non-transferrable and user of the material will remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material. Deposit licences will be agreed with the Museum and Trusted Digital Repository (see Section 6) before data is deposited. Permissions and/or licence agreements linked with data sharing (see Section 7) will form part of the project archive.

Section 5: Data Security: Storage and Backup

How will the data be stored, accessed and backed up during the research?
Risks to data security are to be managed in accordance with best practice data policies and procedures (see Section 1). Further information on data security will be provided from the assigned archaeological contractor.

Section 6: Selection and Preservation

Which data should be retained, shared, and/or preserved?
Not all digital data will be archived. In order to create a high quality, sustainable, concise and easily intelligible archive, all data will undergo a process of selection prior to deposition, as detailed in the project-specific Selection Strategy (see Section 1).

The Selection Strategy and DMP will be updated at project review points (e.g., at each stage of reporting and before deposition). Each iteration of the Selection Strategy and DMP will be finalised in agreement with the client and other project stakeholders. Where relevant, copies of the Selection Strategy and DMP will be included in project reports as appendices. The final versions of the Selection Strategy and DMP will be included in the deposited archive.

Selection will be informed by the Project Design (see Section 1), defined against the project research aims, regional and national research frameworks, specialist advice and the significance of the project results. The selected contents of the archive will be commensurate with their potential for re-use, future research and public benefit, and subject to any restrictions on data sharing (see Section 7) and considerations of financial and environmental sustainability.
Data selected for archiving will be converted to deposition file formats as required (see Section 2).

The data archive will be ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3.

The project is expected to provide information suitable for inclusion in the Historic Environment Record (HER) (e.g., for the purposes of archaeological research or development control within the planning process).

With the agreement of project stakeholders, the data archive for projects with negative archaeological results will consist of the approved report(s) and a limited selection of images, deposited with ADS via OASIS.

What is the long-term preservation plan for the dataset?

The digital archive will be deposited with the Archaeology Data Service (ADS), which is a Trusted Digital Repository with Core Trust Seal.

The physical archive will be transferred to Neath Museum and/or Brecknock Museum and Art Gallery. Copies of files forming part of the digital archive will also be transferred to the Museum on request. Upon identification of a suitable final repository for the physical archive, copies of files forming part of the digital archive will also be transferred to them on request.

Approved client/grey literature reports will be made available via OASIS and supplied directly, on request, to the Historic Environment Record (HER).

Have you contacted the data repository?

The ADS will be contacted prior to deposition of the digital archive where necessary (e.g., for projects requiring ‘bespoke’ deposition).

Neath Museum and/or Brecknock Museum and Art Gallery will be contacted to ascertain their requirements for the content and delivery of the archive.

Have the costs of archiving been fully considered?

Archiving costs will be reviewed at appropriate stages during the creation and implementation of the (iterative) Project Design (see Section 1), and quotes obtained from the intended data repository where relevant.

The resources required to implement the archiving strategy agreed with project stakeholders will be subject to contractual arrangements and set out by the archaeological contractor.

Section 7: Data Sharing

How will you share the data and make it accessible?
The project results will be disseminated through grey literature/client reports and, where appropriate, publication – the format and scope of which will be agreed with the client and other project stakeholders as detailed in the relevant iteration of the Project Design (see Section 1). The location of the project archive will be included in grey literature/client reports and publications. Subject to stakeholder agreement, the project results may also be shared via a range of accessible media and portals. The ADS will disseminate the deposited digital archive under its Terms of Use and Access, data sharing guidelines and deposition licence, and the dataset will receive a unique identifier Digital Object Identifier (DOI). An OASIS form will be completed for each phase of work associated with the project. Alternatively, details relating to individual phases of work will be collated under a single OASIS entry. The location(s) of the archive will be added to OASIS on deposition. Approved versions of client/grey literature reports will be uploaded to the associated OASIS record(s). Digital copies of approved client/grey literature reports will be made available to the Historic Environment Record (HER) through OASIS. Geospatial/survey data forming part of the digital archive will be supplied, on request, to the HER. Copies of files forming part of the digital archive will also be transferred to the Museum on request.
Are any restrictions on data sharing required?
Data sharing will be subject to any restrictions identified in consultation with the client and other project stakeholders, e.g., those linked with client confidentiality, contractual obligations, commercial sensitivities, copyright/Intellectual Property Rights (IPR), legal compliance, ethical issues, security concerns and any other restrictions or sensitivities (see Section 4). Exclusive use of the data may be required for limited periods where client approval is required, or longer term, dependent on the nature of sensitivities or restrictions identified with project stakeholders. A data sharing agreement (or equivalent) will be adhered to via a deposition licence. Agreed restrictions on data sharing will be documented through updates to the DMP and within the project archive.

Section 8: Responsibilities

Who will be responsible for implementing the data management plan?

The archaeological contractor will be responsible for overseeing all aspects of the project from initiation to completion, including the implementation of the DMP and ensuring it is revised at relevant stages.

Appendix 2 Selection strategy

231905
Awel y Mor
[version 1, 20/02/2024]

Selection Strategy

Project Information

Project Management		
Project Manager	TBC	
Archaeological Archive Manager	TBC	
Organisation	Wessex Archaeology	
Stakeholders		**Date Contacted**
Collecting Institution(s)	TBC Archaeology Data Service	
Project Lead / Project Assurance	Lead: TBC Assurance:	N/A
Landowner / Developer	TBC in consultation with RWE Renewables	
Other (external)	External finds & environmental specialists (see WSI) Archaeological Advisor at CPAT	
Other (internal)	TBC	
Resources		
Resources required	TBC	
Context		

This overarching selection strategy document is based on the CIfA Archives Selection Toolkit (2019) and relates to archaeological project work being undertaken by Wessex Archaeology as defined in the WSIs.

Relevant standards, policies and guidelines consulted include:
General

- *Selection, Retention and Dispersal of Archaeological Collections* (Society of Museum Archaeologists, 1993)
- *Archaeological archives: a guide to best practice in creation, compilation, transfer and curation* (AAF, revised edition 2011, section 4)

Relevant research agendas

- A Research Framework for the Archaeology of Wales (IFA 2008)

Finds

- *Standard Guidance for the collection, documentation, conservation & research of archaeological materials* (CIFA, 2014)
- *A Standard for Pottery Studies in Archaeology* (Prehistoric Ceramics Research Group, Study Group for Roman Pottery, Medieval Pottery Research Group 2016)

Environmental

- *Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011)
- *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England 2015)
- *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains* (English Heritage 2008)
- *Waterlogged Wood: Guidelines on the Recording, Sampling, Conservation and Curation of Waterlogged Wood* (English Heritage 2010)
- *Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation* (Historic England 2018)

REVIEW POINTS

Consultation with all Stakeholders regarding project-specific selection decisions will be undertaken at a maximum of three project review points:

1. Data gathering: on site, if any unforeseen discovery necessitates an amendment to the proposed collection strategy, or if adjustments are made to any sampling strategy
2. End of data gathering (assessment stage)
3. Archive compilation

1 – Digital Data

Stakeholders

Archaeological Contractor; Archaeological advisor at CPAT; ADS

Selection

Location of Data Management Plan (DMP)

This document is designed to link to the project Data Management Plan (DMP)

To promote long-term future reuse deposition file formats will be of archival standard, open source and accessible in nature following national guidance from ADS 2013, CIfA 2014c and the requirements of the digital repository.

Any sensitive data to be handled according to national data policy and standards to ensure it is stored and transferred securely. The identity of individuals will be protected in line with GDPR. If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligation.

Document type	Selection Strategy	Stakeholders	Review Points
Site records	Most records will be completed digitally on site (with the exception of registers). All will be selected for deposition.	As above	3
Reports	To include WSIs, Interim reports, post-excavation assessment reports, publication reports. Final versions only will be selected for deposition.	As above	2, 3
Specialist reports	Specialist reports will generally be incorporated in other documents with only minimal editing (reformatting, etc), and will be selected only if the original differs significantly from the incorporated version.	As above	2, 3
Photographic media (site recording)	Substandard and duplicate images will be eliminated; pre-excavation images may not be selected where duplicated by post-excavation shots; working shots will be very rigorously selected to include only good quality images with potential for reuse and those integral to understanding features, their inter-relationships and location on site; site condition and reinstatement photos will not be selected.	As above	2, 3
Photographic media (objects)	Images of individual or groups of objects, to include those of significance selected for publication and reporting. Substandard and duplicate images will be eliminated; all others will be selected.	As above	3
Photographic media (photogrammetry)	All terrestrial photogrammetry recording will generate orthographic photos. For those features or finds which are particularly archaeological significant, 3D models will be generated and deposited but raw photos will only be selected where models have been selected and OBJs are to be deposited, where re-processing may have some	As above	2, 3

	archaeological value (eg very significant features, or where the model is less accurate than the surveyed georeference targets or of lower quality and the quality of the original photos is good enough to represent a reasonable chance of better future outcomes). Aerial photogrammetry topographic surveys will generate 3D models and orthographic photos, and the final outputs in the form of the report. These will all be selected, but not the raw photos from aerial surveys.		
Photographic media (community engagement and other activities)	General shots, promotional videos, etc. None will be selected, unless images are generated that are not duplicated in the main site record, but which have specific archaeological value.	As above	3
Survey data	Site survey data will be used to generate CAD/GIS files for use in post-excavation activities. Shapefiles of both the original tidied survey data, and the final phased drawings will be selected.	As above	2, 3
Databases and spreadsheets	Context, finds and environmental data in linked databases. Final versions will be selected. Any specialist data submitted separately will also be selected.	As above	2, 3
LIDAR data	All will be selected	As above	2, 3
Laser Scan data	All will be selected	As above	2, 3
Geophysical data	RAW data and Interpretation Geo-tiffs	As above	2, 3
Administrative records	Includes invoices, receipts, timesheets, financial information, email correspondence. None will be selected, with the exception of any correspondence relating directly to the archaeology.	As above	3
De-Selected Digital Data			
De-selected data will follow the processes as stated in the DMP.			
Amendments			

Date	Amendment	Rationale	Stakeholders

2 – Documents

Stakeholders

Archaeological Contractor; RCHAMW; CPAT

Selection

A security copy of all paper/drawn records is a requirement of CIfA guidelines. This will be prepared on completion of the project, in the form of a digital PDF/A file. If the security copy is not required for deposition by Stakeholders, it will be retained on backed-up servers belonging to the archaeological contractor.

Note that some information may be redacted to comply with GDPR legislation (personal data).

Document type	Selection Strategy	Stakeholders	Review Points
Site records	Selected records only will be completed in hard copy on site (registers, some graphics). All will be selected for deposition.	As above	3
Reports	Hard copies of all reports (SSWSIs, Interim reports, post-excavation assessment reports, publication reports). All will be selected for deposition, with the exception of earlier versions of reports which have been clearly superseded.	As above	2, 3
Specialist reports & data	Specialist reports will generally be incorporated in other documents with no significant editing. Supporting data is more likely to be included in the digital archive, but if supplied in hard copy and not incorporated elsewhere, this will be selected.	As above	2, 3
Photographic media	X-radiographic plates: all will be selected.	As above	3
Secondary sources	Hard copies of secondary sources will not be selected.	As above	3

Working notes	Rough working notes, annotated plans, preliminary versions of matrices etc, will not be selected.	As above	3
Administrative records	Invoices, receipts, timesheets, financial information, hard copy correspondence. None will be selected, with the exception of any hard copy correspondence relating directly to the archaeology.	As above	3

De-Selected Documents

De-selected sensitive analogue data will be outlined by the archaeological contractor.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Artefacts (bulk and registered finds)	Section 3.	3.1

Stakeholders

Archaeological Contractor; CPAT; landowner

Selection

Note that human remains are not included in this selection strategy; their recovery and subsequent treatment and curation will be governed by a Ministry of Justice licence(s).

The on-site finds recovery strategy is given below; it is of necessity fairly generic. It is anticipated that this will be reviewed and updated at the project assessment stage, once all collected finds have been processed and quantified. Amendments may be made prior to that on site in the event of unforeseen discoveries necessitating adjustments to recovery or sampling strategies (eg production sites, large concentrations of building debris, ‘burnt mounds’).

Throughout the following section, ‘stratified’ is taken to include topsoil deposits, while ‘unstratified’ indicates anything completely separated from context eg spoilheap finds, or surface finds other than those directly associated with underlying features.

Find Type	Selection Strategy	Stakeholders	Review Points

Animal bone	All will normally be collected from stratified contexts. Selection could be recommended at next review point, dependent on stratigraphic integrity, condition and size of assemblage.	As above	2, 4
Building materials (other, eg, mortar, plaster, *opus signinum*)	If found *in situ*, these should be recorded on site and, if appropriate, a small sample of *opus signinum* or wall plaster (not mortar) retained for further examination. Loose fragments of mortar or *opus signinum* should not be collected, but their presence on site should be noted. All loose wall plaster will be collected from stratified contexts. Selection likely to be recommended at next review point.	As above	2, 4
Burnt (unworked) flint	All will normally be collected from stratified contexts. Selection likely to be recommended at next review point.	As above	1 (if large quantities encountered), 2, 3
Ceramic building material	All CBM from stratified contexts will be collected and reviewed at the processing stage. If *in situ* structures are encountered, these should be fully recorded on site, but samples of components may be collected for a closer examination of form, fabric and dimensions. Selection likely to be recommended at next review point.	As above	1 (if large quantities encountered), 2, 3
Ceramic objects	Includes spindlewhorls, loomweights, slingshot, portable kiln furniture, etc. All will be collected, including any unstratified examples.	As above	2, 3
Clay tobacco pipes	All will normally be collected from stratified contexts. Selection likely to be recommended at next review point.	As above	2, 3
Coins	All will be collected, including unstratified finds.	As above	2, 3
Fired clay	Includes structural material (‘daub’) as well as briquetage, and undiagnostic fragments. All will be collected from stratified contexts. Selection likely to be recommended at next review point.	As above	2, 3
Glass, vessel and	All will normally be collected from	As above	1 (if large

window	stratified contexts. Unstratified post-medieval/modern material will not be collected, unless of intrinsic interest. If large-scale post-medieval/modern bottle dumps are encountered, items will be recorded *in situ* as far as possible, and a small sample collected. Selection likely to be recommended at next review point.		quantities encountered), 2, 3
Glass, objects	All will be collected, including unstratified finds	As above	2, 3
Jet, shale, amber	All will be collected, with the possible exception of unstratified unworked shale or shale-working waste. Selection could be recommended at next review point, dependent on condition.	As above	2, 3
Leather and textile	All will be collected, including unstratified finds. Selection could be recommended at next review point, dependent on date and condition.	As above	2, 3
Marine shell	All will normally be collected from stratified contexts. If large-scale dumps are encountered, an appropriate sampling strategy may be employed with the aim of characterising the shell assemblage (species, condition, potential sources, management of oyster beds, etc). All shell-working waste will be collected. Selection likely to be recommended at next review point.	As above	1 (if large quantities encountered), 2, 3
Metalwork	All will be collected from stratified contexts, with the exception of obviously modern (19th-/20th-century) objects found in topsoil/overburden or unstratified. Selection likely to be recommended at next review point.	As above	2, 3
Metalworking residues	All will be normally collected from stratified contexts. Selection likely to be recommended at next review point.	As above	2, 3
Pottery, prehistoric	All will be collected, including unstratified finds.	As above	2, 3
Pottery, all other periods	All will be collected from stratified contexts. From unstratified contexts,	As above	2, 3

	only pieces of intrinsic interest will be collected, unless this is the only datable material recovered. Selection could be recommended at next review point.		
Stone, building	*In situ* architectural fragments and other building material may be recorded on site rather than collected, and samples taken for geological identification. Other building stone will be collected from stratified contexts. From unstratified contexts, only pieces of intrinsic interest (eg, architectural fragments). Selection likely to be recommended at next review point.	As above	2, 3
Stone, portable objects	All will be collected from stratified contexts. From unstratified contexts, only identifiable objects.	As above	2, 3
Stone, unworked	Unworked stone will only be collected if considered to be archaeologically significant, ie included in features intentionally, or thought to have fulfilled a specific function.	As above	2, 3
Worked bone and antler	Includes finished objects as well as boneworking waste. All will be collected, including unstratified finds.	As above	2, 3
Worked flint	All will be collected.	As above	2, 4
Worked wood	This includes all structural timbers as well as any portable objects (e.g. vessels, implements, etc). Structural timbers found *in situ* should be recorded stratigraphically but may be sampled for species identification and/or dating without full recovery. All other will be collected, with the exception of unstratified and undiagnostic pieces. Selection could be recommended at next review point.	As above	1 (if *in situ* finds encountered), 2, 4

Uncollected Material

Finds which fall outside the categories proposed for on-site collection will not normally be recorded beyond a general comment on site recording sheets on the presence and nature of large concentrations (eg building materials, modern debris), but if specific sampling strategies are employed to deal with, for example, production waste, then a more accurate guide to the actual size of the parent assemblage (and thus the sample percentage) will be given.

Any uncollected material will be left *in situ* or (if collected and then de-selected), re-incorporated into the site.

De-Selected Material

Consideration will be given to the suitability for use for handling or teaching collections by the museum or the archaeological contractor, or whether they are of particular interest to the local community. De-selected material will either be returned to the landowner or disposed of. All will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Palaeoenvironmental material	Section 3.	3.2

Stakeholders

Archaeological contractor; CPAT

Selection

All contexts suitable for environmental sampling will be considered for sampling. All environmental sampling will be undertaken following the WSI, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015a.

Env Material Type	Selection Strategy	Stakeholders	Review Points
Unprocessed samples	In the event of any samples being eliminated from processing due to lack of archaeological significance, these will not be retained.	As above	2, 3
Unsorted residues	Residues from samples not proposed for further analysis will be de-selected, with the possible exception of any taken for the recovery of human remains.	As above	2, 3
Assessed flots with no extracted materials	Assessed flots with no extracted materials are considered to be devoid of any significant environmental evidence and will be de-selected.	As above	2, 3

Assessed or analysed flots with extracted materials	All analysed samples will be selected; assessed flots with extracted materials with no further research potential (to be established on a sample by sample case) may be de-selected.	As above	2, 3
Charred & waterlogged plant remains	All extracted plant remains will be selected	As above	3
Mollusca	All extracted mollusca will be selected	As above	3
All other analysed material (eg insects, pollen)	All material will be selected	As above	3

Uncollected Material

Any uncollected material will be left *in situ* or re-incorporated into the site.

De-Selected Material

De-selected material from samples will be disposed of after processing and post-excavation recording. All processed material will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

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