Proposed Wind Turbine at Tre Ifan, Brynsiencyn, Anglesey

Archaeological Assessment





Proposed Wind Turbine at Tre Ifan, Brynsiencyn, Anglesey

Archaeological Assessment

Project No. G2285

Report No. 1086

Prepared for: Awel Menai

November 2012

Written and Illustrated by: Richard Cooke and Robert Evans

Front Cover: The turbine locations seen from the Pont Sarn Las Hut Circles

Cyhoeddwyd gan Ymddiriedolaeth Achaeolegol Gwynedd Ymddiriedolaeth Archaeolegol Gwynedd Craig Beuno, Ffordd y Garth, Bangor, Gwynedd, LL57 2RT

Published by Gwynedd Archaeological Trust Gwynedd Archaeological Trust Craig Beuno, Garth Road, Bangor, Gwynedd, LL57 2RT

TRE IFAN PROPOSED WIND TURBINE, BRYNSIENCYN

ARCHAEOLOGICAL ASSESSMENT: (G2285)

1.0	INTRODUCTION	
2.0	SPECIFICATION AND PROJECT DESIGN	5
3.0	METHODS AND TECHNIQUES	6
3.1	Desk-top Study	6
3.2	Field Search	6
3.3	Report	6
3.4	Definitions	
4.0	THE STUDY AREA	
4.1	Topographic Description	
	Statutory and non-statutory designations	
4.3	The Existing Archaeological Record and Cartographic Evidence	8
	3.1 Prehistoric and Roman Period	
	3.2 Medieval and post-Medieval Period	
	3.4 Aerial Photographs	
	Site Gazetteer	
	SUAL IMPACT	
	ntroduction	
5.2	Visual Impact upon Scheduled Ancient Monuments	14
	PACT AND RECOMMENDATIONS	
	General recommendations	
	1.1 Direct impact	
	1.2 Indirect impactSite Specific Recommendations	
	DNCLUSIONS AND RECOMMENDATIONS FOR FURTHER WORK	
	CHIVE	
	NDIX I PHOTOMONTAGE DATA	
	NDIX II: SITES WITHIN 1KM OF THE WIND TURBINE LOCATIONS AS LISTED	
	WYNEDD HER	
	NDIX III: DEFINITIONS OF IMPORTANCE AND RECOMMENDATION	
	NDIX IV: REPRODUCTION OF GWYNEDD ARCHAEOLOGICAL PLANNING	20
	CES MITIGATION BRIEF D1530	29
	NDIX V: PROJECT DESIGN	

FIGURES

- **Fig. 1** Site location plan. Proposed turbine locations (green), and sites on the Gwynedd HER (red dots) are shown. Sites identified in the text are numbered. Base map taken from the Ordnance Survey 1:10 000 series sheet SH46. Scale 1:1500 at A4
- **Fig. 2** Tithe Map of the Parish of Llanidan of 1845, with the current Tre Ifan farm boundary outlined in red, and the proposed turbine locations shown in blue (Anglesey Archives)
- **Fig. 3** Extract from Ordnance Survey 1st Edition 25 inch map of 1889, Anglesey sheet XXII.8. The boundaries of Tre Ifan farm are outlined in red, and the proposed turbine locations are marked with blue squares. Scale 1:10 000
- **Fig. 4** Directions of plates numbered and indicated (C indicates cover photo). Base map taken from Ordnance Survey 1:10 000 series sheets SH 46 and SH 56. Scale 1:20 000 at A4

PLATES

- Plate 1 View from turbine Option 2 looking east. Scale 1m
- Plate 2 View from turbine Option 2 looking south. Scale 1m
- Plate 3 View along farm track from Tre Ifan from the west south west. Scale 1m
- Plate 4 View of option 1 site from the north west. Scale 1m
- Plate 5 View of option 1 site from the south. Scale 1m
- Plate 6 View along the trackway to Tre Ifan farm from the east.
- Plate 7 General view looking north east.
- **Plate 8** View towards the turbine locations from the Trefwri Standing Stone 2, from the south. Scale 1m
- **Plate 9** View of the round barrow east of Brynsiencyn (SAM AN060) towards the proposed turbine locations. View from the south east
- **Plate 10** View towards the turbine locations from Castell Bryn Gwyn (SAM AN015), from the south west
- **Plate 11** View looking towards the proposed turbine locations from the Bryn Gwyn Standing Stones (SAM AN022), from the south west
- **Plate 12** View from Bodowyr Burial Chamber (SAM AN007) towards the proposed turbine locations, from the west.
- **Plate 13** View looking towards the proposed turbine locations from Perthi-Duon Burial Chamber (SAM AN059), from the south

Plate 14 View from Caer Idris Hillfort (SAM AN051) towards the proposed turbine locations, from the east.

TRE IFAN PROPOSED WIND TURBINE, BRYNSIENCYN

ARCHAEOLOGICAL ASSESSMENT: (G2285)

SUMMARY

Gwynedd Archaeological Trust has carried out an archaeological assessment of the site of a proposed wind turbine scheme at Tre Ifan, Brynsiencyn, Anglesey. The assessment concluded that the scheme is expected to have a direct physical impact upon three sites of archaeological and historic significance. All three features are stone boundary walls and hedgerows and are considered to be of local importance and the proposed works are expected to have a Low adverse physical direct impact upon all three features.

Due to the proximity of several archaeological sites, including the Trefwri standing stone, the Pont Sarn-Las hut group, and Caer Leb Roman enclosure, the probability of there being unknown buried archaeological remains within the area and at both possible turbine locations is considered to be **medium to high**. The probability of buried remains is thought to have been reduced by the field improvements which have occurred since the 19th century, resulting in the destruction of elements of the Pont Sarn- Las hut group. The archaeological potential for these buried deposits, which may have been destroyed or damaged by ploughing, is currently unknown.

The assessment of the visual impact upon the monuments was based upon view point photographs and photomontage from the monuments themselves towards models of the proposed turbine. The archaeological assessment has shown that the proposed wind turbine and associated features are expected to have a visual impact upon three Scheduled Ancient Monuments located within the vicinity of the proposed site locations, two of which were considered to be impacted upon to a **medium** to **high** level, and one to a **low** level.

1.0 INTRODUCTION

The Gwynedd Archaeological Trust has been asked by *Awel Menai Cyf* to undertake an archaeological assessment of a proposed wind turbine site (single turbine) located within a field plot north of Brynsiencyn, Ynys Môn (centred on NGR **SH 47866807**) (Fig. 1, Plate 4,5). A second option for the location of the proposed wind turbine has also been provided and is located in a field further to the north (centred on NGR **SH 47776816**, Plates 1-3). This report looks at both the preferred and second option sites for the proposed turbine. The archaeological assessment has been produced for a full planning application by the client for the erection of one wind turbine with a maximum hub height of up to 36.5m, rotor diameter of up to 30m and a maximum upright vertical tip height of up to 46.1m together with the erection of a control kiosk and new access track (planning application **37C174C**).

The associated control kiosk will measure 3.3m long, 2.4m wide and 2.45m high, and will be constructed from cavity blocks with an external render finish painted in neutral colours to minimise visual impact. The approaching access track, approximately 100m in length, will measure approximately 3.5m in width and will involve the removal of top/sub soil to a depth to be determined by ground investigation. A layer of terram or geotextile will be put down upon which a layer of hardcore material will be laid. The access track will run from north to south from the existing Tre Ifan farm access track to an area of hardstanding measuring 35m by 32m upon which the turbine, transformer station and utility housing will be located.

The anticipated life of the turbine is twenty five years, after which a new planning consent would be required (Awel Menai).

Gwynedd Archaeological Planning Service (GAPS) have advised that a combination of view-point photographs and photomontage from the SAMs towards the proposed development zones would be required (*pers comm*. Emmett.J. 26th September 2012). The photomontage report is included as Appendix I.

2.0 SPECIFICATION AND PROJECT DESIGN

A mitigation brief has been prepared for this scheme by the Gwynedd Archaeological Planning Services (GAPS), and recommendation has been given for an archaeological assessment and walkover survey of the proposed development area (GAPS design brief **D1530**) which conforms to the guidelines specified in *Standard and Guidance for Archaeological Desk-based Assessment* (Institute of Field Archaeologists, 1994, rev. 2007).

Gwynedd Archaeological Trust's proposals for fulfilling the requirements were, briefly, as follows:

- a) to identify and record the cultural heritage of the area to be affected;
- b) to evaluate the importance of what was identified (both as a cultural landscape and as the individual items which make up that landscape); and
- c) to recommend ways in which damage to the cultural heritage can be avoided or minimised.

A full archaeological assessment usually comprises 6 phases:

- 1) Desk-top study
- 2) Field Search
- 3) Interim Draft Report
- 4) Detailed Field Evaluation
- 5) Final Draft Report
- 6) Final Report

This assessment has covered the work required under 1, 2 and 3. It is sometimes necessary to undertake a programme of field evaluation following the desktop assessment. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is required. This typically takes the form of geophysical survey and/or trial excavation, though other options, including topographic survey, are also possible. The present report makes recommendations for any field evaluation required.

2.1 Acknowledgements

Arwel Menai and Infinite Renewables Ltd. are gratefully acknowledged for the provision of photomontage images, which form part of the visual impact assessment. These are reproduced as Appendix I. Jenney Emmett and Ashley Batten of GAPS are acknowledged for the help and advice that they provided with this project.

3.0 METHODS AND TECHNIQUES

3.1 Desk-top Study

This involved consultation of maps, computer records, written records and reference works, which make up the Historic Environment Record (HER), located at Gwynedd Archaeological Trust, Bangor. A range of aerial photographs were examined from the National Monuments Record, Aberystwyth dating from 1945, as well as more recent colour aerial coverage. Estate maps, tithe maps and OS maps were examined at the Anglesey Archives in Llangefni.

Information about Listed Buildings and Scheduled Ancient Monuments was obtained from Cadw and secondary sources were consulted to provide background information. Sites noted on the Gwynedd HER are referred to by their Primary Record Number (PRN), a unique number given to each site, and are listed in Appendix I. A full list of sources consulted is given in section 7.0 of the report.

3.2 Field Search

This was undertaken on the 24th September 2012, when the site was visited by an archaeologist. The conditions were acceptable for a field search, although low persistent rain obscured far reaching views across Anglesey. The proposed footprint of the turbine (at both possible locations), control kiosk, and access track were inspected for upstanding archaeological features. A second visit was required on the 27th September 2012 to photograph viewpoints from the SAMs in proximity towards the proposed development site. The conditions were ideal with clear views across Anglesey.

3.3 Report

All available information was collated, and the features were then assessed and allocated to categories of international, national, regional/county, local, negligible/none and unknown importance as listed in Appendix 3. These are intended to give an idea of the importance of the feature and the level of response likely to be required; descriptions of the features and specific recommendations for further assessment or mitigatory measures, as appropriate, are given in the relevant sections of this report. The criteria used for allocating features to categories of importance are based on those used by the Secretary of State when considering ancient monuments for scheduling; these are set out in Welsh Office Circular 60/96.

3.4 Definitions

Definitions of Impact, evaluation methods and mitigation methods as used in the gazetteer (section 5 below) can be found in Appendix 2.

4.0 THE STUDY AREA

4.1 Topographic Description

The study area consists of improved pastureland, on moderately sloping ground from the east to the west towards the valley bottom and the Afon Braint, at a height of approximately 20m OD. The farm fields are bounded by rubble stone walls and hedgerows, and a trackway bounded with walls of fieldstone eight courses high runs north eastwards from the farm, having approached it from the south. A number of prehistoric sites survive within the surrounding area and it is known that a significant quantity of prehistoric and Romano-British archaeology has been lost as a result of land improvements in the 19th century, particularly in the area of Pont Sarn (Williams and Pritchard 1866, 211).

4.2 Statutory and non-statutory designations

The proposed turbine is situated close to several archaeological sites, including the Scheduled Ancient Monuments (SAMs) of the Trefwri standing stone (AN086) located 361.0m to the southwest (400.0m southwest of Option 2); the Pont Sarn-Las hut group (AN087) located 614.0m to the west-southwest (572.0m to the west-southwest of Option 2); the Roman enclosure of Caer Leb (AN014) located 800.0m to the southwest (813.0m to the southwest of Option 2); the Bodowyr burial chamber (AN007) located 1.62km to the west (1.54km to the west of Option 2); Castell Bryn-Gwyn (AN015) located 1.61km to the southwest (1.62km to the southwest of Option 2); the Bryngwyn standing stones (AN022) located 1.98km to the southwest of Option 2); the Perthi-Duon burial chamber (AN059) located 1.32km to the south (1.42 km to the south of Option 2); the round barrow east of Brynsiencyn (AN060) located 1.44km to the southeast (1.56km to the southeast of Option 2); and Caer Idris hill-fort (AN051) located 1.54km to the east (1.62km to the east of Option 2).

There are two Listed Buildings within 1.0km of the preferred site and Option 2. These are the grade II Pont Melin Bodowyr (ref: 19887) located 940.0m to the west (860.0m to the west of Option 2); and the grade II Melin Bodowyr (ref: 19883) located 970.0m to the west (890.0m to the west of Option 2).

The proposed development area lies within proximity to several statutory designated monuments:

- (i) Approximately 361.0m to the northeast (400.0m northeast (Option 2) of the Trefwri standing stone Scheduled Ancient Monument (AN086).
- (ii) Approximately 614.0m to the east-northeast (572.0m to the east-northeast (Option 2) of the Pont Sarn-Las hut group Scheduled Ancient Monument (AN087).
- (iii) Approximately 800.0m to the northeast (813.0m to the northeast (Option 2) of the Roman enclosure of Caer Leb Scheduled Ancient Monument (AN014).
- (iv) Approximately 1.62km to the east (1.54km to the east (Option 2) of the Bodowyr burial chamber Scheduled Ancient Monument (AN007).

- (v) Approximately 1.61km to the northeast (1.62km to the northeast (Option 2) of Castell Bryn-Gwyn Scheduled Ancient Monument (AN015).
- (vi) Approximately 1.98km to the northeast (1.98km to the northeast (Option 2) of the Bryngwyn standing stones Scheduled Ancient Monument (AN022).
- (vii) Approximately 1.32km to the north (1.42 km to the north (Option 2) of the Perthi-Duon burial chamber Scheduled Ancient Monument (AN059).
- (viii) Approximately 1.44km to the northwest (1.56km to the northwest (Option 2) of the round barrow east of Brynsiencyn Scheduled Ancient Monument (AN060).
- (ix) Approximately 1.54km to the west (1.62km to the west (Option 2) of Caer Idris hill-fort Scheduled Ancient Monument (AN051).

Two listed buildings are within 1km proximity to the proposed wind turbine locations. These are:

- (i) *Pont Melin Bodowyr* (ref: 19887) grade II listed building located approximately 940.0m to the west (860.0m to the west of Option 2) of the study area.
- (ii) *Melin Bodowyr* (ref: 19883) grade II listed building located approximately 970.0m to the west (890.0m to the west of Option 2) of the study area.

The list of non-designated sites recorded within the Historic Environment Record is shown on fig. 1 and listed in Appendix I.

4.3 The Existing Archaeological Record and Cartographic Evidence

4.3.1 Prehistoric and Roman Period

There are a large number of prehistoric and Romano-British sites within and around the study area, and the area is one of considerable importance, particularly in the late prehistoric period. Only those close to the study area are discussed here. The neolithic period is represented by a number of sites including the burial chamber at Bodowyr (PRN 3134, SAM AN 007, SH 46226815; Plate 12), which lies 1.5km west of the proposed turbine sites, and consists of a capstone 2.5m by 2m supported on three uprights, and a fourth stone that does not reach the capstone, located on a slight ridge. Anglesey has a concentration of neolithic sites in the south of the island, and it has been suggested that a ceremonial focus for these is located at the henge at Castell Bryn Gwyn (AN015; SH 4652967058; Plate 10), and at the now confirmed stone circle, known as the Bryn Gwyn Standing Stones (AN022; SH 4623866931; Plate 11; Smith 2009).

A standing stone at Trefwri (PRN 3145, SAM AN086, SH 47436783; Plate 8) is located about 210m south-west of Tre Ifan farm. Another stone 180m west of this is 1.6m high by 2.1m wide, and may be of significance. These has been considered to have formerly formed part of a destroyed hut group, although this is by no means certain, and the former may in fact be a Bronze Age standing stone dating to around 2000 BC (RCAHMW 1937, 103). A hut, probably once forming part of a late prehistoric settlement, is located at Pont-Sarn, near the Afon Braint close to the road crossing (PRN 3138, SH 47156788). This is thought to be the last remains of a large settlement at Trefwri, which is known to have extended along the south bank of the

Braint to Tre Ifan, about 500m away from the farm. Up to another two huts, and associated enclosures have been noted in favourable conditions, and although these are hard to see they must form part of this wider settlement. The Afon Braint has been channelled in modern times, so the settlement is likely to have had a more meandering course. Roman coins were identified during the destruction of much of the site, which suggests that this was a late prehistoric site which remained in occupation into Romano-British times (Williams and Pritchard 1866; RCAHMW 1937, 106). As a result of this 19th century work, the site is marked on the 25 inch 1st edition map of 1889 (Fig. 4).

Caer Leb, an irregular pentagonal enclosure with two banks and ditches only partially surviving, with an eastern entrance and about 70m by 55m, is located 630m south of Tre Ifan in marshy ground (PRN 3137, SAM AN 014, SH 47286742). This site has undergone excavation, including during the mid 19th century (Williams and Pritchard 1866), and geophysical survey was carried out in 1990 (Gaffney 1991). It is likely to have been in use in Roman times as coins and pottery were found, and one hut circle was identified within it, during the excavations. Lynch however believes that the site may originate during a period of agricultural expansion during a period of noticeable climate improvement during late prehistoric times, a significant point since the site seems too boggy and low lying for settlement now (Lynch 1991, 374). The Afon Brain seems to have formed an attractive focus for settlement in late prehistoric and Roman times.

The name of the Afon Braint, which drains the fertile south-eastern corner of Anglesey in which Tre Ifan is located, is thought to be related to that of the Celtic goddess Brigantia, indicating the importance and survival of the late prehistoric Celtic traditions in this area (Lynch 1991, 315).

4.3.2 Medieval and post-Medieval Period

The Augustinian Priory of Beddgelert held the church of Llanidan in medieval times, although the reason for this is not known (Carr 2011, 216), and the medieval house of Plas Berw lies within the parish to the west of the study area. This house can be shown to be late 15th century in origin, with major additions made by Thomas Holland in 1615 (Longley 1991, 116).

A road to the north of Caer Leb, heading eastwards from Barras, 'runs upon the line of an old paved way which was still traceable in places' (Williams and Pritchard 1866, 214), is likely to have passed by the site of Tre Ifan farm. The road had been previously noted in 1846 which stated that it was 'a paved road similar to a Roman Road', however it may well be medieval in origin (Anon 1846, 430). It is possible that this is on the same line as the track which passes through Tre Ifan farm, and may suggest medieval origins for the settlement at Tre Ifan.

The adjacent farm to Tre Ifan to the south-west, Tre'r Drew, was the property of Lord Boston, and estate maps survive from as early as 1773, which shows the prehistoric enclosure of Caer Leb as part of its lands (Bangor Archives, Lligwy MSS 1420). However the land on which the proposed wind turbine is located is to the north-west of these lands, and this is noted as being the property of Ambrose Lewis Esq., of Llysdulais.

The daughter of Jane Hughes of Llysdulais married Ambrose Lewis of the Hughes family of Kinmel Park, Denbighshire. She was the niece of Owen Hughes, known as *Yr Arian Mawr*, who considerably stimulated the later fortunes of the house of Llysdulas. He became a prosperous attorney at Beaumaris, High Sheriff of Anglesey

in 1683, and represented the borough in Parliament from 1698 to 1701. He died in 1708, without issue and the Llysdulais property went to his two sisters Jane and Gwen. No estate maps which show Tre Ifan have been found relating to his estates at this time, although archives, including leases and rentals, relating to the estate are held by Bangor University Archives (Bangor Archives, Llysdulais MSS).

In 1751 and 1753 the owner of Tre Ifan was Lewis Williams, who paid 2 shillings in window tax, indicating that the property was of a substantial character (Window Tax records, Anglesey Archives, Llangefni).In 1878-9 the land tax paid on Tre Ifan was £1-18-0, again an indication of a substantial property within the parish (Anglesey Archives, Land tax Records 1878-9).

The tithe map and apportionment of 1845 shows that Tre Ifan was the property of Sir John Williams and in the tenancy of Humphrey Edwards (Fig. 2). The field names, taken from the apportionment, are given in the table below, with the numbers corresponding to those shown on Figure 2. The boundaries of the farm in 1845 do not correspond exactly with the current boundaries, particularly to the south where more land has become incorporated within the Tre Ifan holding.

Landowner	Occupier	No. on Plan	Name and Description of land and premeses	State of Cultivation	Quantities in Statute measure A R P
Sir John Williams Baronet	Humphrey Edwards	92	Cae tros y lôn	Pasture and meadow	12 3 3
		594	Rhos y bont	Pasture	21 - 39
		595	Rhos fawr	Arable and Pasture	42 3 18
		596	Wain celyn	Meadow	7 3 7
		597	Fron Celyn	Arable	10 - 22
		598	Cae yr ysgubor	Arable and meadow	8 2 5
		599	Cae yr flan drws & Cae glas	Arable	17 2 16
		600	Gors	Meadow	3 2 12
		601	Gors	Do.	3 3 8
		602	Caer gors	Arable	6 3 14
		603	Cae Llaia	Pasture	2 3 30
		604	Tre Ifan House, Buildings &c	Pasture and Arable	3 3 19
		605	Tre furid fawr	Pasture	12 - 29
		606	Waen ten	Arable	10 2 35
		607	Cae Llidiart	Do.	5 - 23
		608	Tre frwg bach	Pasture	7 2 24
		609	Cae Llidiart ucha	Arable	3 3 26
		610	Cae Ifan Drying	Pasture	14 2 -

The proposed turbine locations are within fields 597 and 599, and these are highlighted within the table. There have been considerable changes to the pattern of field boundaries since the production of the tithe map in 1845, as a result of mid 19th century and later agricultural improvements. By the time of the 1889 1st edition 25

inch Ordnance Survey map of 1889 (Fig. 3) most of the modern field boundaries were present and Tre Ifan farm had more or less assumed its current form, although some of the fields were smaller and have subsequently been amalgamated into larger fields. This is particularly true in the south of the study area. The Afon Braint can also be seen to have a more meandering character than today, demonstrating that some of the straightening and channelling of the river took place after this date. Very little change on the ground can be shown to have taken place between 1889 and the 3rd edition 25 inch Ordnance Survey map of 1920.

4.3.4 Aerial Photographs

Aerial photographs dating from 1945, supplied by the Central Registry of Aerial Photography, Welsh Government, Cardiff, were examined. Those listed below gave the most information.

- 106/UK655 RAF Medmenham frame 3072 taken 13th August 1945
- 106/UK655 RAF Medmenham frame 3075 taken 13th August 1945

The Pont Sarn hut circle site (PRN 3138) was faintly visible and comparison with later photographs suggests there has been little change since 1945. Caer Leb (PRN 3137) was clearly visible, as it is on all later aerial photographs. No new sites were identified within the study area as a result of the examination of the aerial photographs.

4.4 Site Gazetteer

The field walkover discovered five sites of archaeological interest as listed below. Where new sites have been found these have been attributed a Primary Record Number (PRN). Recommended mitigation sections have been provided for sites if it appears they are to be impacted upon by the proposed turbine construction. The location of the sites is shown on Figure 1. The direction and location of the photographs are shown in Figure 4.

Archaeological features have been allocated to categories of international, national, regional/county, local, negligible/none and unknown importance as listed in Appendix 2. These are intended to give an idea of the importance of the feature and the level of response likely to be required; descriptions of the features and specific recommendations for further assessment or mitigatory measures, as appropriate, are given in the relevant sections of this report. The criteria used for allocating features to categories of importance are based on those used by the Secretary of State when considering ancient monuments for scheduling; these are set out in Welsh Office Circular 60/96. In addition all sites have been attributed a magnitude of impact level, which is ranked from High through to Medium, Low, and Negligible/Neutral. These impacts can be direct or indirect, as well as being adverse or beneficial. The criteria for assessing magnitude of impact are set out in Appendix II.

The use of a 'C' on an NGR indicates a point on a linear which extends for some distance, for example a wall or a hedgerow.

1 Walle	d Track (Plate 3, 7)	PRN 35035
Assessment of Importance	Local	Impact: Low direct adverse	Mitigation: Avoidance, use gateways for access, or basic recording prior to breaching

Description: Two parallel rubble stone walls, about 0.8m high, on either side of the trackway leading north eastwards from Tre Ifan farm. The trackway is about 5m wide, and there are gated entrances to the fields to both the north and south. The track is shown on the tithe map of 1845. The walls survive up to eight courses high and are capped.

The boundary wall to the south will require breaching in order to construct the proposed access track. If Option 2 is pursued as a location for the turbine then the northern wall will require breaching in order to construct an access track.

NGR SH 47616820- SH 47966819

2	Hedger	ow (Pla	ite 6)	PRN 35036	
of	essment ertance	Local	Impact: None	Mitigation: None	

Description: A hedgerow, which may have some rubble stone core to it, running north west from the trackway (1). It appears to be part of mid 19th century improvement, as it is not shown on the tithe map of 1845, but is shown on the 1st edition OS map of 1889. It is very straight, and extends to the minor road to the north.

The intention is for construction traffic to utilise the existing farm access track from the unclassified road off the A4080, and thus this feature should not be impacted upon.

NGR SH 47606812 C

3	Drystor	ne wall		PRN 35037
of	ssment rtance	Local	Impact: None	Mitigation: None

Description: A hedgerow, which may have some rubble stone core to it, running south east from the trackway (1). It appears to be part of mid-19th century improvement, as it is not shown on the tithe map of 1845, but is shown on the 1st edition OS map of 1889. It extends to the Afon Braint to the south, and has a very regular course, suggestive of organised 19th century field improvement.

The intention is for construction traffic to utilise the existing farm access track from the unclassified road off the A4080, and thus this feature should not be impacted upon.

NGR SH 47746800 C

4 D	rystor	ne wall		PRN 35038
of		Local	Impact: Low direct adverse	Mitigation: Basic record prior to impact
Importa	ance			
Descrip	otion: A	hedae	row, which may ha	ve some rubble stone core to it, running

Description: A hedgerow, which may have some rubble stone core to it, running north west from the trackway (1). It appears to be earlier than mid-19th century

date, as it is shown on the tithe map of 1845. It extends to the Afon Braint to the south.

The intention is for construction traffic to utilise the existing farm access track from the unclassified road off the A4080, and thus this feature may require breaching in order to permit access for larger construction traffic along the access track.

NGR SH 47926810 C

5	Drystor	ne wall	(Plate 7)		PRN 35039
Asse of	ssment	Local	Impact: Low direct adverse	Mitiga	ation: Basic record prior to impact
Impo	rtance				

Description: A hedgerow, which may have some rubble stone core to it, running north west from the trackway (1). It appears to be part of mid-19th century improvement, as it is not shown on the tithe map of 1845, but is shown on the 1st edition OS map of 1889. It bounds marshy ground to the north.

The intention is for construction traffic to utilise the existing farm access track from the unclassified road off the A4080, and thus this feature may require breaching in order to permit access for larger construction traffic along the access track.

NGR SH 47906827 C

5.0 VISUAL IMPACT

AN 007 NGP SH

5.1 Introduction

GAPS requested that photographs be taken from Scheduled Ancient Monuments within a reasonable proximity looking towards the proposed turbine location site and Option 2 site. These photographs were then used to dictate which viewpoints required further investigation in the production of photomontage. Their location and direction are indicated on Figure 4. The setting of the monuments has been defined as 'the surroundings in which a historic asset is experienced, its local context, embracing past and present relationships to the adjacent landscape' (Cadw 2011, 38).

5.2 Visual Impact upon Scheduled Ancient Monuments

The following list is a gazetteer of Scheduled Ancient Monuments within a reasonable proximity of the proposed development site which will be visually impacted upon by the proposed development. The sites are listed in numerical order by their Scheduled Ancient Monument reference number as provided by Cadw. The magnitude of visual impact has been determined from photographs taken from Scheduled Ancient Monuments by GAT where the site was noted as being not visible, and also photomontage taken from the viewpoint of each individual monument towards a digital model of the proposed wind turbine, as provided by Awel Menai. All sites have been attributed a magnitude of impact level, which is ranked from High through to Medium, Low, and Negligible/Neutral. These impacts can be adverse or beneficial. The criteria for assessing magnitude of impact are set out in Appendix III, and are defined in the policy document Seeing the History in the View-A method for assessing heritage significance within views (English Heritage 2011, 24), and the attributes effecting the assessment of the effects of the proposed development are noted in The Setting of Heritage Assets (English Heritage 2011. 21).

Scheduled Ancient Monuments in proximity to the proposed wind turbine location.

Dioto 12

AN UU7	1000000150	Fiate 12
	4622868158	
Bodowy	r Burial Chamber	
The Bodo	owyr Burial Chamber	is a megalithic monument now consolidated for public
viewing.	It consists of five upri	ght orthostatic stones, one now fallen, which define a
polygona	I chamber. Three of t	he stones support a mushroom shaped capstone about
2.5m by	1.9m and up to 0.9m	thick. The chamber would have lain within a cairn or
mound of	f which there is now r	no trace. It can be identified as a Neolithic ritual or
funerary	monument.	
Visual In	npact: Low adverse	

AN 014	NGR: SH 24729467415	Not photographed due to very boggy ground, although site not visible from the location
Caer Lek	Roman enclosure	
		sure occupying a low lying marshy site. Stone founded e Roman material when excavated in 1866. The

enclosure is roughly rectangular or pentagonal, about 66m north-west to south-east by 44m. The short south-east side projects to the central entrance gap. It is enclosed by two banked circuits with a broad ditch between.

Several stone founded buildings are apparent within, including a rectangular structure at least 14m square and a 5.9m internal diameter roundhouse. The roundhouse was explored in 1866 when it was found to have a paved floor with a stone mortar set at the centre and a possible hearth by the wall. The upper stone of a 'well finished' quern was also recovered from this building. The finds included pottery, with some samian, a coin of the later third century emperor Postumus and a penanular brooch. This may be a later Prehistoric settlement occupied through the Roman period. The presence of a groat of Henry V or VI may indicate some form of occupation in the medieval period.

Visual Impact: None

AN 015	NGR: SH 4652967058	Plate 10	
--------	-----------------------	----------	--

Castell Bryn-Gwyn

Castell Bryn Gwyn is a near circular earthwork enclosure defined by a massive rampart that remains up to 2.6m high, with an internal area in the region of 52-56m across. There is little trace on the ground of a ditch and early observers, misled by irregularities in the rampart, identified this as a Roman amphitheatre.

Excavations in 1959-60 demonstrated that the monument had originated as a late Neolithic ritual henge enclosure or similar. It had later been adapted as a defensible circuit, presumably enclosing a settlement. This reuse probably occurred in the later Prehistoric period and its latest phase is associated with Roman pottery of the late first century AD. The primary Neolithic phase had a 5.2m wide stony bank with a 2.3m wide berm separating it from a broad flat-bottomed external ditch, 1.9m deep and up to 9.8m wide. There was at least one entrance, facing south-west. The ditch had partly silted up and the bank had weathered, when the bank was extended forward into a 9.0m wide rampart, revetted by a dry stone wall and fronted by a relatively insubstantial ditch. Finally the rampart was again extended to a width of 11m with a timber revetment and a new ditch was dug, 5.5m wide and 3.6m deep. The south-west entrance was blocked at this time and a Roman pottery sherd was recovered from the blocking.

Trenching in the interior identified some features, although these could not be resolved into coherent structures and produced no dating evidence.

Visual Impact: None

AN 022	NGR: SH 4623866931	Plate 11
--------	-----------------------	----------

Bryn Gwyn standing stones

Two immense standing stones set about 4.6m apart. These are: a pointed slab 4.2m high, 3.2m wide and 0.6m thick; a more massive block 3.2m high, 2.9m wide and 1.5m thick, with a flat inclined top.

This has been the conjectured site of a druidical stone circle since the early eighteenth century at least, indeed Rowlands identified elements of two circles and the RCAHMW traced a ditch and bank. Although the two remaining stones have been purposefully erected, other stones now removed may have been natural boulders or erratics.

The site was confirmed as a stone circle as a result of excavation work carried out in

2009 by George Smith. Three pits were found of which two contained stumps of broken off standing stones. The two stones lay in an arc in relation to the two extant standing stones that indicated a former stone circle of eight stones and about 16m in diameter (Smith 2009, 3).

Visual Impact: None

AN 051	NGR: SH 4945367963	Plate 14	
	7373301303		

Cader Idris Hillfort

A hillfort defined by three or more banks representing tumbled stone walls. It occupies the summit of a north-east to south-west ridge and backs up against the lip of the long cliff that forms the ridge's northern edge. The ruined walls enclose an elongated area some 80m by 36m. There is a single entrance in the long south-eastern facade, to which the outer walls allow only a staggered approach. A road, the A4080, running along the summit of the cliff line has obscured part of the fort.

Visual Impact: None

AN 059	NGR: SH 4798066756	Plate 13
		40 A Control of the C

Perthi-Duon Burial Chamber

A great stone or boulder at Perthiduon measures 3.0m by 23m and up to 1.0m thick, and once lay in a field boundary. Since at least the earlier eighteenth century this has been identified as the capstone of a megalithic tomb, fallen on its supporters. There is a more recent tradition that a number of bronze 'chisels' have been found close to or beneath the stone.

There is no evidence that this is anything other than a large natural boulder, albeit one suitable for use as a capstone.

Visual Impact: None

AN 060	NGR: SH	Plate 9
	4881366970	
The second second second		

Round barrow east of Brynsiencyn

This oval mound measures 30m (north-south) by 24m with a height of 1.9m on the southern, downhill, side but only 1.2m on the uphill side. The barrow is turf-covered though probing indicates the predominance of stone in its make up. There are no visible structural elements.

Visual Impact: None

AN 086	AN 086 NGR: SH Plate 8 4761667795			
Trefwri S	tanding Stone			
An erect	monolith, 1.8m high and	1.0m wide. This is one of two stones (with NPRN		
302429) 1	that are said to mark the	site of a late Prehistoric type settlement complex.		
Visual In	pact: Medium to High a	adverse, as monument lies in direct line of sight		

AN 087	NGR: SH	Cover Plate
	4714367870	

Pont-Sarn Las hut group

Scant remains of what is said to have been an extensive later Prehistoric type settlement complex extending roughly 500m along the south bank of the Braint river. The eastern part of this complex is now represented only by two large stones (NPRN 302429-30). The area was cleared 'many years' before 1866. Up to eight roundhouses were noted in the Anglesey Inventory of 1937, but only three can now be traced. These are stone founded circular structures, the best preserved about 10m internal diameter, the other two in the region of 7.5m across.

RCAHMW aerial coverage (AP895037/14-17) indicates that two of these roundhouses, including the larger example, were part of a walled settlement enclosure about 30m north-south by 20m. Less coherent settlement features, apparent on the south-west, north-east and east, extend over an area roughly 100m across. It seems likely that the settlement complex consisted of two or more discrete clusters.

Roman coins are said to have been recovered when the area was cleared and two saddle querns were found built into a wall before 1861. An earlier find was probably a Roman seal box, used to protect seals attached to letters and other documents. A seal box was recently recovered from a similar settlement site near Llandegai on the mainland.

Visual Impact: Medium to High adverse, as monument lies in direct line of sight

6.0 IMPACT AND RECOMMENDATIONS

6.1 General recommendations

6.1.1 Direct impact

The proposed wind turbine scheme is expected to have a **direct physical impact** upon three sites of archaeological and historic significance. All three features are drystone boundary walls and are considered to be of *local* importance and the proposed works are expected to have a *Low adverse* physical direct impact upon all three features. The suspected level of impact for all three features has been assigned as the walls will require breaching in order to gain access to both the preferred turbine location and Option 2.

Due to the proximity of several archaeological sites, including the Trefwri standing stone (AN086), the Pont Sarn-Las hut group (AN087), and Caer Leb Roman enclosure (AN014) the probability of there being unknown buried archaeological remains within the area and at both possible turbine locations is considered to be *medium to high*. The probability of buried remains is considered to have been reduced slightly by the field improvements which have occurred, although the potential for which buried deposits may have been destroyed or damaged by ploughing is currently unknown.

6.1.2 Indirect impact

An **indirect physical impact** is that taken to be an increase in disturbance or processes, both natural and manmade, as an indirect result of the proposed development. This can take the form of increased erosion, exposure or disturbance as well as the increased likelihood of management requirements.

The completed wind turbine scheme is not expected to have an **indirect physical** impact upon any archaeological features.

An **indirect visual impact** is that taken to be the effect upon viewpoints into and out of archaeological elements, as well as the effect upon the inter-visibility between such elements. A visual impact is assessed with reference to key historic viewpoints and essential settings, and is considered in relation to a site's character and function, as well as the key vantage points and visual experience.

The completed wind turbine scheme will have an **indirect visual impact** upon three Scheduled Ancient Monuments located close to the proposed development site, which are all considered to be of **high** value (English Heritage 2011a, 19). Of these, it is expected that the impact upon one will be *low*, and upon two will be *medium to high*, The three Scheduled Ancient Monuments that will be visually impacted upon are *Bodowyr Burial Chamber* (AN007), *Trefwri Standing Stone* (AN086), and *Pont Sarn- Las hut group* (AN087).

From the Trefwri standing stones and the Pont Sarn Las hut group most of the turbine will be visible as a significant object against the skyline, and will have a significant visual impact upon the sites, although this may be seasonally marginally reduced by foliage, therefore a **medium to high** level of visual impact has been identified (English Heritage 2011b, 21). From Bodowyr Burial Chamber, whilst about 70% of the proposed turbine will be visible it is at a greater distance and does not break the skyline, nestled between wooded areas with a slight rise behind, and the hills of Snowdonia in the distance, the visual impact is considered to be **low**.

Scheduled	Monument	Visual Impact
no.		
AN007	Bodowyr burial chamber	Low adverse
AN014	Caer Leb Roman enclosure	None
AN015	Castell Bryn-Gwyn	None
AN022	Bryngwyn standing stones	None
AN051	Caer Idris hillfort	None
AN059	Perti-Duon burial chamber	None
AN060	Round barrow east of Brynsiencyn	None
AN086	Trefwri standing stone	Medium to High adverse
AN087	Pont Sarn-Las hut group	Medium to High adverse

6.2 Site Specific Recommendations

Five sites have been identified as lying within the proposed development area and it is expected that the scheme will have a **direct physical** impact upon three of these. It is therefore recommended that a **basic record** be taken of all features to be impacted upon prior to the commencement of works.

The overall possibility of there being unknown buried archaeological remains within the proposed development area is believed to be *Medium* to *High*. It is therefore recommended that an **intensive watching brief** is maintained during groundworks.

Number	Name	Category	Impact	Recommendations
1	Walled Track	Local	Low direct adverse	Basic record
2	Hedgerow	Local	None	None
3	Drystone wall	Local	None	None
4	Drystone wall	Local	Low direct adverse	Basic record
5	Drystone wall	Local	Low direct adverse	Basic record

7.0 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER WORK

The archaeological assessment of the site of a proposed wind turbine scheme at Tre Ifan concluded that the scheme is expected to have a direct physical impact upon three sites of archaeological and historic significance. All three features are dry-stone boundary walls and are considered to be of *local* importance and the proposed works are expected to have a *Low adverse* physical direct impact upon all three features. The suspected level of impact for all three features has been assigned as the walls will require breaching in order to gain access to both the preferred turbine location and Option 2.

Due to the proximity of several archaeological sites, including the Trefwri standing stone (AN086), the Pont Sarn-Las hut group (AN087), and Caer Leb Roman enclosure (AN014) the probability of there being unknown buried archaeological remains within the area at both possible turbine locations is considered to be *medium to high*. The probability of the survival of buried remains is thought to have been somewhat reduced by the field improvements which have occurred since the 19th century, resulting in the destruction of elements of the Pont Sarn- Las hut group. The potential for which buried deposits may have been destroyed or damaged by ploughing is currently unknown. An *intensive watching brief* is recommended during groundworks on the site.

The assessment of the visual impact upon the monuments was based upon view point photographs and photomontage from the monuments themselves towards models of the proposed turbine. The archaeological assessment has shown that the proposed wind turbine and associated features are expected to have a visual impact upon three Scheduled Ancient Monuments located within the vicinity of the proposed site location, two of which were considered to be impacted upon to a *medium to high level*, and one to a *low* level.

8.0 ARCHIVE

The archive consists of field notes, historic maps and photographs taken on the field visit. It is currently held by GAT under the project code **G2285.**

9.0 BIBLIOGRAPHY

9.1 Primary Sources

Anglesey Archives, Llangefni

Land tax records for 1878-9

Tithe Map and Apportionment of the Parish of Llanidan 1845

Window tax records for 1751 and 1753

Bangor University Archives

Lligwy MSS 1420 Map and Survey of the Estates belonging to the Right Honourable Lord Boston 1773

Llysdulais and Kinmel Park MSS

9.2 Secondary Sources

Anon 1846 'Mona Mediaeva No. IV', Archaeologia Cambrensis 1, 425-436

Arnold, C.J. and Davies, J.L. 2000 Roman and Early Medieval Wales

Brookes, I. P. 2004 *Caer Leb Desktop Study*, Unpublished EAS Client Report 2004/15

Cadw 2011 Conservation Principles for the Sustainable Management of the Historic Environment in Wales

Carr, A. D. 2011 Medieval Anglesey (2nd edition)

English Heritage 2011a Seeing the History in the View. A Method for Assessing Heritage Significance within Views English Heritage Guidance Note

English Heritage 2011b *The Setting of Heritage Assets* English Heritage Guidance Note

Gaffney, C.F. Report on Geophysical Survey; Caer Leb, Llanidan, Anglesey

Institute of Field Archaeologists 1994 (revised 2001). Standard and Guidance for Archaeological Desk-Based Assessment

Longley, D. 1991 'Excavations at Plas Berw, Anglesey 1983-4', *Arch. Camb.* CXL, 102-119

Lynch, F. 1991 *Prehistoric Anglesey* (2nd edition)

RCAHMW 1937 An Inventory of the Ancient Monuments in Anglesey

Smith, G.H. 2009 Bryn Gwyn Stones, Brynsiencyn, Anglesey. Evaluation Excavation 2008 Preliminary Report. (Unpublished GAT Report No. **790**)

Williams, W.W. and Pritchard, H. 1866 'Mona Antiqua. Excavations at Caer Leb', *Arch. Camb.* Third Series XII, 209-214

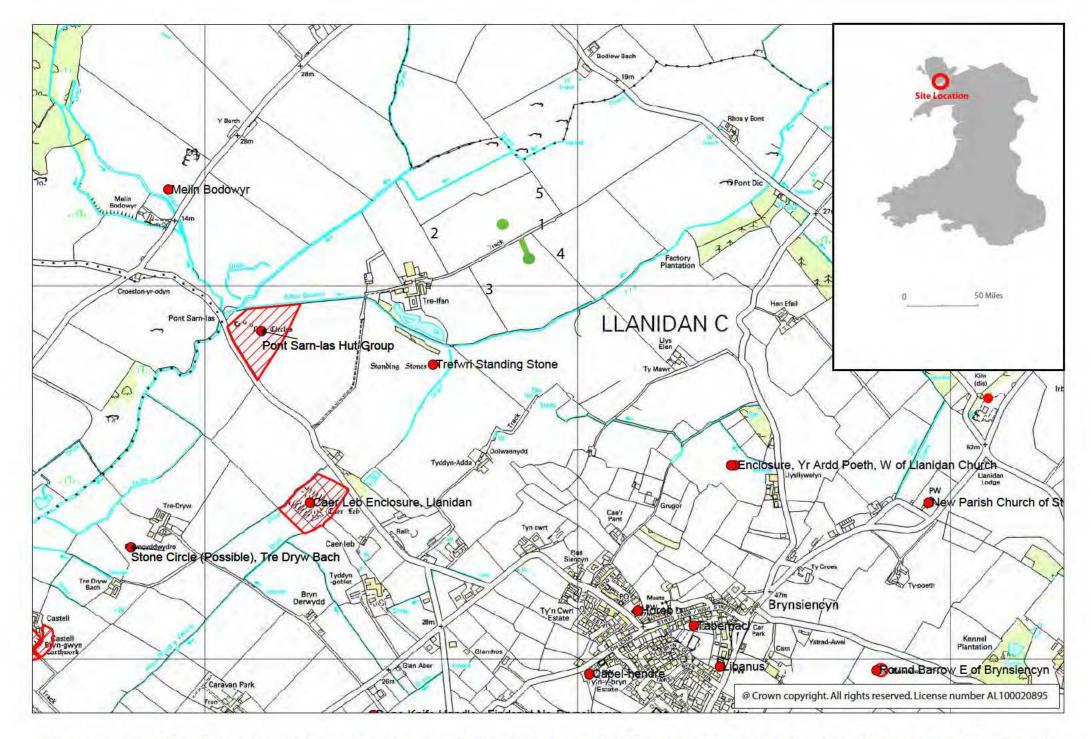


Fig. 1 Site location plan. Proposed turbine locations (green), and sites on the Gwynedd HER (red dots) are shown. Sites identified in the text are numbered. Base map taken from the Ordnance Survey 1:10 000 series sheet SH46. Scale 1:1500 at A4

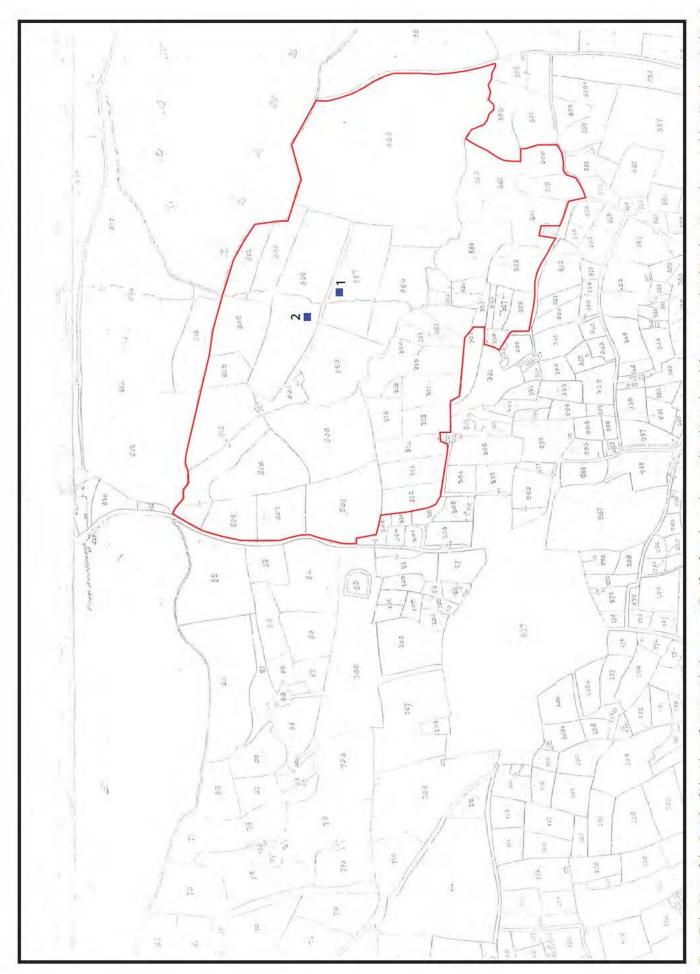


Fig. 2 Tithe Map of the Parish of Llanidan of 1845, with the current Tre Ifan farm boundary outlined in red, and the proposed turbine locations shown in blue (Anglesey Archives)

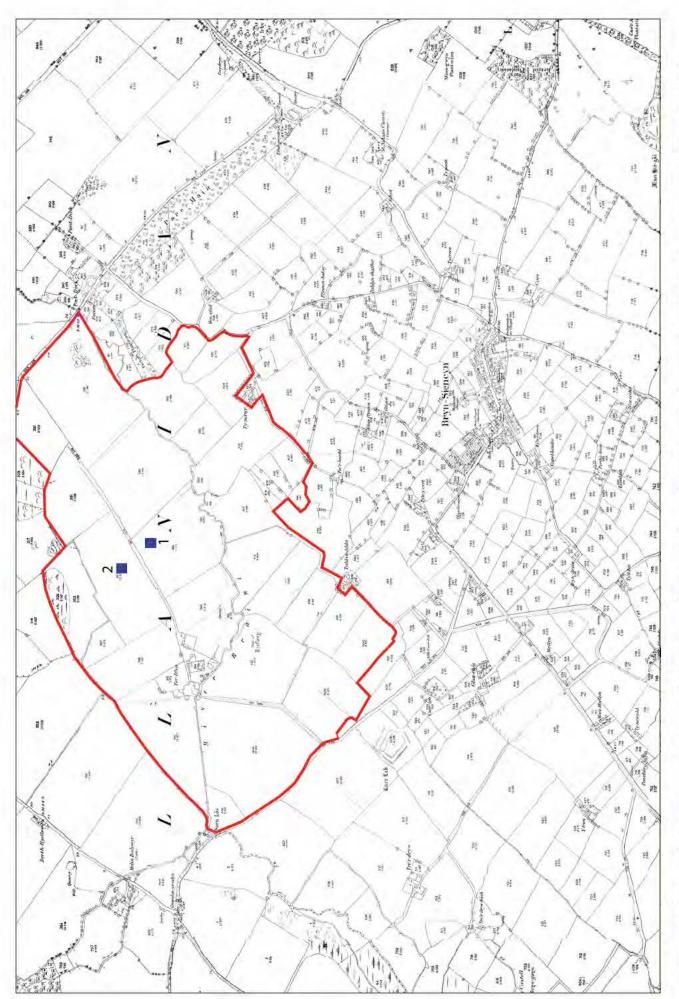


Fig.3 Extract from Ordnance Survey 1st Edition 25 inch map of 1889, Anglesey sheet XXII.8. The boundaries of Tre Ifan farm are outlined in red, and the proposed turbine locations are marked with blue squares. Scale 1:10 000

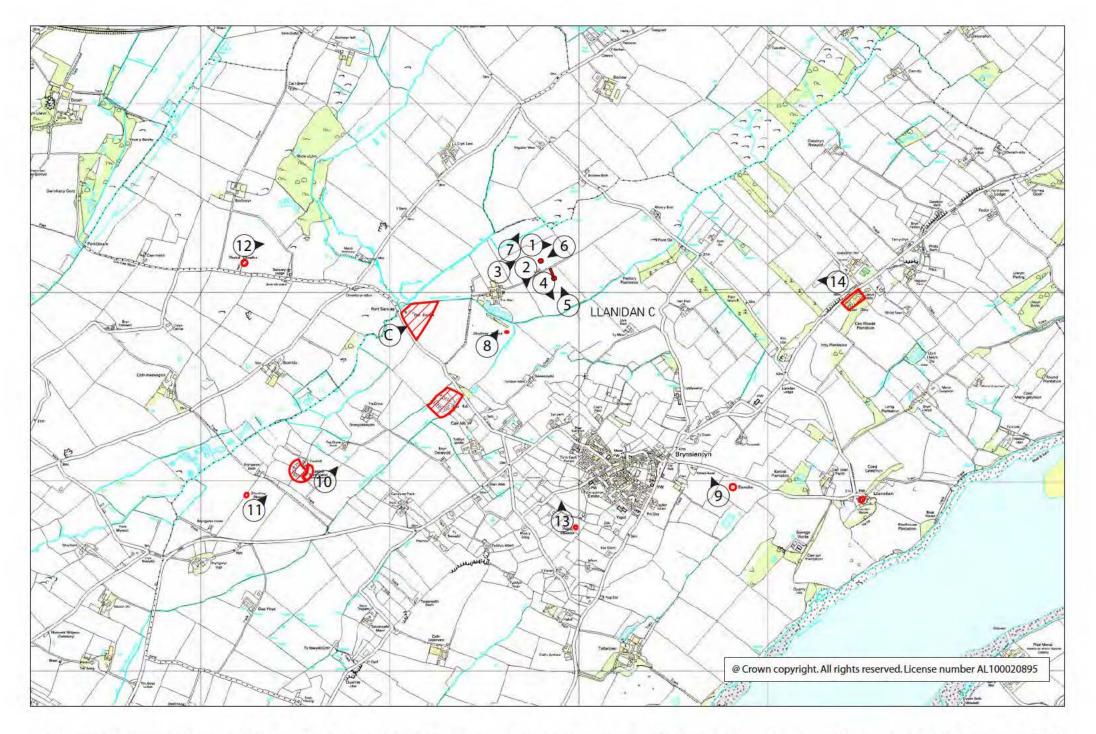


Fig. 4 Directions of plates numbered and indicated (C indicates cover photo). Base map taken from Ordnance Survey 1:10 000 series sheets SH 46 and SH 56. Scale 1:20 000 at A4



Plate 01: View from turbine option 2 looking east. Scale 1m



Plate 02: View from turbine option 2 looking south. Scale 1m



Plate 03: View along farm track from Tre Ifan from the west south west. Scale 1m



Plate 04: View of option 1 site from the north west. Scale 1m



Plate 05: View of option 1 site from the south. Scale 1m



Plate 06: View along the trackway to Tre ifan farm from the east.



Plate 07: General view looking north east.



Plate 08: View towards the turbine locations from the Trefwri Standing Stone 2, from the south. Scale 1m



Plate 09: View of the round barrow east of Brynsiencyn (SAM AN060) towards the proposed turbine locations. View from the south east



Plate 10: View towards the turbine locations from Castell Bryn Gwyn (SAM AN015), from the south west.



Plate 11: View looking towards the proposed turbine locations from the Bryn Gwyn Standing Stones (SAM AN022), from the south west



Plate 12: View from Bodowyr Burial Chamber (SAM AN007) towards the proposed turbine locations, from the west.



Plate 13: View looking towards the proposed turbine locations from Perthi-Duon Burial Chamber (SAM AN059), from the south



Plate 14: View from Caer Idris Hillfort (SAM AN051) towards the proposed turbine locations, from the east.

APPENDIX I PHOTOMONTAGE DATA

Awel Menai

Printed/Page 24/10/2012 20:23 / 1

Infinite Renewables Limited Number One, Waterton Park GB-BRIDGEND CF31 3PH, Wales

+44 1656 644477

IR Morgan / vennenergy@gmail.com 24/10/2012 20:22/2.8.543

VISUAL - Main result

Calculation: 4 Images

WTG siting

1 New

	WTG	type					Distan	ce to	cam	era	
	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	A	В	С	D	
				[kW]	[m]	[m]	[m]	[m]	[m]	[m]	
N	No	NORWIN	-200	200	19.2	36.5	1,643	829	499	377	



New WTG

✓ Camera

B Camera: Pont Sarn Las 2 Target British TM-OSGB36/Airy (GB/IE) East: 247900 North: 368095 (2)



A Camera: Bodowyr 2 Target British TM-OSGB36/Airy (GB/IE) East: 247115 North: 368126 (1)



C Camera: Trefwri stone 1 no2 Target British TM-OSGB36/Airy (GB/IE) East: 248160 North: 368160 (3)



British TM-OSGB36/Airy (GB/IE) Eye point Target point Photo dir.

D Camera: Trefwri stone 2 no1 Target British TM-OSGB36/Airy (GB/IE) East: 248159 North: 368350 (4)



British TM-OSGB38/Airy (GB/IE) Eye point Target point Photo dir.

APPENDIX II: SITES WITHIN 1KM OF THE WIND TURBINE LOCATIONS AS LISTED ON THE GWYNEDD HER

prn	name	ngr	type	period	Status
1625	Enclosure, Yr Ardd Poeth, W of Llanidan Church	SH48426752	ENCLOSURE	Post-Medieval	_
3137	Caer Leb Enclosure, Llanidan	SH47286742	ENCLOSURE	Roman	Scheduled Ancient Monument
3138	Pont Sarn-las Hut Group	SH47156788	HUT CIRCLE SETTLEMENT	Roman	Scheduled Ancient Monument
3145	Trefwri Standing Stone	SH47616779	STANDING STONE	Bronze Age	Scheduled Ancient Monument
3156	Burial Chamber (Possible) - Site of, Llandaniel	SH48106900	CHAMBERED TOMB	Prehistoric	4
3483	Burial Chamber (Possible), Site of, Carreg y Fran	SH48706770	CHAMBERED TOMB	Prehistoric	
3484	Burial Chamber (Possible), Site of, Caer Nant	SH48106750	CHAMBERED TOMB	Prehistoric	-
3485	Barclodiad-y-gawres Standing Stone, (Possible), Llanidan	SH48416752	STANDING STONE	Prehistoric	=8
3726	Burial Chamber - Site of, Nr. Llyslew	SH47306880	CHAMBERED TOMB	Prehistoric	
3736	Standing Stone - Site of, Nr. Llyslew	SH47306880	STANDING STONE	Prehistoric	
6464	Melin Bodowyr	SH46906826	MILL	Post-Medieval	
7801	Horeb	SH48166713	NONCONFORMIST CHAPEL	Post-Medieval	4.

SITES WITHIN 1KM OF THE PREFERRED TURBINE LOCATION AND OPTION 2 AS LISTED ON THE NMR

NPRN	NMRWNAME	TYPE	PERIOD	NGR
	HOREB CHAPEL (CALVINISTIC			
	METHODIST), A4080 AND CHAPEL			and the second second
8801	STREET, BRYNSIENCYN	CHAPEL	Post Medieval	SH48166713
40329	SITE OF BRYN SIENCYN WINDMILL	WINDMILL	Post Medieval	SH4823767236
15745	LLYSLEW	BUILDING	Post Medieval?	SH473687
- 3.5.3	MELIN BODOWYR CORN			
24619	MILL;BODOWYR MILL	CORN MILL	Post Medieval	SH4689268166
	TREFWRY OR TREFWRI, WESTERN		the state of the state of	
302429	STONE (A)	STONE	Unknown	SH4743767827
	TREFWRY OR TREFWRI, EASTERN	STANDING		
302430	STONE (B)	STONE	Unknown	SH4761667795
		ENCLOSED		
95536	CAER LEB, BRYNSIENCYN	SETTLEMENT	Iron Age;Roman	SH4728567425
93883	PONT SARN-LAS SETTLEMENT	SETTLEMENT	Prehistoric	SH471679

LISTED BUILDINGS WITHIN 1KM OF THE PREFERRED TURBINE LOCATION AND OPTION 2.

NUMBER	NAME	LOCALITY	EASTINGS	NORTHINGS	GRADE
19882	Capel Horeb	Brynsiencyn	248157	367133	11
19883	Melin Bodowyr	Bodowyr	246893	368166	11
19887	Pont Melin Bodowyr	Bodowyr	246925	368188	11
19889	Capel Horeb Assembly rooms	Brynsiencyn	248152	367155	11

APPENDIX III: DEFINITIONS OF IMPORTANCE AND RECOMMENDATION

1. Definition of Categories of importance

The following categories were used to define the importance of the archaeological resource.

International (Very High)	 World Heritage Sites (including nominated sites). Assets of acknowledged international importance. Assets that can contribute significantly to acknowledged international research objectives. (Previously Category A) 				
National (High)					
Regional/ County (Medium)	Designated or undesignated assets that contribute to regional research objectives. (Previously Category B)				
Local (Low)	 Designated and undesignated assets of local importance. Assets compromised by poor preservation and/or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives. (Previously Category C) 				
Negligible/ None	Assets with very little or no surviving archaeological interest. (Previously Category D)				
Unknown	The importance of the resource has not been ascertained. (Previously Category E)				

2. Definition of Impact

Magnitude	Direct Impact	Indirect Impact
High Adverse	Complete removal of an archaeological site. Complete destruction of a designated building or structure.	Radical transformation of the setting of an archaeological monument. A fundamental change in the setting of a building.
Medium Adverse	Removal of a major part of an archaeological site and loss of research potential. Extensive alteration (but not demolition) of a historic building or feature, resulting in an appreciable adverse change.	Partial transformation of the setting of an archaeological site (e.g. the introduction of significant noise or vibration levels to an archaeological monument leading to changes to amenity use, accessibility or appreciation of an archaeological site). Partial adverse transformation of the setting of a designated building.
Low Adverse	Removal of an archaeological site where a minor part of its total area is removed but the site retains a significant future	Minor change to the setting of an archaeological monument or historic building.

Negligible/ Neutral	research potential. Change to a historic building or feature resulting in a small change in the resource and its historical context and setting. No impact from changes in use, amenity or access. No change in the ability to understand and appreciate the resource and its historical context and setting.	No perceptible change in the setting of a building or feature.
Low Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains or understanding/ appreciation of a historic building or place	Decrease in visual or noise intrusion on the setting of a building, archaeological site or monument. Improvement of the wider landscape setting of a building, archaeological site or monument.
Medium Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains, or understanding/appreciation of a historic building or place, including through interpretation measures (heritage trails, etc). Removal of harmful alterations to better reveal the significance of a building or structure, with no loss of significant fabric.	Significant reduction or removal of visual or noise intrusion on the setting of a building, archaeological site or monument; and Improvement of the wider landscape setting of a building, archaeological site or monument Improvement of the cultural heritage amenity, access or use of a building, archaeological site or monument.
High Beneficial	Arrest of physical damage or decay to a building or structure;	Exceptional enhancement of a building or archaeological site, its cultural heritage amenity and access or use

4. Definition of field evaluation techniques

Field evaluation is necessary to allow the reclassification of the category E sites, and to allow the evaluation of areas of land where there are no visible features, but for which there is potential for sites to exist. Two principal techniques can be used for carrying out the evaluation: geophysical survey and trial trenching.

Geophysical survey

This technique involves the use of a magnetometer, which detects variation in the earth's magnetic field caused by the presence of iron in the soil. This is usually in the form of weakly magnetised iron oxides, which tend to be concentrated in the topsoil. Features cut into the subsoil and back-filled or silted with topsoil contain greater amounts of iron and can therefore be detected with the gradiometer. Strong readings can be produced by the presence of iron objects, and also hearths or kilns.

Other forms of geophysical survey are available, of which resistivity survey is the other most commonly used. However, for rapid coverage of large areas, the magnetometer is usually considered the most cost-effective method. It is also

possible to scan a large area very rapidly by walking with the magnetometer, and marking the location of any high or low readings, but not actually logging the readings for processing.

Trial trenching

Buried archaeological deposits cannot always be detected from the surface, even with geophysics, and trial trenching allows a representative sample of the development area to be investigated. Trenches of an appropriate size can also be excavated to evaluate category E sites. These trenches typically measure between 20m and 30m long by 2m wide. The turf and topsoil is removed by mechanical excavator, and the resulting surface cleaned by hand and examined for features. Anything noted is further examined, so that the nature of any remains can be understood, and mitigation measures can be recommended.

5. Definition of Mitigatory Recommendations

None:

No impact so no requirement for mitigatory measures.

Detailed recording:

Requiring a photographic record, surveying and the production of a measure drawing prior to commencement of works.

Archaeological excavation may also be required depending on the particular feature and the extent and effect of the impact.

Basic recording:

Requiring a photographic record and full description prior to commencement of works.

Watching brief:

Requiring observation of particular identified features or areas during works in their vicinity. This may be supplemented by detailed or basic recording of exposed layers or structures. An archaeological watching brief is divided in to four categories according the IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief:*

- comprehensive (present during all ground disturbance)
- intensive (present during sensitive ground disturbance)
- intermittent (viewing the trenches after machining)
- partial (as and when seems appropriate).

Avoidance:

Features, which may be affected directly by the scheme, or during the construction, should be avoided. Occasionally a minor change to the proposed plan is recommended, but more usually it refers to the need for care to be taken during construction to avoid accidental damage to a feature. This is often best achieved by clearly marking features prior to the start of work.

Reinstatement:

The feature should be re-instated with archaeological advice and supervision.

APPENDIX IV: REPRODUCTION OF GWYNEDD ARCHAEOLOGICAL PLANNING SERVICES MITIGATION BRIEF D1530

DESIGN BRIEF FOR ARCHAEOLOGICAL ASSESSMENT

Site: Tre-Ifan, Brynsiencyn

Date: 17th August 2012

National Grid Reference: 248400, 368000

Planning reference: 37C174C

Applicant: R Rogers

This design brief is only valid for six months after the above date. After this period Gwynedd Archaeological Planning Service should be contacted.

It is recommended that the contractor appointed to carry out the archaeological work visits the site of the proposed development and consults the regional Historic Environment Record (HER) for north-west Wales before completing their specification. Gwynedd Archaeological Planning Service cannot guarantee the inclusion of all relevant information in the design brief.

Key elements specific to this design brief have been highlighted.

1.0 Site Location and Description

- 1.1 For the purposes of this brief the site comprises a regularly shaped plot totalling approximately 5 hectares to the east of Tre-Ifan farm, Brynsiencyn, Anglesey. Brynsiencyn lies in the south of the island.
- 1.2 The site lies at approximately 20m OD on a low hill and is currently characterised by improved grassland. The field is defined by a combination of hedges and fencing; the development footprint within the field has no existing physical definition.

2.0 Archaeological Background

- 2.1 The Brynsiencyn area is rich in archaeological remains especially of the prehistoric and Roman periods, including several monuments with upstanding remains. These include Caer Leb Roman defended settlement (scheduled monument An014), the Pont Sarn-las hut group (scheduled monument An087) and Trefwri standing stone (An086). The Pont Sarn-las group represents the remainder of a late prehistoric settlement which reportedly formerly extended eastwards along the Afon Braint as far as Tre-Ifan.
- 2.2 The extent, nature and significance of the archaeological resource above and below ground requires clarification in order to establish the potential impact of the development and inform subsequent planning decisions.

3.0 The nature of the development and archaeological requirements

- 3.1 Planning consent is being sought for the development of a single wind turbine of 46.1m maximum total height, together with ancillary access and infrastructure.
- 3.2 This is a *design brief* for a programme of archaeological work, to be undertaken prior to planning consent, in accordance with guidelines set out in *Planning Policy Wales*

- 2011 and Welsh Office Circular 60/96 (*Planning and the Historic Environment: Archaeology*). A programme of archaeological work may entail several stages. This stage will comprise an **archaeological desk-based assessment and walkover survey**.
- 3.3 The objective of this programme of archaeological works is to make full and effective use of existing information to establish the archaeological significance of the site; to assess the impact of the development proposals on surviving monuments or remains; and to help inform future decision making, design solutions and potential mitigation strategies.
- 3.4 Following the desk-based assessment and walkover survey, and informed by the findings of these elements, it may be necessary to undertake field evaluation in order to verify the presence or absence of remains, their extent, nature, quality and character.
- 3.5 Any additional stages of work further to that described by this brief will require prior approval of a new detailed specification by Gwynedd Archaeological Planning Service.
- 3.6 This *design brief* should be used by the archaeological contractor as the basis for the preparation of a detailed written archaeological *specification*. The specification must be submitted to the Gwynedd Archaeological Planning Service for approval before the work commences.
- 3.7 The *specification* should contain, as a minimum, the following elements:
 - non-technical summary
 - details of the proposed works as precisely as is reasonably possible, indicating clearly on a plan their location and extent
 - a research design which sets out the site-specific objectives of the archaeological works
 - the level and grade of all key project staff
 - details of external specialists
 - a timetable for the proposed works, including contingency if appropriate
 - the intended method of publication
 - archive deposition
 - reference to relevant legislation
 - health and safety considerations
 - monitoring procedures

4.0 Archaeological Programme Detail

Desk-based assessment detail

- 4.1 The assessment must consider the following:
 - a) the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area through the development of an **archaeological deposit model**. This deposit model should reflect accurately the

- state of current knowledge and provide a research agenda for further work if necessary [See 4.2 below for further details]
- b) the significance of any remains in their context both regionally and nationally
- c) the **history** of the site [See section 4.3 below for further details]
- d) the potential impact of any proposed development on the **setting** of known sites of archaeological importance [See section 4.4 below for further details]
- e) the potential for further work, with recommendations where appropriate for a suitable investigative and/or mitigation methodology.
- 4.2 Development of the archaeological deposit model will involve the following areas of research:
 - a) collation and assessment of all relevant information held in the HER
 - b) assessment of all available excavation reports and archives (including unpublished and unprocessed material) affecting the site and its setting
 - c) assessment of all extant aerial photographic (AP) evidence and, where relevant, a re-plotting of archaeological and topographic information by a suitably qualified specialist at an appropriate scale. The main source of archaeological aerial photographic records is held at the Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW), Aberystwyth
 - d) assessment of archive records held at Anglesey Archives, Llangefni, and as appropriate, RCAHMW and University College Bangor
 - e) assessment of the environmental potential of the archaeological deposits through existing data or by inference
 - f) assessment of the faunal potential of the archaeological deposits through existing data or by inference
 - g) assessment of the artefactual potential of the archaeological deposits through existing data or by inference
 - h) assessment of available geotechnical information for the area including the results of test pits and boreholes
 - i) assessment of the present topography and land use of the area through maps and site inspection
- 4.3 Assessment of the **history of the site** will involve the following:
 - a) a review of relevant published sources
 - b) an analysis of relevant maps, plans and other relevant illustrative material. Cartographic evidence is held at the County Record Offices, including tithe maps, enclosure act plans, estate maps and all editions of the Ordnance Survey. Place and field-name evidence from these sources must be considered.
 - an analysis of the historical documents (e.g. county histories, local and national journals and antiquarian sources) held in museums, libraries or other archives, in particular local history and archives library.
 - d) a review of the aerial photographic evidence.

- 4.4 Assessment of the potential **setting** impacts should make use of any landscape and visual impact assessment work undertaken in connection with the application.
- 4.5 The archaeological contractor is advised to consult recently published guidance on archaeological assessment of setting and significance, such as: Conservation Principles for the sustainable management of the historic environment in Wales, Cadw, March 2011; Wind Energy and the Historic Environment, English Heritage, October 2005; The Setting of Heritage Assets, English Heritage, October 2011; and Seeing the History in the View, English Heritage, May 2011. The Landscape Institute and Scottish Natural Heritage have also published guidance on wind energy developments and landscape assessment which may be of relevance.

Archaeological fieldwork detail

- 4.6 The following non-destructive techniques must be employed as part of this phase of work:
 - Field visit / walk-over of all accessible areas for each site
 - Field visit to inform assessment of archaeological sites outside the application areas that have been identified as vulnerable to setting impact from the proposed schemes, where accessible

5.0 Results

- 5.1 The results must be presented in a bound report and should be detailed and laid out in such a way that data and supporting text are readily cross-referenced. The HER Officer should be contacted to ensure that any sites or monuments not previously recorded in the HER are given a Primary Record Number (PRN) and that data structure is compatible with the HER.
- 5.2 The deposit model should be presented graphically in plan and, where appropriate, in profile and at a scale that is commensurate with subsequent use as a working document.
- 5.3 Within the report an attempt should be made to indicate areas of greater or lesser archaeological significance and the sites should be ranked in level of overall archaeological importance (locally, regionally and nationally).
- 5.4 All relevant aerial photographs, re-plots and historic maps must be included and be fully referenced. Any site photographs included in the report should be appropriately captioned and clearly located on a suitably scaled site plan. The final report should specifically include the following:
 - a copy of the design brief and agreed specification
 - a location plan
 - all identified features and significant finds plotted on an appropriately scaled site plan
 - a gazetteer of all located sites with full dimensional and descriptive detail including grid reference and, where possible, period
 - a full bibliography of sources consulted
 - an archive compact disc

- 5.5 Any relevant desk-based sources included for the purposes of interpretation and analysis must be fully referenced, and related to both the archaeological mitigation work and the development proposals.
- 5.6 The report should include an assessment of the potential for further archaeological investigation and give recommendations for an appropriate future strategy.
- 5.7 The methodology for any subsequent phase of the archaeological programme must consider the use of the following techniques:
 - a) a programme of geophysical survey
 - b) a programme of archaeological trial trenching, test pits and/or cores to investigate the archaeological deposit model in more detail
 - c) strip, map and sample
 - d) design modification to preserve remains in situ
 - e) archaeological building recording
 - f) archaeological excavation
 - g) archaeological survey / recording
 - h) archaeological watching brief on construction works

6.0 General requirements

- 6.1 The archaeological assessment must be undertaken by an appropriately qualified individual or organisation, fully experienced in work of this character.
- 6.2 Details, including the name, qualifications and experience of the project director and all other key project personnel (including specialist staff) should be communicated to the Gwynedd Archaeological Planning Service and all written work attributed to an author(s).
- 6.3 Contractors and subcontractors are expected to conform to standard professional guidelines. The following are of particular relevance to this project:
 - English Heritage, 1991. Management of Archaeological Projects (MAP2)
 - English Heritage, 2006. Management Of Research Projects in the Historic Environment (MORPHE)
 - Brown D. H., 2007. Archaeological Archives A guide to best practice in creation, compilation, Transfer and curation. Archaeological Archives Forum
 - Richards, J. & Robinson, D., 2000. Digital Archives from Excavation and Fieldwork: Guide to Good Practice (Second Edition). The Archaeology Data Service Guide to Good Practice: Oxbow Books http://ads.ahds.ac.uk/project/goodguides/excavation/
 - The Institute for Archaeologists, 1985 (revised 2010). Code of Conduct
 - The Institute for Archaeologists, 1990 (revised 2008). Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology
 - The Institute for Archaeologists, 1994 (revised 2009) Standard and Guidance for Archaeological Desk-Based Assessment

- The Institute for Archaeologists 1994 (revised 2008) Standard and Guidance for Archaeological Field Evaluation
- The Institute for Archaeologists, 2001 (revised 2008). Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials
- The Institute for Archaeologists, 2008. Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives
- 6.4 Many people in North Wales speak Welsh as their first language, and many of the archive and documentary references are in Welsh. Contractors should therefore give due consideration to their ability to understand and converse in Welsh.
- 6.5 The archaeological contractor must satisfy themselves that all constraints to groundworks have been identified, including the siting of live services, Tree Preservation Orders and public footpaths. Gwynedd Archaeological Planning Service bears no responsibility for the inclusion or exclusion of such information within this brief.
- Any changes to the specifications that the archaeological contractor may wish to make after approval by this office should be communicated to Gwynedd Archaeological Planning Service and approved before implementation.
- 6.7 Care must be taken in dealing with human remains and the appropriate environmental health regulations followed. Gwynedd Archaeological Planning Service and the local Coroner must be informed immediately human remains are discovered.
- 6.8 Arrangements for the long-term storage and deposition of all artefacts must be agreed with the landowner and Gwynedd Archaeological Planning Service before the commencement of investigation.
- 6.9 The involvement of Gwynedd Archaeological Planning Service should be acknowledged in any report or publication generated by this project.
- 6.10 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared in accordance with standard guidance. All plans, photographs and descriptions should be labelled, cross-referenced and lodged in an appropriate place (to be agreed with Gwynedd Archaeological Planning Service) within six months of the completion of the project.
- 6.11 Two copies of the bound report must be sent to the address below, one copy marked for the attention of the Development Control Archaeologist, the other for attention of the HER Officer, who will deposit the copy in the HER.

7.0 Curatorial monitoring

7.1 The project will be monitored by Gwynedd Archaeological Planning Service to ensure the fulfilment of the brief and specifications. The Development Control Archaeologist will normally review the progress of reports and archive preparation. The archaeological contractor must inform Gwynedd Archaeological Planning Service in writing of the proposed start dates for the project and any subsequent phases of work.

8.0 Further information

- 8.1 This document outlines best practice expected for a programme of archaeological mitigation but cannot fully anticipate the conditions that will be encountered as work progresses. If requirements of the brief cannot be met they should only be excluded or altered after gaining written approval of the Gwynedd Archaeological Planning Service.
- 8.2 Further details or clarification of any aspects of the brief may be obtained from the Development Control Archaeologist at the address below.

Jenny Emmett

Archaeolegydd Rheoli Datblygiad - Development Control Archaeologist

Gwasanaeth Cynllunio Archaeolegol Gwynedd - Gwynedd Archaeological Planning Service Craig Beuno, Ffordd Y Garth, Bangor, Gwynedd LL57 2RT

Ffôn/Tel: 01248 370926 Ffacs/Fax: 01248 370925

jenny.emmett@heneb.co.uk

Glossary of terms

Archaeological Contractor

A professionally qualified individual or an organisation employing professionally qualified archaeological staff, able to offer appropriate and satisfactory treatment of the archaeological resource, who is retained by the developer to carry out archaeological work either prior to the submission of a planning application or as a requirement of the planning process.

Archaeological Curator

A person, or organisation, responsible for the conservation and management of archaeological evidence by virtue of official or statutory duties. In north-west Wales the archaeological advisors to the Local Planning Authorities are the Gwynedd Archaeological Planning Service, who work to the Welsh Archaeological Trusts' *Curators' Code of Practice*.

Archive

An ordered collection of all documents and artefacts from an archaeological project, which at the conclusion of the work should be deposited at a public repository, such as the local museum.

Brief

The Association of Local Government Archaeological Officers (1993) defines a *brief* as an outline framework of the planning and archaeological situation which has to be addressed, together with an indication of the scope of works that will be required.

Historic Environment Record (HER)

A documentary record of known sites in a given area. In north-west Wales the HER is curated by the curatorial division of the Gwynedd Archaeological Trust.

Specification

The Association of Local Government Archaeological Officers (1993) defines a *specification* as a schedule of works outlined in sufficient detail to be quantifiable, implemented and monitored.

Watching brief

A formal programme of observation during non-archaeological works in order to identity, investigate and record any archaeological remains which may be present.

APPENDIX V: PROJECT DESIGN

SINGLE WIND TURBINE AT TRE IFAN FARM NEAR BRYNSIENCYN, YNYS MON

PROJECT DESIGN FOR ARCHAEOLOGICAL ASSESSMENT (G2285)

Prepared for Awel Menai, August 2012

1. INTRODUCTION	29
2. ARCHAEOLOGICAL AIMS	30
3. ARCHAEOLOGICAL BACKGROUND	31
4. PROGRAMME OF WORK	31
4.1 Introduction	
4.2 Desk-based assessment	32
4.3 Field survey	
4.4 Field Evaluation/Further Works	33
4.5 Data processing and report compilation	34
4.6 Definition of category of importance	34
5. DISSEMINATION AND ARCHIVING	36
6. PERSONNEL	
7. HEALTH AND SAFETY	37
8. INSURANCE	
9. OTHER	37
10. SOURCES CONSULTED	37

1. INTRODUCTION

Gwynedd Archaeological Trust has been asked by *Awel Menai* to provide a cost and project design for completing an archaeological assessment of a proposed wind turbine site (single turbine) located east of Tre Ifan Farm, Brynsiencyn, Ynys Môn. The archaeological assessment will be completed as part of planning application **37C174C**; planning consent is being sought for the development of a single wind turbine of 46.1m maximum total height, together with ancillary access and infrastructure.

Two options for the site are currently proposed:

- Option 1: located c.300.0m east of Tre Ifan Farm at NGR SH47806800
- Option 2: located c.220.0m northeast of Tre Ifan Farm at NGR SH47706810

Based on current client information, Option 1 is the "preferred" location, but the assessment will accommodate both options.

A mitigation brief has been prepared for this scheme by Gwynedd Archaeological Planning Services (GAPS; mitigation brief reference **D1530**; reproduced as <u>Appendix</u> <u>I</u>). GAPS have requested an archaeological desk-based assessment and walkover survey (D1530: 02); the proposed GAT methodology is listed in para. 4.

It is recommended that the content of this design is approved by GAPS.

This design will conform to the guidelines specified in the brief and in *Standard and Guidance for Archaeological Desk-based Assessment* (Institute for Archaeologists, 1994, rev. 2001, 2008).

2. ARCHAEOLOGICAL AIMS

A desk-based assessment is defined as "a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate" (Standard and Guidance for Archaeological Desk-based Assessment (Institute for Archaeologists, 1994, rev. 2001, 2008: 02)

The aims of the assessment are:

- to identify and record the cultural heritage within the defined study area;
- to evaluate the importance of what has been identified;
- to recommend ways in which impact upon the cultural heritage can be avoided or minimised.

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

- Desktop study
- Field walkover
- Initial report
- Field evaluation
- Draft report
- Final report

This design is for the first **three** phases only, and recommendations will be made for any field evaluation required.

3. ARCHAEOLOGICAL BACKGROUND

According to GAPS mitigation D1530:

The Brynsiencyn area is rich in archaeological remains especially of the prehistoric and Roman periods, including several monuments with upstanding remains. These include Caer Leb Roman defended settlement (scheduled monument An014), the Pont Sarn-las hut group (scheduled monument An087) and Trefwri standing stone (An086). The Pont Sarn-las group represents the remainder of a late prehistoric settlement which reportedly formerly extended eastwards along the Afon Braint as far as Tre-Ifan (**D1530**: 01).

4. PROGRAMME OF WORK

4.1 Introduction

The project will develop an archaeological deposit model, which will take into account:

- The history of the site
- The potential impact of development on archaeological remains
- The potential impact of development on the setting of sites of archaeological importance
- The requirements for further assessment in the form of non-intrusive and intrusive field evaluation.

The project will be undertaken in four stages:

- Desk-based assessment
- Field visit
- Report compilation
- Project archive

4.2 Desk-based assessment

The desk-based assessment will involve a study of the following records

The regional Historic Environment Register (HER, GAT, Craig Beuno, Bangor, Gwynedd LL57 2RT) will be examined for information concerning the study area. This will include an examination of the core HER, and secondary information held within the record which includes unpublished reports, the 1:2500 County Series Ordnance Survey maps, and the National Archaeological Record index cards.

The National Monuments Record (NMR RCAHMW, National Monuments Record of Wales, Plas Crug, Aberystwyth, SY23 1NJ) will be checked for sites additional to the HER, and if required additional supporting information will be examined at the NMR.

Information about Listed Buildings and Scheduled Ancient Monuments from Cadw will be examined in the regional HER, with supporting information from Cadw if required. The Register of Outstanding and Special Historic Landscapes and the Register of Parks and Gardens will be checked, and also the location of World Heritage Sites.

Secondary sources will be examined, including the Inventories of the Royal Commission on Ancient and Historical Monuments for Wales, and works held within the regional libraries. Indices to relevant journals, including county history and archaeology society journals and national society journals such as *Archaeologia Cambrensis* will be checked. Also at this stage 19th century topographical dictionaries, antiquarian tours and trade directories will be examined where relevant.

Evidence from aerial photographs will be collated. Vertical and oblique collections held by the NMR, CCW and Welsh Assembly Government will be considered for examination. All photographs examined will be listed in the assessment report.

Archive maps, where relevant, will be consulted in the National Library of Wales at Aberystwyth, and at the archives of the University College of Wales, Bangor (Archives Department, College Road, Bangor, LL57 2DG). This will include the relevant estate maps and tithe maps and information from Land Tax Assessments. Where relevant antiquarian prints and photographs from the national and regional archives will be examined.

The regional archive (Ynys Môn Archives, Bryncefni Industrial Estate Llangefni LL77 7JA), will be examined as part of the assessment.

Results from previous archaeological work within the area will also be reviewed.

4.2.1 Assessment of the potential setting impacts

GAPS mitigation brief **D1530** states that an assessment of the potential setting impact should be included and should make use of any landscape and visual impact assessment work undertaken in connection with the application. This will include the use of available photomontages from points around the site a views from specific points of archaeological interest.

4.3 Field survey

This part of the assessment will involve a walkover of the study area and assessing the sites identified during the desk-based study. Any additional sites noted will also be assessed. The location of potentially well-preserved environmental deposits will be noted.

The aims of this stage of the work are to:

- verify the results of the desk based assessment
- identify any further archaeological sites which may exist as above ground features
- assess the potential for the preservation of below-ground archaeology
- assess the impact upon the historic landscape
- photograph and record the present condition of all sites noted.

Access onto land is to be arranged by the Clients.

4.4 Field Evaluation/Further Works

Following desk-based assessments field evaluation work may also be required in order to further assess the presence or absence of remains, their extent, nature, quality and character before determining the appropriate mitigation strategy, whether it be preservation *in situ*, archaeological excavation or a combination of the two.

This might include a methodology for non-intrusive survey and or intrusive evaluation to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development.

Field evaluation needs to be carefully targeted in response to proposed impact and archaeological potential. It would usually be undertaken in stages, and might typically include:

geophysical survey.

 a programme of trenching and/or test pits to investigate the deposit model in more detail.

Recommendations for any field evaluation considered necessary will be contained within the assessment report.

Specific attention will be paid during the assessment as to the suitability of the vegetation and geology for geophysical survey.

4.5 Data processing and report compilation

Following completion of the stages outlined above, a report will be produced incorporating the following:

Non-technical summary

- 1. Introduction
- 2. Aims and purpose
- 3. Specification and Project Design
- 4. Methods and techniques, including details and location of project archive
- 5. Archaeological Background
- 6. Results of assessment in the form of a gazetteer
- 7. Assessment of impacts
- 8. Proposals for field evaluation and/or mitigation
- 9. Summary and conclusions
- 10. List of sources consulted.

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included. Photographs of relevant sites and of the study area where appropriate will be included.

A draft copy of the report will be sent to the regional curatorial archaeologist and to the client prior to production of the final report.

4.6 Definition of category of importance

To assess the importance of sites and to allow the appropriate mitigatory action to be proposed for each, a framework of categories will be used with each site allocated to a particular category according to its relative importance:

Category A - Sites of National Importance.

This category includes Scheduled Ancient Monuments and Listed Buildings (Grade I and II*) as well as those sites which would meet the requirements for scheduling (ancient monuments) or listing (grade I and II* and certain grade II) or both.

Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

Category B - Sites of Regional Importance

These sites are those which would not fulfil the criteria for scheduling, but may include Listed Buildings at grade II. They are sites are of particular importance within the region. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative. Sites that are Listed have legal protection, and it is recommended that all listed buildings are preserved *in situ*.

Category C - Sites of District or Local Importance

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and Damaged Sites

These are sites which are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites the most appropriate mitigation is often rapid recording either in advance or during destruction.

Category E - Sites needing further investigation

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A-D, are temporarily placed in this category, with specific recommendations for further evaluation. This category can also apply to areas as well as to individual sites.

5. DISSEMINATION AND ARCHIVING

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record) within six months of the completion of the project. All digital data will be written to CD-ROM and stored with the paper archive.

- one or more copies (as required) will be sent to the client
- one or more copies (as required) will be sent to GAPS
- one or two copies (as required) sent to the Historic Environment Record Archaeologist for the area (HER, Gwynedd Archaeological Trust, Craig Beuno, Bangor, Gwynedd LL57 2RT);
- copies of all key digital files on optical media should be provided to GAPS and the Regional HER, including report, photographs, scans of maps etc.
- a copy of the report and/or digital files on optical media should be provided to the National Monument Record (Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth, SY23 1NJ) defendant upon their requirements

6. PERSONNEL

The work will be managed by a Senior Archaeologist within GAT Contracts Section. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required. Full details of personnel involved, with *curricula vitae*, can be supplied upon request.

7. HEALTH AND SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2006). Risks will be assessed prior to and during the work.

8. INSURANCE

Liability Insurance - Aviva Policy 24765101CHC/00045

- Employers' Liability: Limit of Indemnity £10m in any one occurrence
- Public Liability: Limit of Indemnity £5m in any one occurrence

The current period expires 21/06/13

9. OTHER

Any queries concerning the above should be directed to John Roberts, Senior Archaeologist at the Gwynedd Archaeological Trust (GAT, Craig Beuno, Garth Road, Bangor, Gwynedd, LL57 2RT; Telephone 01248352535ext229; john.roberts@heneb.co.uk).

10. SOURCES CONSULTED

Gwynedd Archaeological Planning Services mitigation brief D1530

Standard and Guidance for Archaeological Desk-based Assessment (Institute for Archaeologists, 1994, rev. 2001 & 2008)



