

18.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

18.1 INTRODUCTION

IAC Archaeology has prepared and updated this chapter to assess the impact, if any, on the archaeological and cultural heritage resource of the proposed wind farm development at Bord Na Móna Oweninny Bog, County Mayo (Figure 18.1).

This chapter was prepared by Faith Bailey (MA Cultural Landscape Management, BA (Hons) Archaeology, MIAI, MCIfA) and Jacqui Anderson, (MA Archaeology, BA Archaeology and Classics, MIAI) of IAC Archaeology. Faith is also a licence eligible archaeologist, a member of the Chartered Institute of Field Archaeologists, a member of the Institute of Archaeologists of Ireland and has over 19 years' experience working in commercial cultural heritage sector. She has been responsible for the production and delivery of multiple assessments and EIAR for renewable energy projects, including The Yellow River Wind Farm (Co. Offaly), Derrysallagh Wind Farm (Co. Sligo), Derreenacrinnig Wind Farm (Co. Cork) and the Robertstown Wind Farm (Co. Waterford).

This study determines, from existing records, the nature of the archaeological, architectural and cultural heritage resource in and within the study area of the proposed development using appropriate methods of study. The study area is defined as an area measuring 2km from the proposed turbines. Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic, and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (ClfA 2014).

This leads to the following:

- Determining the presence of known cultural heritage assets that may be affected by the proposed development;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the impact upon the setting of known cultural heritage sites in the surrounding area; and
- Suggested mitigation measures based upon the results of the above research.

The study involved detailed interrogation of the archaeological and historical background of the proposed development area. This included information from the Record of Monuments and Places of County Mayo, the topographical files of the National Museum of Ireland, and cartographic and documentary records. Inspection of the aerial photographic and satellite imagery coverage of the proposed development area held by the Ordnance Survey, Bing Maps, and Google Earth has also been carried out (Jan-April 2022). A field inspection has been carried out in an attempt to identify any known archaeological and cultural heritage sites and previously unrecorded features, structures, and portable finds within the proposed development area.

An impact assessment and a mitigation strategy have been prepared. The impact assessment is undertaken to outline potential likely significant impacts that the proposed development may have on the cultural heritage resource, while the mitigation strategy is designed to avoid, reduce, or offset such adverse impacts (where required).

18.1.1 Definitions

In order to assess, distil and present the findings of this study, the following definitions apply:

‘Cultural Heritage’ where used generically, can be an over-arching term applied to describe any combination of archaeological, architectural, and cultural heritage features, where the term:

- ‘Archaeological heritage’ is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places).
- ‘Architectural heritage’ is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700.
- ‘Cultural heritage’, where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations.

18.1.2 Consultation

Following the initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the baseline environment, receiving environment and study area, as follows:

- Department of Housing, Local Government and Heritage – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders and Register of Historic Monuments;
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland;
- Mayo County Council: Planning Section; and
- Historical and Ordnance Survey Maps.

18.1.3 Guidance and Legislation

The following legislation, standards and guidelines were consulted as part of the assessment.

- National Monuments Act, 1930 to 2014;
- The Planning and Development Acts, 2000 (as amended);
- Heritage Act, 1995 (as amended);
- Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), 2015, EPA;
- Guidelines on the Information to be Contained in Environmental Impact Assessment Report 2022, EPA;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht, and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.

18.2 ASSESSMENT METHODOLOGY

The following sources were examined between January and April of 2022 and a list of heritage assets and areas of archaeological and cultural heritage potential was compiled:

- Record of Monuments and Places for County Mayo;
- Sites and Monuments Record for County Mayo;
- National Monuments in State Care Database;
- List of Preservation Orders;
- Register of Historic Monuments;
- Topographical files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the receiving environment;
- The development plan for County Mayo;
- National Inventory of Architectural Heritage County Mayo (Architectural & Garden Survey);
- Aerial photographs;
- Excavations Bulletin (1970--2021); and
- Place name analysis

Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments Act (1994 amendment) which provides that the Minister for Housing, Local Government and Heritage shall establish and maintain a record of monuments and places (RMP) where it is known that such monuments exist. The record comprises of a list of monuments and relevant places and mapping showing each monument and relevant place in respect of each county in the State. Sites recorded on the RMP all receive statutory protection under the National Monuments Act. All sites listed on the RMP are referred to as Archaeological Heritage (AH sites) within this assessment.

Sites and Monuments Record (SMR) holds documentary evidence and records of field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site

type and townland are recorded. These are known to the National Monuments Section as termed 'un-located sites' and cannot be afforded legal protection. As a result, these are omitted from the Record of Monuments and Places. SMR sites are also listed on a website maintained by the DoHLGH – www.archaeology.ie. All sites listed on the Sites and Monuments Record are referred to as Archaeological Heritage (AH sites) within this assessment.

It should be noted that revisions are proposed to the RMP and SMR, with some sites listed as redundant records and proposed for removal and other, newly discovered sites, proposed for inclusion. As the revisions have yet to take place, all current RMP/SMR sites are listed as AH sites within this assessment, with the relevant detail provided as to the nature and extent of each site included.

National Monuments in the State Care Database is a list of all the National Monuments in the State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of each monument.

A National Monument receives statutory protection and is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act, 1930, Section 2).

The Minister for Housing, Local Government and Heritage may acquire National Monuments by agreement or by compulsory order. The State or Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister. There are no National Monuments located within the footprint of the proposed Project, the closest is located 6km to the southeast.

Preservation Orders List and/or Temporary Preservation Orders, can be assigned to a site or sites that are deemed to be in danger of injury or destruction. Orders are allocated under the National Monuments Act, 1930. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the National Monuments Act, 1954. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the

Minister (DoHLGH). There are no sites that possess Preservation Orders within the Project, the closet is located 6km to the southeast.

Register of Historic Monuments was established under Section 5 of the 1987 amendment to the 1930 National Monuments Act and requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas included in the register are afforded statutory protection under the National Monuments Act 1987 amendment. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the RMP.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the proposed Project and its receiving environment as well as providing important topographical information on areas of archaeological potential and the construction of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape. These include current and former townland and parish boundaries.

All sites of potential archaeological or architectural heritage merit identified during the map analysis are listed as Cultural Heritage (CH) sites within this assessment. In addition, all Areas of Archaeological Potential (AAPs) identified during the analysis of mapping (and other sources including field inspection) are referred to as AAPs within this assessment.

Documentary sources were consulted to compile background information on the archaeological, architectural and cultural heritage receiving environment of the proposed Project and replacement lands. A full list of references is given in Section 7.

Development Plans contain a catalogue of all the Protected Structures, archaeological sites and Architectural Conservation Areas within every county. The Mayo County Development Plan (2022-2028) was examined as part of this assessment. All protected structures are referred to as Built Heritage sites (BH) as part of this assessment.

The National Inventory of Architectural Heritage (NIAH) was established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. It is a government-based organisation tasked with making a nationwide record of locally, regionally, nationally and internationally significant structures dating to post-1700 AD, which in turn provides county councils with a guide as to what structures to list within the Record of Protected Structures. Only those structures of regional importance or above are included in the Minister's recommendations for inclusion in the RPS. The NIAH have also carried out a nationwide desk-based survey of historic gardens, including demesnes that surround large houses. All NIAH structures are referred to as Built Heritage sites (BH) as part of this assessment.

Whilst the NIAH Garden Survey was utilised as part of this assessment, this was carried out in conjunction with detailed analysis of the first edition Ordnance Survey maps and field inspection, in order to identify any designed landscapes (DL) within the receiving environment of the proposed Project.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides information on the terrain and its likely potential for archaeology. Ordnance Survey aerial photographs Survey (1995–2013), Google Earth (2009–2017) and Bing Maps (2021) were examined for this assessment.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is also available online (www.excavations.ie) from 1970-2022. Information from this resource is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files.

Place Names are an important part in understanding both the archaeology, history and cultural heritage of an area. Place names can be used for generations and in some cases have been found to have their roots deep in the historical past. The main references used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870), and the Place Names Database of Ireland (www.loganim.ie).

18.2.1 Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological, architectural, and cultural heritage remains and can also lead to the identification of previously

unrecorded or suspected sites and portable finds through topographical observation and local information.

The field inspection for the proposed project was carried out on the 18th of February 2022 and entailed:

- Noting and recording the terrain type and land usage;
- Noting and recording the presence of known and previously unknown features of archaeological, architectural or cultural heritage significance;
- Verifying the extent and condition of recorded sites and structures (RMPs/ RPS/ NIAH); and
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin and of archaeological, architectural or cultural heritage significance.

18.3 IMPACT ASSESSMENT METHODOLOGY

Each archaeological and cultural heritage receptor within the study area has been assessed in terms of its sensitivity, the type of potential impact, magnitude of same and the potential significance of the effect/impact.

The quality and type of an impact can be classed as one of the following (as per the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022)):

- Negative Impact: A change which reduces the quality of the environment, for example a change that will detract from or permanently remove an archaeological, architectural or cultural heritage site from the landscape;
- Neutral Impact: A change which does not affect the quality of the environment; or
- Positive Impact: A change which improves the quality of the environment, for example a change that improves or enhances the setting of archaeological, architectural or cultural heritage site.

The below terms are used in relation to the archaeological, architectural and cultural heritage and relate to whether a site will be physically impacted upon or not:

- Direct Impact: Where an archaeological/architectural/cultural heritage feature or site is physically located within the footprint of the proposed development and entails the removal of part, or all, of the monument or feature; and
- Indirect Impact: Where a feature or site of archaeological, architectural or cultural heritage merit or its setting is located in close proximity to the footprint of a development.

18.3.1 Significance of Effects

Impact Definitions (as defined by the EPA 2022 Guidelines):

- Imperceptible: An effect capable of measurement but without noticeable consequences.

- Not significant: An effect which causes noticeable changes in the character of the environment but without noticeable consequences
- Slight Effects: An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Moderate Effects: An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- Significant Effects: An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
- Very Significant: An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
- Profound Effects: An effect which obliterates sensitive characteristics.

18.4 THE RECEIVING ENVIRONMENT

18.4.1 Archaeological and Historical Background

The proposed development is located within a cutover Bord na Móna bog in County Mayo. There are two recorded monuments within the overall project redline boundary, a ringfort (AH2) and a court tomb (AH1). A further five archaeological sites are located within the 2km study area, all of which are recorded monuments. One structure listed within the NIAH is located within the study area (BH1) but there are no protected structures located within the study area (Figure 18.2).

18.4.1.1 Prehistoric Period

18.4.1.1.1 Mesolithic Period (7000–4000 BC)

Until recently, the Mesolithic period was believed to be the first time for which there was evidence of human occupation on the island of Ireland. Recent research by Dowd and Carden has suggested there may have been a human presence in the southern half of Ireland as early as the Upper Palaeolithic (2016). During the Upper Palaeolithic, most of Ireland would have been beneath extensive glaciation, likely including the area of the proposed development in County Mayo. It has long been suggested that if humans were present on the island, they would have been confined to the southwest for much of the period prior to the Mesolithic (Woodman 1998). Re-examination of a butchered brown bear patella originally found in Alice and Gwendoline Cave (County Clare) in 1903, revealed evidence of butchery marks and was dated to 12,810–12,590 cal BP and 12,810–12,685 cal BP. Expert zoo-archaeological analysis revealed the patella was butchered with a lithic tool, after a ‘short post mortem interval’ and therefore the marks could not have been made later than the Upper Palaeolithic (Dowd and Carden 2016). Furthermore, it was deemed impossible that the bear patella was deposited by glacial action as it showed no evidence of being weathered (ibid.).

During the Mesolithic people hunted, foraged and fished for sustenance, leading transient lifestyles. Coastal and riverine locations were particularly favourable as a result. Lakes and rivers, provided fresh water and fish, as well as attracting animals. It has been suggested that fish and fowl played a larger role in the diets of Irish people during the Mesolithic when compared to their European counterparts as Ireland had a less diverse range of large mammals to hunt (Woodman et al 1997). Rivers also provided a transport network through a landscape, which was heavily forested in places. Due to the mobile nature of the Mesolithic lifestyle, little evidence remains in terms of settlement. Often the only trace of Mesolithic activity are scatters

of stone tools and the by-products of their manufacture (debitage). Occasionally, shell middens are also found to date to the Mesolithic period.

There are no Mesolithic sites recorded within the receiving environment of the proposed project.

18.4.1.1.2 Neolithic Period (4000–2500 BC)

The Neolithic period is marked by the introduction of agriculture to Ireland and the widespread adoption of agriculture as a way of life. Agriculture facilitated a more sedentary lifestyle. Settlement became more permanent, with rectangular timber houses constructed, sometimes with internal divisions and hearths. Significant social change accompanied the transition from Mesolithic to Neolithic. A new-found concern for claims to land on which to farm contributed to the tradition of megalithic tomb construction in the Neolithic. There are four types of megalithic tombs: court tombs, portal tombs, passage tombs and later wedge tombs. Megalithic tombs were communal tombs and ceremonial centres. They are monumental structures that would have required a high level of cooperation and planning to achieve, suggesting complex Neolithic societies.

Court tombs are considered to be the earliest form of megalithic tombs in Ireland and only appear in the northern half of the island. In fact, according to the Survey of Megalithic Tombs of Ireland, County Mayo has the highest number of court tombs for any county in Ireland (De Valéra and O' Nualláin 1964). Court tombs, sometimes known as court cairns, were communal burial places with the cremation usually being the dominant form of funerary practice. A court tomb (AH1) is recorded within the overall redline boundary of the proposed project, in the townland of Shanvodinnaun. This particular example is in poor state of preservation (SMR file).

It should be noted that the proposed development is located within a bogland landscape, albeit that peat has been substantially removed and the area is now considered to be 'worked out' and depleted of peat. Boglands have long been known to have held some significance to prehistoric populations. This fact, coupled with the fact that preservation of organic materials and artefacts is much more likely in a wetland environment, means that intact or semi-intact bogs are considered to have a high archaeological potential.

18.4.1.1.3 Bronze Age (2500–800 BC)

The Bronze Age is marked by the use and production of metal in Ireland for the first time. Wedge tombs represent the final phase of megalithic tomb construction in Ireland, they generally date

to the early Bronze Age and are concentrated largely in the west of Ireland. A wedge tomb (AH3) is located c. 1.1km to the east of proposed Turbine 17 in the townland of Doobehy.

As stated above, wedge tomb construction continued into the early Bronze Age, but declined with burial of the individual becoming favoured over the communal approach of the megalithic tomb tradition. Individuals were cremated or inhumed, sometimes in cemeteries and often accompanied by a pottery vessel. The most common indicator of Bronze Age activity is the fulacht fia or burnt mound. These sites are identifiable as horse-shoe shaped mounds of charcoal-rich material and burnt stone, often in associated with one or more trough features. Their function was to heat water using hot stones in a trough. Traditionally they were interpreted as cooking sites, following experiments in the 1950s, which successfully boiled mutton in this manner (O'Kelly, 1954). More recently this interpretation has been questioned given that the vast majority of fulachta fia sites do not produce significant amounts of animal bone. Alternative interpretations include brewing, (Quinn and Moore, 2009), tanning (Waddell, 1998) and bathing (Eogan and Shee Twohig, 2012). Fulachta fia require a water source to fill the trough and are usually located in boggy, marshy land or beside a river or stream. The Owenogarney stream runs northwest to southeast through the proposed development area, although no evidence for fulachta fia were noted during the field inspection.

Another example of Bronze Age activity in the area are the standing stones recorded (AH4-6) to the south of the proposed development. Standing stones are difficult to date; however, it is generally accepted that they belong to the Bronze Age and/or Iron Age. While relatively few have been excavated, it has been suggested some may act as grave markers. Boundary or route way markers have also been suggested as functions of standing stones. AH4 is located on a ridge within extensive peatland. AH5 is located on the summit of a drumlin hill and is secured by a number of smaller packing stones at its base. AH6 is a very large stone, also located at a prominent height, but is incorrectly located on the original RMP map. The location given on the RMP map and also the updated location are shown on Figure 18.2. It should be noted that some standing stones represent cattle scratching posts erected in relatively recent times, although it seems unlikely in this case of these standing stones, which are all located in prominent location in the landscape, a common characteristic of prehistoric standing stones.

Occasionally standing stones are arranged in a row or line. There is a stone row (AH7), defined as a group of three or more standing stones, located c. 1.67km to the south of the proposed project in the townland of Dooleeg More. It is recorded as a group of three boulders aligned NNE-SSW (SMR file).

18.4.1.1.4 Iron Age (800 BC–AD 500)

The Iron Age has traditionally been viewed as a period for which there is relatively little evidence in Ireland. The adoption of iron as a material preferred over bronze appears to have happened slowly. There are two phases of the Irish Iron Age, as in Europe, the earlier Hallstatt and the later La Tene, each with its own distinctive metalwork styles. Strong links with Europe are evident, with ideas clearly transmitting both from Europe to Ireland and Ireland to Europe, as well as materials. Various discoveries of Roman artefacts in Ireland suggest particularly strong links across the Irish Sea at the time.

There are no recorded sites of Iron Age date within the study area of the proposed development.

18.4.1.2 Early Medieval Period (AD 500–1100)

The early medieval period is depicted in the surviving sources as entirely rural. It is estimated that there was as many as 150 kings in Ireland during this time, each ruling over the basic territorial unit- the túath (Byrne 1973). A túath has been described not only as a unit of land but also as a 'people' or 'community of farmers' (Stout 2017). If current estimates placing the population of early medieval Ireland at between quarter and half a million people are correct, the king of a túath would have ruled between 1,700 and 3,300 subjects (ibid.). Many of these subjects would have lived in ringforts from the 6th century onwards.

Ringforts are described as farmsteads defended by a circular enclosure. The need for defences does imply that boundaries, territories and leadership changed frequently in the early medieval period. The enclosure of a ringfort may consist of a single bank and ditch (univallate) or two or more lines of defences (bivallate or multivallate). Traditionally, the occupants of multivallate ringforts are considered to be of higher status, perhaps local leaders (Edwards 1996). There are over tens of thousands of ringforts recorded across Ireland; however, many have been levelled in recent centuries to facilitate more efficient agriculture. While those sites affected may not be visible at ground level, they commonly survive as sub-surface features. Furthermore, any sites recorded as enclosures may represent ringforts. They may have been recorded as enclosures because they are too denuded to classify or because they do not conform to the accepted shape or measurement ranges of the ringfort. Earthen ringforts are known as raths, while those enclosed by stone walls are termed cashels. Cashels are more common in the west of Ireland where stone is more readily available as a building resource. There are also examples of ringforts, which are defended by a combination of earthen and stone-built defences. A ringfort,

that may represent a cashel (AH2) is recorded within the overall redline boundary of the proposed project in the townland of Corvoderry.

18.4.1.3 Medieval Period (AD 1100–1600)

The medieval period began with the arrival of the Anglo-Normans in Ireland in AD 1169 to support Diarmait MacMurchadha, deposed King of Leinster, to regain his kingdom. Two years later Richard de Clare (Strongbow) inherited the Kingdom of Leinster through marriage and by the end of the 12th century the Normans had succeeded in conquering much of the country (Stout and Stout 1997).

There are no recorded sites of medieval date within the study area of the proposed project, most likely due to the marginal nature of the landscape.

18.4.1.4 Post-Medieval Period (AD 1600–1800)

A review of historic mapping has shown that the study area was characterised by extensive bog throughout the post-medieval period. A small number of vernacular structures and farmsteads are visible in the wider landscape on the first edition OS map of 1839; however, none of these are located in the immediate vicinity of the proposed development.

The 17th and 18th centuries saw the established of large country houses and associated demesnes across the country. The receiving environment was not suitable for such established given that it was largely uninhabitable bog land.

Bellacorick Bridge (NIAH 31302702, BH1) is located c. 276m southwest of the proposed project. This bridge dates to 1820 and spans the Owenmore River. The bridge is known colloquially as ‘the Musical Bridge’ and a weathered benchmark is notable on the bridge, which testifies to the work of the Ordnance Survey in the area in the 19th century (NIAH Survey). The following detail is noted with regards to the bridge (www.mayo-ireland.ie/en/about-mayo/history/bridges-in-co-mayo).

‘Music may be produced in two separate ways: Firstly, if one rolls a stone along the parapet, the musical notes are produced in rapid succession as the stone drops. Secondly, one may hold the stone in one’s hand then strike it on the slabs (that had formed the coping of the parapet, as one travels along) also when a stone strikes the bridge one must draw back the hand immediately.’

The bridge does indeed possess musical qualities and there are numerous online videos in existence that demonstrate the notes produced when a stone is rubbed across the cap stones of the parapet walls.

18.4.2 Summary of Previous Archaeological Fieldwork

A review of the Excavations Bulletin (1970–2022) has revealed that a number of previous archaeological investigations have taken place within the study area of the proposed project, which are summarised below.

Oweninny Bog, including a large portion of the overall proposed project boundary, was previously subject to archaeological survey as part of the Peatland Survey 2003 (Licence Refs.: 03E1319 and 03E1320). No archaeological features or deposits were noted within the area of the proposed project (Bennett 2003:1320). A possible mass path was identified in the townland of Drumanaffrin, outside of the study area of the proposed project (Bennett 2003:1296).

Archaeological monitoring was carried out within the townland of Shanvodinnaun, under licence 17E0418, in advance of the erection of a wind mast. A total of 23 anchor point trenches were excavated under archaeological supervision. Nothing of archaeological significance was identified (Bennett 2017:143).

Archaeological monitoring was undertaken (unlicensed) in the townland of Srahnakilly in advance of the construction of a wind monitoring mast. No archaeological features were identified and no archaeological artefact were recovered (Bennett 2020:496).

Archaeological monitoring of groundworks associated with the erection of a meteorological mast was carried out under licence 16E0384. Nothing of archaeological significant was recorded (Bennett 2016:339).

Archaeological testing was carried out in the townland of Bellacorick, to the west of the proposed development area. The peat was recorded as deep as 1.7m in places. Nothing of archaeological significance was identified (Licence Ref.: 11E0101, Bennett 2011:447).

Archaeological monitoring was carried out during the construction of Phase 2 of Oweninny Wind Farm in 2021 but nothing of archaeological significance was identified.

18.4.3 Cartographic Analysis

18.4.3.1 Down Survey of the Barony of Tirawley, 1654-6

This mapping was concerned with the identification and recording of land ownership as opposed to the accurate mapping of topographical features or towns and villages. Occasionally major features in the landscape (for example castles or churches) are shown. The receiving environment of the proposed project is depicted as largely marginal land with mountainous areas and bog. No structures are shown within the area.

18.4.3.2 First Edition Ordnance Survey Map, 1839, scale 1:10,560

The overall redline boundary area is shown in this mapping as marginal bog, interspersed with small bodies of water, some of which are named loughs and others are unnamed. A large number of watercourse, streams and small rivers, are also notable in the landscape. Neither of the recorded monuments within the overall redline boundary, ringfort (AH2) nor court tomb (AH1) are depicted on this mapping. Bellacorick Bridge (BH1) is annotated adjacent to a police station. There are no structures or features of archaeological potential shown within the areas of the proposed infrastructure.

18.4.3.3 Third Edition Ordnance Survey Map, 1920, scale 1:10,560

There is no significant change within the overall project redline boundary by the time of this mapping in 1920.

18.4.4 County Development Plan

18.4.4.1 Record of Monuments and Places

The Mayo County Development Plan (2022-2028) recognises the statutory protection afforded to all Record of Monuments and Places (RMP) sites under the National Monuments Legislation (1930-2014). The development plans list a number of aims and objectives in relation to archaeological heritage (Appendix 18.3).

There are two recorded monuments within the overall project redline boundary. A further five archaeological sites are located within the 2km study area, all of which are recorded monuments (Table 18.1; Figure 18.1; Appendix 18.1). These sites have been designated AH1-7 for the purposes of this assessment.

None of the archaeological sites in the receiving environment are National Monuments in State Care or subject to Preservation Orders.

Table 18.1: Recorded Archaeological Sites

AH NO.	RMP NO.	LOCATION	CLASSIFICATION	DISTANCE TO DEVELOPMENT
AH1	MA028-001	Shanvodinnaun	Megalithic tomb - court tomb	Within the overall project redline
AH2	MA028-007	Corvoderry	Ringfort (cashel)	Within the overall project redline
AH3	MA028-010	Doobehy	Megalithic tomb - wedge tomb	1.1km east
AH4	MA028-002	Dooleeg More	Standing stone	1.17km south
AH5	MA028-005	Dooleeg More	Standing stone	975m south
AH6	MA028-004	Dooleeg More	Standing stone	1.46km south
AH7	MA028-006	Dooleeg More	Stone row	1.67km south

18.4.4.2 Record of Protected Structures

The Mayo County Development Plan (2022-2028) recognises the value of the built heritage to the county and are committed to the protection and enhancement of this heritage by providing measures for the protection of architectural heritage. These include the establishment of a Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACAs) which are detailed in Appendix 18.4. There are no protected structures within the study area of the proposed development. Similarly, the proposed project is not included within an Architectural Conservation Area.

18.4.5 National Inventory of Architectural Heritage

18.4.5.1 Building Survey

The National Inventory of Architectural Heritage (NIAH) survey of County Mayo was carried out in 2008-2013. A review of the architectural survey was undertaken as part of this assessment. Only one structure is listed in the NIAH within the study area of the proposed project, Bellacorick Bridge (NIAH 31302702, BH1, Appendix 18.2), c. 276m southwest of the development. This bridge dates to 1820 and spans the Owenmore River. It is not a protected structure.

18.4.5.2 Garden Survey

The first edition Ordnance Survey map of County Mayo (1839) shows the extent of demesne landscapes as shaded portions of land within the study area. These were established as a naturalised landscaped setting for the large houses of the landed gentry.

The study area of the proposed project was marginal bog throughout the post-medieval period and likely for many centuries prior and was therefore not the ideal setting for a country house and associated demesne. There are no demesne landscapes shown on the first edition OS map of 1838 within 2km of the proposed development and none recorded for the area within the NIAH Garden Survey.

18.4.6 Topographical Files of the National Museum of Ireland

Information on artefact finds from the study area in County Mayo has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area.

The recorded stray finds from within the receiving environment of the proposed project are detailed below in Table 18.2. The precise find locations of these artefacts remains unclear.

Many of the records relate to 'Bog Butter', which refers to dairy products, often contained within wooden vessels that have been deposited in bogs. In many cases this practice served to preserve the dairy products for consumption at a later date, but some of the early examples may indicate some form of votive deposits. As detailed earlier, boglands are known to have held some significance to prehistoric populations. Examples of bog butter have been dated from as early as the Bronze Age and as late as the 17th century (Smyth et. al 2019).

Table 18.2: Stray Finds recorded by the National Museum of Ireland

NMI REF.	FIND
1958:15	Wooden Keg
1986:57	Wooden Vessel containing Bog Butter
2000:68	Three Horseshoes
1986:39	Wooden Vessel with Bog Butter
1960:609 (a-b)	Bog Butter in Wooden container
1983:84	Wooden keg with Lid containing Bog Butter
1961:188	Decorated Wooden Vessel (containing Bog-Butter)
1970:4	Wooden Yoke
1985:103	Wooden Vessel containing Bog Butter
1977:1211	Bronze Dagger

18.4.7 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995–2013), Google Earth (2009–2017), and Bing Maps (2021) revealed that the proposed development area is largely characterised by worked out bog with the former workings clearly visible. There is a significant number of areas of water, small lakes and ponds within the area. Ringfort (AH2) is visible in the OSI imagery as a raised stone sub-circular feature. The bog was formerly crossed by small rail tracks associated with the extraction of peat and whilst the path of these railbeds are visible within the photography, the rail lines are no longer present in the aerial coverage.

No previously unknown features of archaeological potential were noted in the aerial photography and satellite imagery.

18.4.8 Field Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report. During the course of the field investigation the proposed development area and its surrounding environs were inspected (Figure 18.1).

The field inspection was carried out on the 18th of February 2022 and focused on the proposed internal infrastructure within the overall redline boundary.

A significant portion of the internal routeways of the proposed project will utilise existing Bord na Móna routeways, whether that be the existing road network or former railbeds noted in the aerial photographic coverage. An existing wind farm, is located to the immediate northwest of

the proposed development area and roads established as part of that development will be utilised as part of this development.

Remnant peatland has been avoided by the turbine design, although there have been areas of regeneration in the overall bog in the past 20 years. Turbines 8-10 and 11-15 are within areas of regeneration (Plates 1.1-2). Turbines 16-18 are located within areas of scrub regeneration or on small drumlins (Plate 1.3).

AH2, recorded ringfort, is located c. 142m northeast of a proposed access route, within an area of worked peat. It was visible as a denuded raised mound during the field inspection, but was very overgrown. The closest proposed turbine will be located c. 2.12km to the northeast (Turbine 13). AH 1, recorded court tomb, is located c. 570m west of Turbine 11, but remains relating to the monument could not be located at ground level.

BH 1, Bellacorick Bridge remains present to the southwest of the proposed development area and carries traffic along the N59 across the River Owenmore River. It is a substantial structure and is in good condition. The closest turbine (Turbine 5) is located c. 1.96km to the northeast.

Approximately 80m west-northwest of BH 1, is the semi-derelict remains of The Musical Bridge Inn. This is a two-storey, heavily modified vernacular structure that fronts onto the northern side of the N59 and is likely to date to the late 19th century. There are no remains of the Police Constabulary Building (as described in Section 18.4.3.2), located in this area, as marked within the historic mapping.

No previously unknown features of archaeological significance were identified during the field inspection. Whilst the bogland landscape containing the proposed development has been subject to peat extraction, it still retains an overall archaeological potential.



Photo 18.1: Location of Turbine 8, facing northeast



Photo 18.2: Location of T11, facing southwest



Photo 18.3: Location of Turbine 16, facing east-southeast

18.4.9 Results of Monitoring of SI Works

In 2020 and 2021 archaeological monitoring of groundworks associated with Site Investigation works was carried out within the overall proposed project redline boundary (Licence Ref.: 20E0620, O'Regan and Murtagh 2020). A total of 83 Trial Pits were excavated across the site as part of the Site Investigation works. A single Trial Pit (TP37) contained pieces of worked wood, which may indicate an area of archaeological interest. The limited nature of the monitoring investigations at TP37 did not provide significant information on the typology or vertical and horizontal extent of this potential archaeological feature. The location of TP37, as shown on Figure 18.3, will not be affected by the proposed development as it is located outside of the footprint of the proposed infrastructure.

18.4.10 Cultural Heritage

Cultural heritage assets can incorporate both archaeological and built heritage remains, which have statutory protection or which have not been previously recorded as heritage assets in any known datasets. Cultural heritage can also incorporate more ephemeral aspects of the heritage environment, including folklore. A number of sources were reviewed in order to identify cultural heritage assets within the receiving environment. These included the historic Ordnance Survey (OS) mapping, aerial photographic coverage and field inspections.

No previously unrecorded cultural heritage sites have been identified within the study area of the proposed development, with the exception of BH 1, 'The Musical Bridge', where it is possible to produce musical notes when running stones along the coping stones of the parapet wall.

18.4.10.1 Toponymy of Townlands

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site, and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830's and 1840's, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870). A description and possible explanation of each place name in the environs of the proposed development area are provided in the below table.

Table 18.3: Townlands within study area

Townland	Derivation	Possible meaning
Uggool	<i>Ogúl</i>	junction; connecting piece of land
Srahnakilly	<i>Srath na Cille</i>	River-meadow of the church
Shanvolahan	<i>Seanbhóth leathan,</i>	Broad old Booth or hut
Shanvodinnaun	<i>Sean bhoth Doineáin,</i>	Dinan's old hut
Moneynerin	<i>Muine an iarainn</i>	Brake of the iron
Laghtanvack	<i>Leachta an Bhaic</i>	Monument of the bend
Lackalustraun	<i>Leac an Loistreáin</i>	Flat stone of the singed corn
Knockmoyle	<i>An Cnoc Maol</i>	The flat-topped hill
Killsallagh	<i>Coill Salach</i>	The willow wood
Formoyle	<i>Formaoil</i>	Round hill
Eskeragh	<i>Eiscealach</i>	Place abounding in ridges of sandhills
Dooleeg More/Beg	<i>Dumha Liag Mór/ Bheag</i>	Great stone (More and Beg likely added at a later date when the townland was sub-divided)
Doobehy	<i>Dúbeithigh</i>	Black birch
Derry Upper/ Lower	<i>Doire Uachtair/ Íochtair</i>	Oak grove (Upper and Lower likely added at a later date when the townland was sub-divided)
Croaghaun	<i>Cruachán</i>	Peak
Corvoderry	<i>Corr Bhotha Doire</i>	Odd hut of the oak wood
Corravokeen	<i>Corr an Bhuaicín</i>	Round hill of the point
Bellacorick	<i>Béal Átha Chomhraic</i>	Mouth of the ford of the confluence

18.4.10.2 Townland Boundaries

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. The term townland was not used to denote a unit of land

until the Civil Survey of 1654. It bears no relation to the modern word 'town' but like the Irish word baile refers to a place. It is possible that the word is derived from the Old English tun land and meant 'the land forming an estate or manor' (Culleton 1999, 174).

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (ibid. 179).

The vast majority of townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully 'laid downe' on paper at a scale of forty perches to one inch. Therefore, most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

In the 19th century, some demesnes, deer parks or large farms were given townland status during the Ordnance Survey and some imprecise townland boundaries in areas such as bogs or lakes, were given more precise definition (ibid.). Larger tracks of land were divided into a number of townlands, and named Upper, Middle or Lower, as well as Beg and More (small and large) and north, east, south and west (Culleton 1999, 179). By the time the first Ordnance Survey had been completed a total of 62,000 townlands were recorded in Ireland.

Although not usually recorded as archaeological monuments in their own right, townland boundaries are important as cultural heritage features. It remains unclear how old some of these land units actually are, though it has been convincingly argued that many may date to at least the medieval period and, in some cases, may be significantly older than this (McErlean 1983; MacCotter 2008).

In the case of the townland boundaries within the overall proposed project redline boundary, there is no physical boundary in many cases, as the landscape was once entirely occupied by bog. In this instance the townland boundaries are likely to have been formed relatively recently and recorded by the Ordnance Survey in the 19th century. These boundaries are shown on Figure 18.4.

18.4.11 Summary

The proposed development is located within a cutover Bord Na Mona bog in County Mayo, known as Oweninny Bog. The wind farm development consists of turbine erection, and associated infrastructure, which is located within an overall project redline boundary.

There are two recorded monuments within the overall project redline boundary, a ringfort (AH2) and a court tomb (AH1), although these sites are located at a significant distance from the proposed turbines. A further five archaeological sites are located within the study area, all of which are recorded monuments. One structure is listed within the NIAH is located within the study area of the proposed project, Bellacorrick Bridge (BH1). There are no protected structures or Architectural Conservations Areas within the study area. Similarly, no designed landscapes have been identified within 2km of the development.

Archaeological monitoring of SI works within the overall project redline boundary was carried out under licence 20E0620 (O'Regan and Murtagh 2020). A total of 83 Trial Pits were excavated across the site as part of this phase of works. A single Trial Pit (TP37) contained pieces of worked wood, which may indicate an area of archaeological interest. The limited nature of the trial pit did not allow for the confirmation of the archaeological nature of this area or the extent of any such features. The location of this test pit will not be affected by the proposed development as it is located outside of the footprint of the proposed roads and turbines.

The cartographic sources show the proposed development area comprised bogland and marginal ground throughout the post medieval period. The landscape was characterised by small bodies of water and watercourses until the commencement of peat extraction in the 20th century. The satellite imagery shows that many of the access roads associated with the proposed project will follow existing trackways within the bog that are associated with an adjacent wind farm (to the northwest) and the former small railway system that crossed the bog and enabled extraction and transport of peat. The evidence of past peat extraction is clearly visible in the aerial photography and satellite imagery.

No specific cultural heritage sites have been identified within the study area of the proposed project with the exception of 'The Musical Bridge' (BH 1), which is not only recorded in the NIAH but is well known for producing musical notes when a stone is rubbed along the coping stones of the bridge parapet.

The townland boundaries within the overall project redline boundary likely reflect relatively recent boundaries and, in many cases, no physical boundary is present within the bog. The

placename analysis of the townland names within the study area indicates that all of the names derive from the Irish language and relate to topographical features as well as man-made landmarks within the landscape.

While the proposed project is located within boglands, which are generally considered to be of high archaeological potential, large areas of the bog have been subject to peat extraction, which is likely to have impacted any archaeological features that may have been preserved within the bog.

18.5 LIKELY SIGNIFICANT EFFECTS

18.5.1 Do-Nothing Scenario

There will no impact on the archaeological, architectural or cultural heritage resource if the proposed development does not go ahead.

18.5.2 Construction Phase

There are no recorded archaeological, architectural or cultural heritage sites located within the footprint of the proposed project, therefore, there are no predicted impacts to the recorded heritage resources during the construction phase.

Previously unknown archaeological sites and features may survive below the current ground level across the proposed project. Ground disturbances associated with the proposed development, such as the construction of access roads and excavations for turbines bases, have the potential to result in direct and negative impacts on any such remains. Prior to the application of mitigation these impacts have the potential to range from moderate to profound negative (and permanent), depending on the nature, extent and significance of any such archaeological features.

18.5.3 Operational Phase

Potential indirect negative impacts may occur in relation to the setting of AH1 but these are considered to be not significant in nature due to the fact that the remains of the court tomb are currently not identifiable above ground and the site is surrounded by existing commercial forestry.

Potential indirect negative impacts may occur in relation to the setting of AH3 but these are considered to be slight in nature due to the fact that the remains of the tomb are located c. 1.1km to the east of the nearest proposed turbine.

There are no predicted operational impacts to the setting of BH1, or the remaining AH sites, due to the distance of separation from the proposed turbines and the relevant sites.

18.6 MITIGATION

18.6.1 Construction Phase

All stripping of topsoil/peat across the proposed development area will be monitored by a suitably qualified archaeologist. Should any features of archaeological potential be discovered during the course of the works the DoHLGH will be informed immediately and archaeological excavation (preservation by record) or in-situ will be required. Any further mitigation, such as preservation by record, will require a licence and approval from the DoHLGH.

18.6.2 Operational Phase

No mitigation measures for the operational phase of the project are required.

18.7 RESIDUAL IMPACTS

Following the implementation of the above mitigation measures, there will be no significant residual impacts on the archaeological, architectural or cultural heritage resource. This is due to the fact that any archaeological remains that are encountered during the course of monitoring will be subject to preservation by record.

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