



Cush Wind Farm
Phase II

Environmental Impact Assessment Report

Chapter 11: Cultural Heritage

Cush Wind Limited

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11.1 INTRODUCTION

This chapter has been prepared to define and assess any likely significant effects which the construction, operation and decommissioning of the project may have on the archaeological, architectural and cultural heritage resource. The chapter also describes mitigation measures, based on current information, which may be used to avoid, reduce or offset any likely adverse effects identified.

11.1.1 OBJECTIVES

The objectives of this chapter are to:-

- Identify all known features of archaeological, architectural and cultural heritage importance in the vicinity of the project:-
- Determine any likely effects of the project on the archaeological, architectural and cultural heritage resource; and,
- Identify measures to mitigate any likely adverse effects of the project on the archaeological, architectural and cultural heritage resource.

The following key effects are addressed:-

- Direct and indirect effects of the construction of the project on the archaeological, architectural and cultural heritage resource;
- Direct and indirect effects of the operation of the project on the archaeological, architectural and cultural heritage resource;
- Direct and indirect effects of the decommissioning of the project on the archaeological, architectural and cultural heritage resource; and,
- Cumulative effects of the construction, operation and decommissioning of the project on the archaeological, architectural and cultural heritage resource with other existing, permitted or proposed developments or projects.

11.1.2 DESCRIPTION OF THE PROJECT

The project site is located in rural Co. Offaly, c. 4km north of the town of Birr and c. 28km south-west of Tullamore, Co. Offaly.

The project assessed within this EIAR comprises a 3 no. wind turbine extension to the permitted Cush Wind Farm Phase I¹, together with all associated and ancillary infrastructure and works. This includes turbine foundations, crane hardstanding areas, access tracks, internal wind farm underground cabling, site drainage and rehabilitation works, peat/spoil management, a proposed electrical switch room building, and a c. 5km underground electricity line required to facilitate connection of the proposed wind farm to the national electricity network.

The final turbine model has not yet been selected; however, the proposed turbines will be selected within the turbine dimension range assessed in this EIAR and as set out in **Chapter 1**. For the purposes of this chapter, potential direct effects on the cultural heritage resource have been assessed by reference to the maximum development

¹ An Coimisiún Pleanála Reference ABP318816-24

footprint associated with the assessed turbine dimension range, thereby ensuring that the greatest potential extent of ground disturbance is considered. Potential operation phase setting effects have been assessed having regard to the landscape and visual assessment presented in **Chapter 10**.

The turbine component haul route and associated temporary and permanent upgrade works as described in **Chapter 3**, are located within Counties Galway, Roscommon, Westmeath and Offaly. It is envisaged that turbine components will be transported from the Port of Galway to the project site via the N6, M6, N52 and N62, before accessing the project site from the permitted construction phase site entrance from the N62 national road. However, as the route follows motorway and national road through these counties and on the basis that specific upgrade and accommodation works, as identified in **Annex 3.5**, were reviewed, and no archaeological, architectural or cultural heritage receptors would be affected, it is assessed that there is no likelihood of cultural heritage effects and, therefore, these areas have been screened out from further assessment.

A full detailed description of the project is presented in **Chapter 3**.

For the purposes of this Cultural Heritage assessment, the project has been considered by reference to two principal spatial components:-

- the proposed wind farm site, comprising the proposed turbines and associated on-site infrastructure, including turbine foundations, crane hardstanding areas, access tracks, internal cabling, spoil management areas, site drainage and the proposed electrical switch room; and
- the underground electricity line, comprising the c. 5km underground electricity line between the proposed electrical switch room and the proposed Mullanafawnia 110kV substation.

These components together form part of the project assessed in this EIAR, as defined in **Section 1.3, Chapter 1**. References in this chapter to the proposed wind farm site and the underground electricity line route are used to assist in describing the location and nature of potential cultural heritage effects and do not alter the overall definition of the project.

11.1.3 STATEMENT OF AUTHORITY

Dermot Nelis BA ArchOxon AIFA MIAI (Horizon Archaeology) graduated from Queen's University Belfast, and after gaining extensive fieldwork experience undertook postgraduate studies at the University of Oxford in archaeological consultancy and project management.

Dermot has acted as Senior Archaeologist on several road schemes and has directed large-scale multi-period excavations associated with those developments. He has completed over 190 no. licensed fieldwork programmes and over 250 no. archaeological, architectural and cultural heritage desk-based reports, including assessments for Environmental Impact Statements and Environmental Impact Assessment Reports.

11.2 METHODOLOGY

11.2.1 STUDY AREA

There is no professional standard for defining the extent of a study area when assessing the likelihood of effects on archaeological, architectural or cultural heritage remains. A 1km study area has been applied around the proposed wind farm site for the detailed identification of statutorily protected archaeological remains. Having regard to the scale of the proposed turbines and the potential for operation phase effects on the setting of archaeological monuments, the study area has been extended to 2km for the assessment of operation phase setting effects on Recorded Monuments.

A 20km study area has been applied around the project site to assess the presence of any World Heritage Sites or sites included in the Tentative List as consideration for nomination to the World Heritage List.

A 5km study area has been applied around the wind farm site to assess the presence of any National Monuments, sites with Preservation Orders or Temporary Preservation Orders, Sites recorded on the Register of Historic Monuments, Protected Structures, Conservation Areas or Proposed Conservation Areas or structures recorded on the National Inventory of Architectural Heritage.

A 100m study area has been applied around the underground electricity line to assess the presence of National Monuments, sites with Preservation Orders or Temporary Preservation Orders, Sites recorded on the Register of Historic Monuments, Protected Structures, Conservation Areas or Proposed Conservation Areas or structures recorded on the National Inventory of Architectural Heritage.

An assessment has been made of any historic gardens or designed landscapes as recorded on the National Inventory of Architectural Heritage that may exist within the project site.

11.2.2 SOURCES OF INFORMATION

Research has been undertaken in 4 no. phases. The first phase comprised a desk review, namely a paper and digital survey of archaeological, historical and cartographic sources. The second phase involved a field inspection of the project site. The third phase involved a peatland walkover survey over the proposed wind farm site. The fourth phase involved a geophysical survey of the proposed underground electricity line. Each phase is described in the following sections.

The following sources were examined and a list of sites and areas of archaeological, architectural and cultural heritage potential was compiled:-

- Record of Monuments and Places of County Offaly;
- Topographical Files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the study area;
- Aerial photographs of Tailte Éireann and Bing aerial photography;
- *Offaly County Development Plan (2021 – 2027)*;
- National Inventory of Architectural Heritage; and,

- *Environmental Protection Agency Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022).*

[Record of Monuments and Places \(RMP\)](#) is a list of archaeological sites known to the National Monuments Service. Back-up files of the Sites and Monuments Record (SMR) provide details of documentary sources and field inspections where these have taken place.

[Topographical Files of the National Museum of Ireland](#) is the 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 in the discovery of sites of archaeological significance.

[Cartographic sources](#) are important in tracing land-use development within an area of land take, as well as providing important topographical information on sites and areas of archaeological potential. Cartographic analysis of relevant maps has been made to identify any topographical anomalies that may no longer remain within the landscape.

[Documentary sources](#) were consulted to gain background information on the historical and archaeological landscape of the wider development area.

[Aerial photographic](#) coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its potential to contain previously unidentified archaeological remains.

[Offaly County Development Plan 2021-2027](#) contains Objectives and Policies on the preservation and management of archaeological, architectural and cultural heritage features.

[National Inventory of Architectural Heritage \(NIAH\)](#) is a section within the Department of Housing, Local Government and Heritage. The work of NIAH involves identifying, recording and evaluating, on a non-statutory basis, the architectural heritage of Ireland from 1700 to the present day. The NIAH website also contains a non-statutory register of historic gardens and designed landscapes, and this was assessed to look for the presence of any such features within the project site.

[Environment Protection Agency Guidelines on the Information to be Contained in Environmental Impact Assessment Reports \(2022\)](#) provides definitions for potential effects on archaeological, architectural and cultural heritage remains.

11.2.3 FIELD INSPECTION

Field inspection is necessary to determine the extent, character and condition of archaeological, architectural and cultural heritage features, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. All areas of land take associated with the project were walked and visually assessed.

A peatland walkover survey was carried out over the proposed wind farm site in April 2026 (Moore 2026; **Annex 11.1**). In summary, the field inspection of Galros Bog identified one possible archaeological site, which lies outside the area subject to planning (planning application boundary, see **Section 1.3, Chapter 1**) and will therefore not be directly affected by construction of the wind turbines.

An archaeological geophysical survey of the c. 5km underground electricity line was carried out by Target Archaeological Geophysics in July 2026 (Target Archaeological Geophysics 2026; **Annex 11.2**). In summary, the geophysical survey noted that no remains of definite archaeological potential were recorded within the underground electricity line.

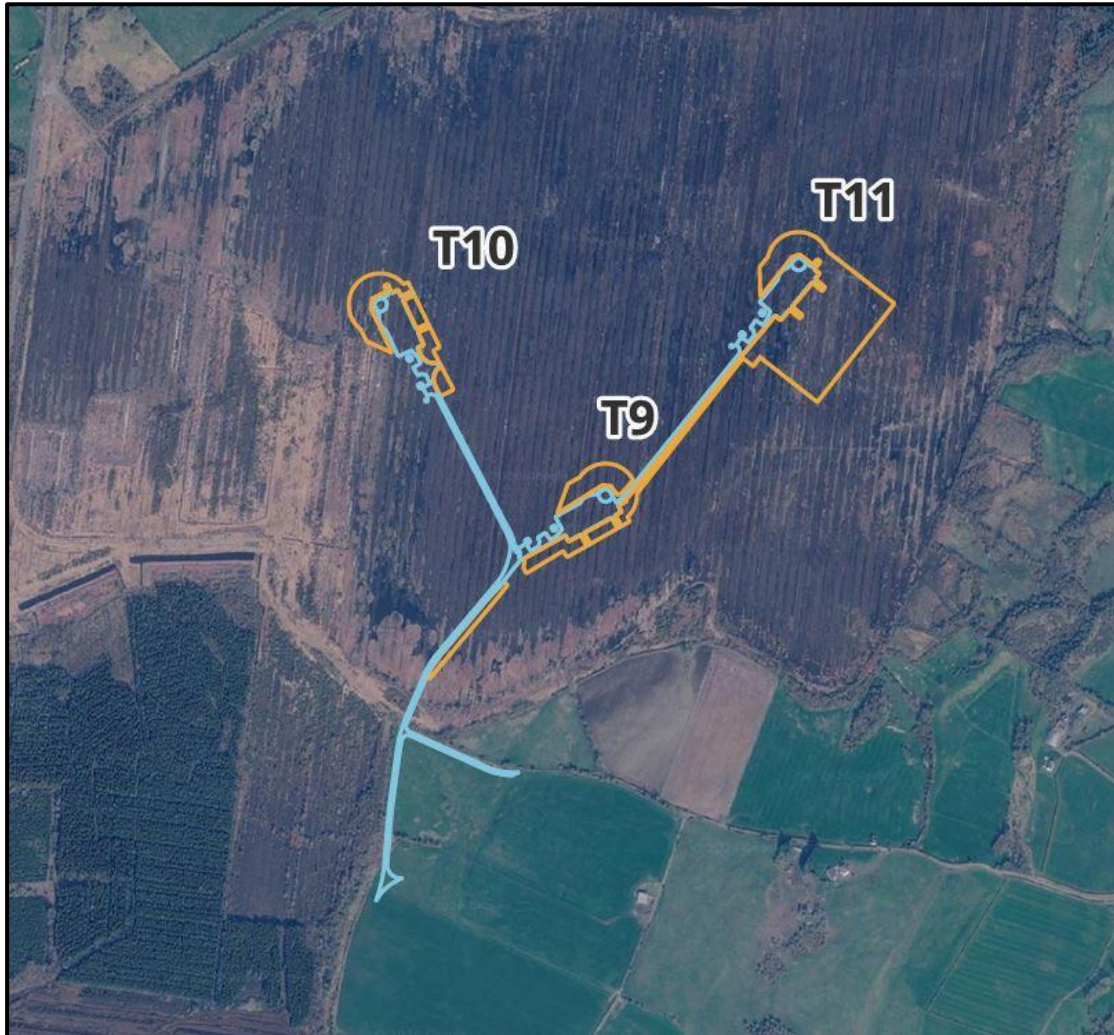


Figure 11.1: Aerial photograph showing location of Turbines 9 – 11, spoil deposition areas and access tracks



Figure 11.2: Aerial photograph showing the underground electricity line

11.2.4 SIGNIFICANCE CRITERIA

The likelihood of significant effects can be identified from detailed information about a project, the nature of the area affected, and the range of resources potentially impacted on. The construction, operation and decommissioning of wind farms and underground electricity lines can affect the archaeological, architectural and cultural heritage resource of a given landscape in a number of ways:-

- Permanent and temporary land-take by associated structures may result in damage to or loss of archaeological remains and deposits, or physical loss to the setting of historic monuments and to the physical coherence of the landscape;
- Archaeological sites can be affected adversely in a number of ways including disturbance by excavation, topsoil stripping and the passage of heavy machinery, disturbance by vehicles working in unsuitable conditions, and burial of sites through material deposition thus limiting accessibility for future archaeological investigation;
- Hydrological/hydrogeological changes in groundwater water levels can result from construction activities, or long-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits;

- Visual and noise effects on the historic landscape can arise from construction traffic and facilities, built earthworks and structures, landscape mounding and planting, noise, fences and associated works. These features can impinge directly on historic structures and historic landscape elements as well as their visual amenity value;
- Landscape measures, such as tree planting, can damage sub-surface archaeological features due to topsoil stripping and through the root action of trees and shrubs as they grow;
- Ground consolidation by construction activities or the weight of permanent embankments can cause damage to buried archaeological remains, especially in colluvium or peat deposits;
- Disruption due to construction also offers the potential for adversely affecting archaeological remains. This can include machinery, site offices, service trenches, etc; and,
- Although not widely appreciated, positive effects can accrue from developments. These can include positive resource management policies, improved maintenance and access to archaeological monuments, and the increased level of knowledge of a site or historic landscape as a result of assessment and fieldwork.

There is no standard scale against which the significance of likely effects on the archaeological and historic landscape may be judged. The severity of a given level of land take or visual intrusion varies with the type of monument, site or landscape features and its environment. Significance of effects can be judged taking the following into account:-

- The proportion of the feature affected and how far physical characteristics fundamental to the understanding of the feature would be lost;
- Consideration of the type, date, survival/condition, fragility/vulnerability, rarity, potential and amenity value of the feature affected; and,
- Assessment of the levels of visual (refer to **Chapter 10**), noise (refer to **Chapter 12**) and hydrological effects (refer to **Chapter 7**), either in general or site-specific terms, as may be provided by other specialists.

For this assessment, the significant effects criteria outlined in **Table 11.1** are used per the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (Environmental Protection Agency (2022), Section 3:50).

Level of Effects	Significance Criteria
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant 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 baseline 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 most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.

Table 11.1: Significance of Effects

11.3 POLICY & LEGISLATION

11.3.1 ARCHAEOLOGICAL RESOURCE

The National Monuments Act, 1930 to 2014 and relevant provisions of the National Cultural Institutions Act, 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all manmade structures of whatever form or date, except buildings habitually used for ecclesiastical purposes.

A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Record of Monuments and Places, the Register of Historic Monuments, the placing of Preservation Orders and Temporary Preservation Orders on endangered sites, and National Monuments in the Ownership or Guardianship of the Minister for Housing, Local Government and Heritage or a Local Authority.

The Minister may acquire National Monuments by agreement or by compulsory order. The State or the 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.

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic Monuments and archaeological areas present on the Register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the Register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a Registered Monument. The Register also includes sites under Preservation Orders and Temporary Preservation Orders. All Registered Monuments are included in the Record of Monuments and Places.

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. 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.

Section 12(1) of the 1994 Act requires the Minister to establish and maintain a Record of Monuments and Places where the Minister believes that such monuments exist. The Record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the State. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994.

Section 12(3) of the 1994 Act provides that:-

“where the owner or occupier (other than the Minister for Arts, Heritage and the Gaeltacht) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage and the Gaeltacht to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the work until two months after the giving of notice” (www.archaeology.ie).

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 has been enacted and is being commenced on a phased basis. Certain provisions are currently in force, while other provisions remain subject to commencement by Ministerial Order. The applicable statutory regime in force at the date of the assessment has therefore been applied. The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 will streamline and simplify existing systems and processes, and provides for the State to ratify some key international conventions in the area of heritage protection, should the Government decide to do so. There are also proposals for innovative measures, such as the automatic legal protection for finds from archaeological sites, a system of civil enforcement to be used as an alternative to, or to supplement, criminal proceedings, and an appeal process for licence applications.

11.3.2 ARCHITECTURAL & BUILT HERITAGE RESOURCE

The main laws protecting the built heritage are the Architectural Heritage (National Inventory) and Historic Properties (Miscellaneous Provisions) Act, 1999 and the Planning and Development Act 2000 (as amended). The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The National Inventory of Architectural Heritage (NIAH) records built heritage structures within all the counties of the State. As inclusion in the Inventory does not provide statutory protection, the document is used to advise Local Authorities on compilation of a Record of Protected Structures (RPS) as required by the Planning and Development Act 2000.

The Planning and Development Act 2000 (as amended) requires Local Authorities to establish a Record of Protected Structures to be included in their respective County Development Plans. County Development Plans contain objectives designed to protect the archaeological, architectural and cultural heritage resource during the planning process. Buildings recorded on the RPS can include Recorded Monuments, structures listed on the NIAH, or buildings deemed to be of architectural, archaeological or artistic importance by the Minister. Sites, areas or structures of archaeological, architectural or artistic interest listed on the RPS receive statutory protection from injury or demolition under the 2000 Act. Damage to or demolition of a site registered on the RPS is an offence. The RPS list is not always comprehensive in every county.

A Local Authority has the power to order conservation and restoration works to be undertaken by the owner of a Protected Structure if it considers the building in need of repair. An owner or developer must make a written request to the Local Authority to carry out any works on a Protected Structure and its environs, which will be reviewed within 12 weeks of application. Failure to do so may result in prosecution.

11.4 DESCRIPTION OF THE EXISTING ENVIRONMENT

11.4.1 GENERAL ARCHAEOLOGICAL & HISTORICAL BACKGROUND

County Offaly shares boundaries with counties Galway, Kildare, Laois, Meath, Roscommon, Tipperary and Westmeath. It measures approximately 493,985 acres (199,981 hectares) and is primarily a flat and gently undulating county. Approximately one fifth of the county comprises peatlands, with the majority of the remainder of the land in agricultural/forestry use. The Slieve Bloom Mountains are an exception to Offaly's predominantly level topography, and are situated in the south west of the county. A comprehensive system of eskers also exists in Offaly, mainly concentrated in the north west and centre of the county.

Bogs or waterlogged areas frequently contain previously unrecorded remains and often form important archaeological landscapes. Waterlogged conditions provide an anaerobic environment which preserves organic remains and features such as wooden trackways or toghers. The practice of laying down trackways or causeways across wet areas and bogs to facilitate movement is known from as early as the 4th Millennium BC. Trackways vary in form from a localised use of brushwood to large-scale linear features substantial enough to carry wheeled vehicles. In addition, monuments such as crannogs, *fulachta fiadh* and sites of votive offering are frequently found in or near wet, waterlogged regions.

During the Mesolithic period (c. 7,000-4,000 BC) people existed as hunters/gatherers, living on the coastline, along rivers and lakesides. They used flint and other stones to manufacture sharp tools, and locating scatters of discarded stone tools and debris from their manufacture can sometimes identify settlements. Although it is at some remove from the project site, the Mesolithic habitation site at Broughal (RMP OF023-005, generally referred to as Lough Boora), located approximately 9.8km north east of Turbine 11, is noteworthy as an important example of rarely seen pre-bog archaeology exposed through peat extraction. Located on a former lakeshore, it comprised several hearths and produced large quantities of domestic and bone working waste along with over 400 artefacts.

During the Neolithic period (c. 4,000-2,400 BC) the population became more settled with a subsistence economy based on crop growing and stock-raising. This period also saw changes in burial practices, and a tradition of burying the dead collectively and carrying out of cremations emerged. The burial tombs are generally divided into four distinct groups, identified on the basis of their architecture, distribution, date range and associated architecture: portal tombs, passage tombs, wedge tombs and court tombs.

The Bronze Age (c. 2,400-600 BC) is characterised by the introduction of metalworking technology to Ireland and coincides with many changes in the archaeological record, both in terms of material culture as well as the nature of the sites and monuments themselves. Though this activity has markedly different characteristics to that of the preceding Neolithic period, including new structural forms and new artefacts, it also reflects a degree of continuity.

The Dowris Hoard, dating from the 9th to 7th century BC, was discovered in the 1820s in the townland of Whigsborough, County Offaly, which is within the project redline boundary. It is the largest collection of bronze objects found in Ireland, and may originally have contained over 200 pieces. The find was poorly recorded, though it

may have been made while potato digging in reclaimed bogland. While no precise details of the original contents exist, 110 objects are preserved in the National Museum of Ireland, with a further 67 in the British Museum. Of the surviving items, the most numerous are hollow-cast bronze pendants (48), spearheads (36), socketed axes (35), cast bronze trumpets or horns (26), knives (7), swords (5), socketed gouges (5), buckets (3), cauldrons of sheet bronze (3) and razors (3). A socketed hammer and a scabbard chape were also preserved. It is possible, given its unusual size, that the assemblage may not have been a single deposition but rather may have accumulated over a period of time as a result of a prolonged sequence of ritual activity.

Other important hoards from County Offaly include the Frankford Hoard, found 10m deep in a bog at Kilcormac in 1892, and a gold hoard (13th to 14th century BC) containing a gold necklet, two gold armlets and two gold rings found in Derrinboy Bog in 1959. Both of these hoards were found c. 9.5km east of the wind farm site. A hoard found at Meenwaun, near Banagher, contained an amber necklace of 125 beads along with a gold dress fastener, a bronze penannular bracelet and two bronze rings. This hoard was found c. 4.5km north west of the wind farm site.

During the Iron Age (c. 600 BC-400 AD) new influences came into Ireland which gradually introduced the knowledge and use of iron, although for several centuries bronze continued to be widely used. The Iron Age in Ireland however is problematic for archaeologists as few artefacts dating exclusively to this period have been found, and without extensive excavation it cannot be determined whether several monument types, such as ring-barrows or standing stones, date to the Bronze Age or Iron Age.

The Early Medieval period (c. 400-1169 AD) is depicted in the surviving sources as entirely rural, characterised by the basic territorial unit known as *túath*. Walsh (2000, 30) estimates that there were at least 100, and perhaps as many as 150, kings in Ireland at any given time during this period, each ruling over his own *túath*.

The Early Medieval period is also characterised by the foundation of a large number of ecclesiastical sites throughout Ireland in the centuries following the introduction of Christianity in the 5th century AD. The early churches tended to be constructed of wood or post-and-wattle, although between the late 8th and 10th centuries mortared stone churches gradually replaced the earlier structures. Many of the sites, some of which were monastic foundations, were probably originally defined by an enclosing wall or bank similar to that found at coeval secular sites. This enclosing feature was possibly built more to define the sacred character of the area of the church than as a defence against aggression. An inner and outer enclosure can be seen at some of the more important sites; the inner enclosure surrounding the sacred area of church and burial ground and the outer enclosure providing a boundary around living quarters and craft areas. Where remains of an enclosure survive it is often the only evidence that the site was an early Christian foundation.

The commencement of Viking raids at the end of the 8th century and their subsequent settlement during the following two centuries marked the first ever foreign invasion of Ireland. Viking settlement evidence has been found in Cork, Dublin and Waterford, and excavations have revealed extensive remains of the Viking towns. Outside these towns, understanding of Viking settlement is largely drawn from documentary and place-name evidence. In addition to Cork, Dublin and Waterford, documentary sources provide evidence for the Viking foundation of the coastal towns of Limerick

and Wexford (Edwards 2006, 179). Other indirect evidence which suggest Viking settlement, or at least a Norse influence in Ireland, is represented by upwards of 120 Viking-age coin hoards, possible votive offerings of Viking style objects, and the assimilation of Scandinavian art styles into Irish designs. While the initial Viking raids would have been traumatic, the wealth and urban expansion brought into the country as a result of Viking trading would have benefited the Gaelic Irish, and cultural assimilation in some parts would have been significant.

The arrival of Anglo-Normans in Ireland towards the end of the 12th century resulted in great changes during the following century. Large numbers of colonists arrived from England and Wales and established towns and villages. They brought with them new methods of agriculture which facilitated an intensification of production. Surplus foods were exported to markets all along Atlantic Europe which created great wealth and economic growth. Results of this wealth can be seen in the landscape in the form of stone castles, churches and monasteries.

The political structure of Anglo-Normans centred around the establishment of shires, manors, castles, villages and churches. In the initial decades after the Anglo-Norman invasion a distinctive type of earth and timber fortification was constructed- the motte and bailey. In certain areas of Ireland Anglo-Norman settlers constructed square or rectangular enclosures, now termed moated sites. Their main defensive feature was a wide, often water-filled, fosse with an internal bank. More substantial stone castles followed the motte and bailey and moated sites in the 13th and 14th centuries. Tower houses are regarded as a late type of castle and were erected from the 14th to early 17th centuries.

The 14th century throughout north west Europe is generally regarded as having been a time of crisis, and Ireland was no exception. Although the Irish economy had been growing in the late 13th century, it was not growing quickly enough to support the rapidly expanding population, especially when Edward I was using the trade of Irish goods to finance his campaigns in Scotland and Wales. When the Great European Famine of 1315-1317 arrived in Ireland, brought about by lengthy periods of severe weather and climate change, its effects were exacerbated by the Bruce Invasion of 1315-1318. Manorial records which date to the early 14th century show that there was a noticeable decline in agricultural production. This economic instability and decline was further worsened with the onset of the Bubonic Plague in 1348.

Before the Tudors came to the throne the kings of England were also the kings of western France and so, during the 14th and 15th centuries, the various lords who ruled in Ireland were largely left to themselves. The Tudors however took more of an interest in the affairs of Ireland, and they wanted to put a stop to the raids of the Gaelic Irish on areas under English rule. To do this, they ruthlessly put down any rebellions and even quashed inter-tribal feuds. English settlers were then brought in to settle their lands. The first of these plantations occurred in the mid-16th century in what is now Laois and Offaly. After the Desmond rising in Munster in 1585 came another plantation, and parts of south western Tipperary were planted at that time.

Expansion in the agricultural sector following a period of economic growth in Ireland from the mid-1730s led to rising prices and increase in trade. This increase in agricultural productivity led to growth in related industrial development throughout the country.

The proposed wind farm will be located in Galros Bog, which covers 191.5ha, measuring 1.59km east/west at its widest point. It is part of a larger raised bog which extends to the west and south. The bog occupies a low-lying position in an otherwise gently undulating landscape, the underlying geology of which is limestone shale, and most of which is in agriculture pasture. The apparent earliest detailed map of Galros Bog is that of the Bog Commissioner's (1811, **Figure 11.3**), where it is named Cloghel Dowris and Galrus Bogs. Industrial peat production commenced at Galros during the 1980s and ceased in 2020. Some areas of deep peat remain on the former production area which is largely free from vegetation. Drainage of the bog is still active.

Galros Bog was first surveyed by the Irish Archaeological Wetland Unit in 1997 where four widely dispersed sites were identified (www.excavations.ie). Three single pieces of worked or unworked wood classified as a peatland structure were found in Ballycollin (RMP OF030-083), Galros East (RMP OF030-081) and Whigsborough (RMP OF030-082). A Road – Class 3 togher (RMP OF030-080), composed of parallel brushwood flanked on either side by two heavy roundwoods, was located in Coologe (See **11.4.2** below for more information).

The bog was re-surveyed in 2009 and none of the above-mentioned four sites were relocated, but two additional sites, a platform and a deposit of archaeological wood, were identified at the north east end and eastern edge of the bog (these sites have not been added to the Record of Monuments and Places). None of the sites in Galros Bog were scientifically dated or subject to archaeological excavation, and given that peat extraction continued until 2020 it is likely that they have all been destroyed.

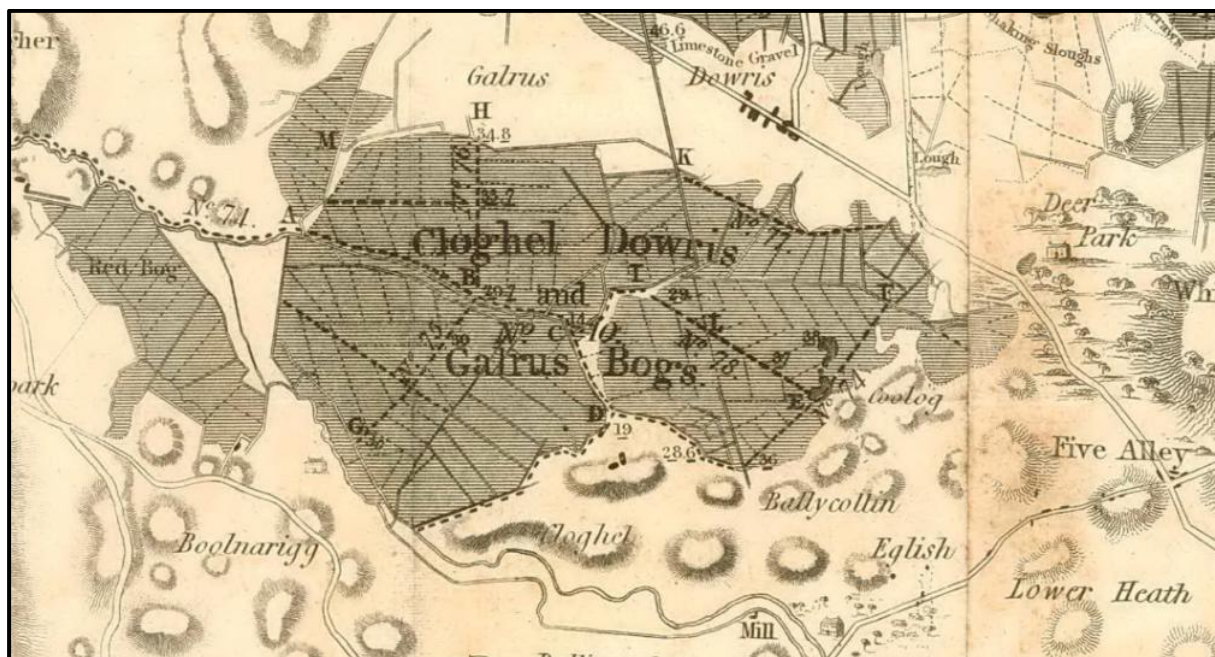


Figure 11.3: Extract from Bog Commissioner's Map (1811) showing Galros Bog

The low number of archaeological sites identified in Galros Bog stands in contrast to denser distributions in Drinagh Bog to the north east which contains 49 peatland sites, and Clongawney Bog to the north west which contains 11. An additional 26 peatland archaeological sites are located further south in Killaun Bog, concentrated in the townland of Clonbeale More. Scientific dating of sites in Drinagh West and

Clongawney Bogs returned Late Bronze Age and Iron Age results, while dates of Late Bronze Age to Medieval were returned for sites in Killaun Bog.

Archaeological sites in the wider landscape around Galros Bog are relatively scarce. Enclosures in Ballycollin townland (RMP OF030-010), Coologe townland (RMP OF030-011) and Whigsborough townland (RMP OF030-006) are undated, and could be remains of prehistoric or Early Medieval settlements, or burial sites. Established Early Medieval and Medieval activity is evident in the north east of Whigsborough townland where a ringfort (RMP OF030-007), tower house (RMP OF030-005001), and bawn (OF030-005003) all occur. All are situated on a former island named Castle Island which lay within a lake known as Lough Coura, now in marshland. The shores of Lough Coura were the findspot of the Dowris Hoard.

An established Early Medieval and Medieval community is also indicated at the eastern limits of Eglish townland, where a 19th century church (NIAH Reg No. 14930005) and graveyard (RMP OF030-016001) lie on the site of an earlier church (RMP OF030-016) which has no present surface expression. These lie immediately east of Eglish Castle (RMP OF030-015), a poorly preserved tower house, and bawn (RMP OF030-015001), with an attached 18th century house (NIAH Reg No. 14930004), also known as Eglish Castle and now in ruins. Eglish also contains a holy well (RMP OF030-017) and mass rock (RMP OF030-023) in the south west of the townland.

The proposed wind farm will be located in the townlands of Ballycollin, Eglish, Galros East and Whigsborough, which are all in the barony of Eglish and parish of Eglish. The project's grid connection (underground electricity line) will be located in the townlands of Ballynaguilsha, Clonbeale Beg Glebe, Cloncarban, Eglish, Mullanafawnia and Shanacloon. Ballynaguilsha, Eglish and Shanacloon are in the barony of Eglish and parish of Eglish. Clonbeale Beg Glebe, Cloncarban and Mullanafawnia are in the barony of Eglish and parish of Drumcullen.

Lewis (1837, Vol. I, 596) records the parish of Eglish as:

"containing 3290 inhabitants. This parish is six miles in length by four in breadth, and comprises 7722 statute acres there is a great deal of bog, and some limestone for building and burning".

Lewis (*ibid.*, 514) records the parish of Drumcullen, or Drumcullin, as:

"containing 3113 inhabitants. At a very early period, a religious establishment existed here, of which St. Barrindeus was abbot about the year 590. Nearly one-half of the parish is bog, but the land near Droughtville is considered some of the best pasture ground in the barony".

11.4.2 SITE-SPECIFIC ARCHAEOLOGICAL BACKGROUND

There are no Recorded Monuments within the project site.

There are four Recorded Monuments within 1km of the proposed wind farm site (**Figure 11.4**).

RMP OF030-080: Road- class 3 togher

The site (width 0.92m; depth 0.13m) is composed of parallel pieces of brushwood, flanked on either side by two heavy roundwoods, all orientated east/west, evident in a single drain. A single worked piece of brushwood was recorded.

RMP OF030-081: Structure- peatland

A roundwood (diameter 0.09m) located in a drain face with evidence of wood working. It was set within moderately humified Sphagnum peat with ericaceous remains immediately above the peat. It is noted (www.archaeology.ie) that "*the evidence is not sufficient to warrant its acceptance as the remains of an archaeological monument*".

RMP OF030-082: Structure- peatland

An isolated post (length 0.43m; diameter 0.06m) situated in a drain face 0.63m below the field surface and set at a 60° angle. The wood was in good condition with surviving bark and had been worked to a wedge point with a metal tool. The piece is within moderately humified Sphagnum peat. It is noted (www.archaeology.ie) that "*the evidence is not sufficient to warrant its acceptance as the remains of an archaeological monument*".

RMP OF030-083: Structure- peatland

A single piece of roundwood (diameter 0.06m) located 0.57m below the field surface in a drain face and set at a 35° angle. It is within moderately humified Sphagnum peat which contained ericaceous remains and Eriophorum. It is noted (www.archaeology.ie) that "*the evidence is not sufficient to warrant its acceptance as the remains of an archaeological monument*".

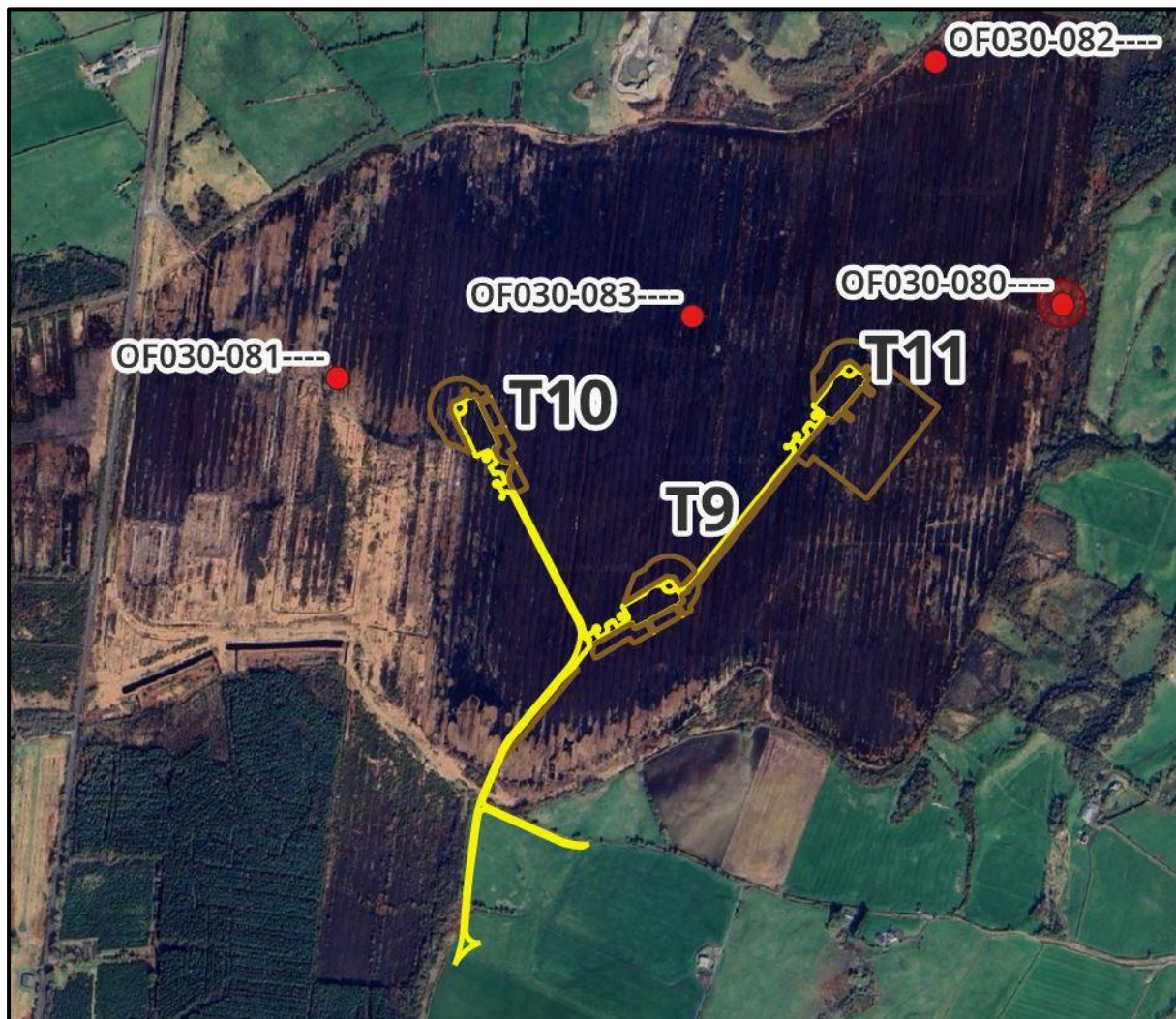


Figure 11.4: Recorded Monuments within 1km of the Proposed Wind Farm Site

There are four Recorded Monuments within 100m either side of the underground electricity line (**Figure 11.5**).

RMP OF030-015: Castle-tower house

Situated on a natural rise on the floodplains of Rapemills River or Boolinarig River, with site of Medieval church (OF030-016) to the south east. It is a poorly preserved tower house constructed with roughly coursed limestone rubble with only portions of its north and west walls remaining, with a later 18th century house attached to its north wall. The tower house is almost square in plan with slight base batter evident, and it stands two storeys high with an original entrance probably located in the east wall (www.archaeology.ie).

RMP OF030-015001: Bawn

Running south from the south west angle of the above-mentioned tower house (RMP OF030-015) and returning east, the bawn wall is largely intact with several outhouses attached. There is evidence of cobblestone paving in the south west corner of the courtyard.

RMP OF030-016: Church

The present remains consist of a 19th century Church of Ireland church, but nothing remains of the earlier church which was located in the present graveyard. A small building in the centre of the graveyard (OF030-016001) that is indicated on the First Edition Ordnance Survey map (1840) as a “church in ruins”, and is now used as a 19th century burial structure, may have been the site of an earlier church (www.archaeology.ie).

RMP OF030-016001: Graveyard

The present remains consist of a 19th century Church of Ireland church and a modern graveyard which probably dates to the 1700s. Nothing remains of the earlier church (www.archaeology.ie).

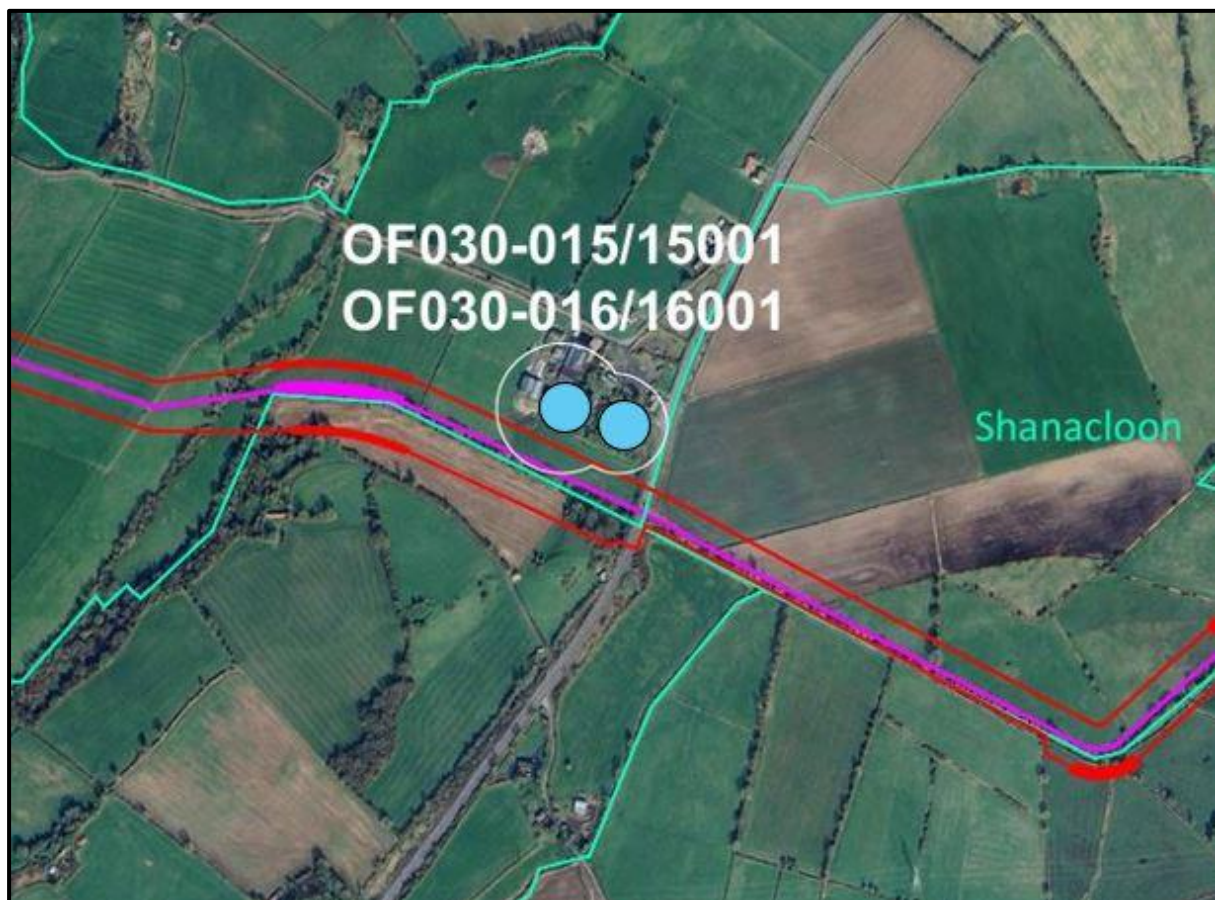


Figure 11.5: Recorded Monuments within 100m of the Underground Electricity Line

Class 3 toghers are short stretches of peatland trackway, constructed of wood, up to 15m in length with a discernible orientation. It may not be possible to trace them beyond a single sighting. They have evidence of deliberate structure and are interpreted as having been laid down to cross a small area of bog. They may date from the Neolithic to the Medieval period (www.archaeology.ie).

Peatland structures are wood found in peat, which has been deliberately deposited or processed. They vary from single pieces to deposits without a clear form or

orientation but which are indicative of an archaeological structure. They may be of any date from the Neolithic to the Medieval period (www.archaeology.ie).

Churches are described on National Monuments Service's online database (www.archaeology.ie) as buildings used for public Christian worship and can be of any date from c. 500 AD onwards.

Graveyards are described on National Monuments Service's online database (www.archaeology.ie) as the burial area around a church. They date from the Medieval period (5th – 16th centuries) onwards.

Tower houses are fortified residences in the form of a tower, usually four or five storeys high, and for the most part slightly more rectangular than square in plan. They were constructed by a lord or landholder and were often partially or completely enclosed by a bawn. The majority date to the 15th and 16th centuries AD (www.archaeology.ie).

Bawns are courtyards of Medieval house, tower house or fortified house (12th – 17th centuries AD). There are some instances where the bawn survives but the building it was constructed to defend does not (www.archaeology.ie).

11.4.3 CARTOGRAPHIC ANALYSIS

11.4.3.1 Ordnance Survey Maps: First Edition 1:10,560 (1840) (Figures 11.6 and 11.7); First Edition 1:2,500 (1910) (Figure 11.8) and Third Edition 1:10,560 (1912) (Figure 11.9)

The access track from Turbine 9 to Turbine 11 will cross a townland boundary, while Turbine 10 will be located on a townland boundary. The underground electricity line will cross four townland boundaries and a parish boundary. Research suggests that:-

"hoards and single finds of Bronze Age weapons, shields, horns, cauldrons and gold personal objects can all be shown to occur on boundaries." (Kelly 2006, 28).

Turbines 9 - 11 will all be located on unenclosed rough pasture as recorded on the First Edition 1:10,560 map (1840). Turbine 11 will be located approximately 250m - 300m west of Loughs Bornagh as recorded on historic cartographic sources. These small lakes close to the bog margins would have been accessible and desirable for a range of reasons, including hunting of wild birds and water fowl, gathering of plants and potentially also object deposition as evidenced by the lakeshore discovery of the Dowris Hoard (see **11.4.1** above).

There are no archaeological or architectural features recorded within the project site on historic cartographic sources.

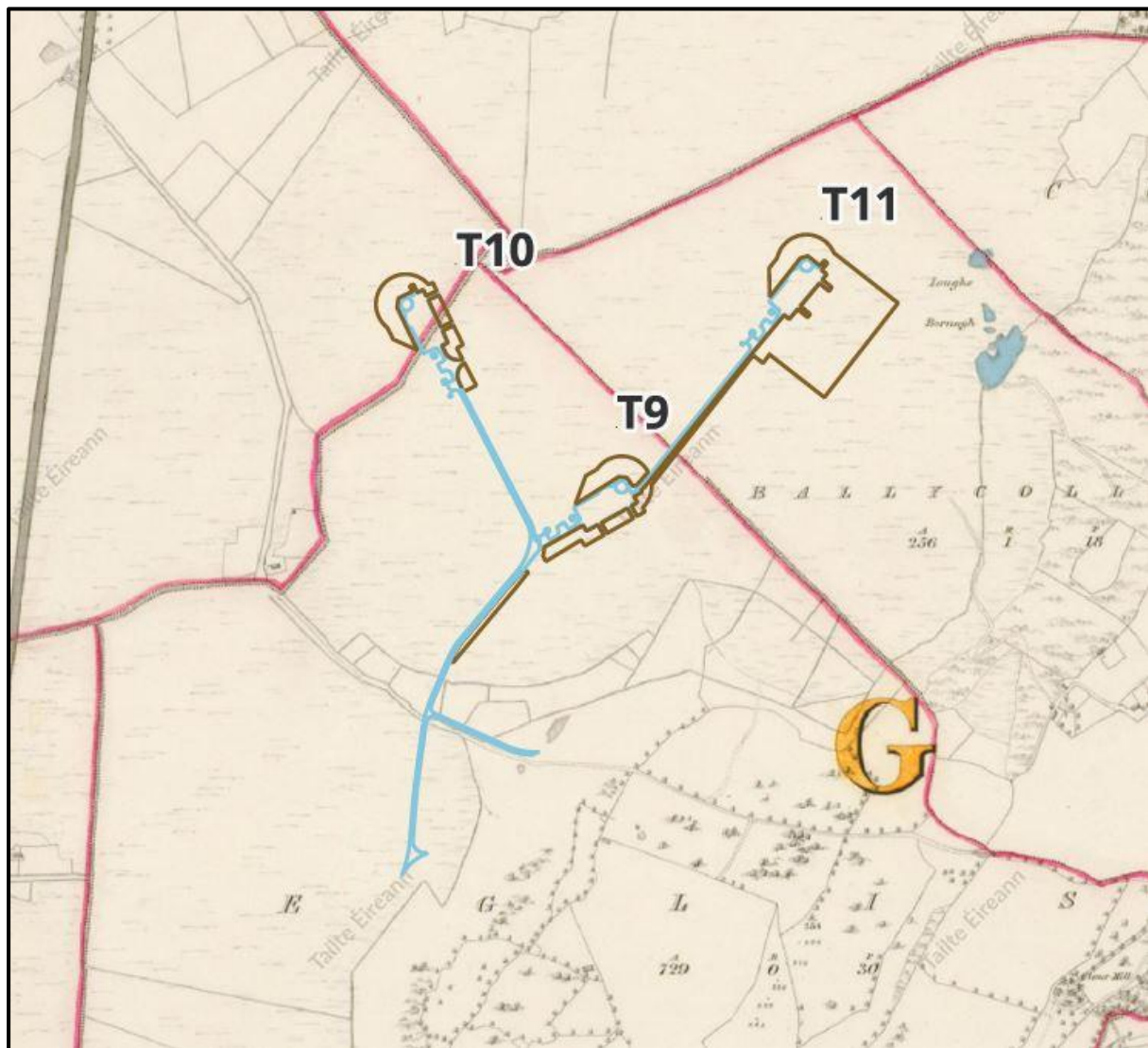


Figure 11.6: Extract from First Edition 1:10,560 Ordnance Survey map (1840), showing location of Turbines 9–11 and associated infrastructure

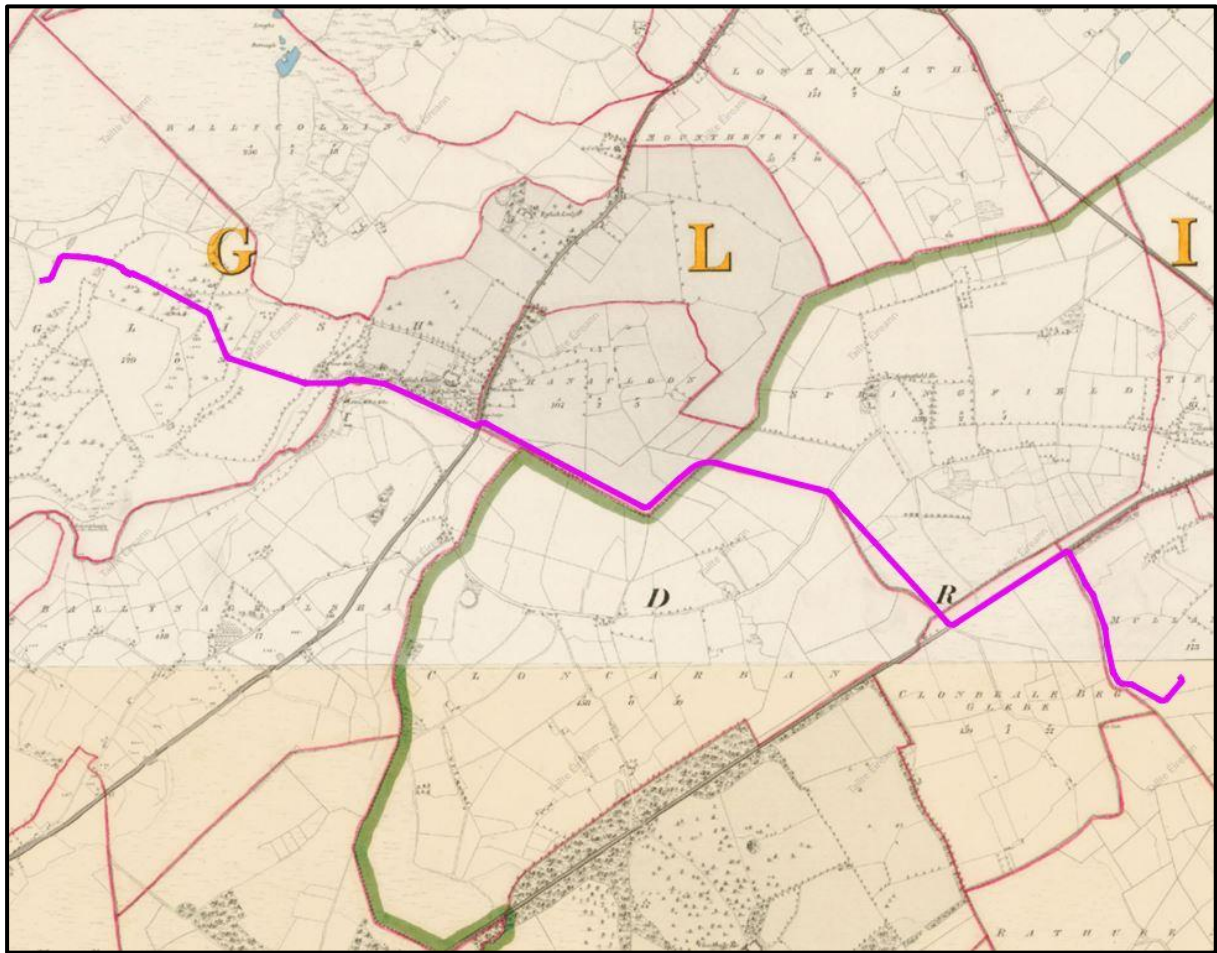


Figure 11.7: Extract from First Edition 1:10,560 Ordnance Survey map (1840), showing the underground electricity line

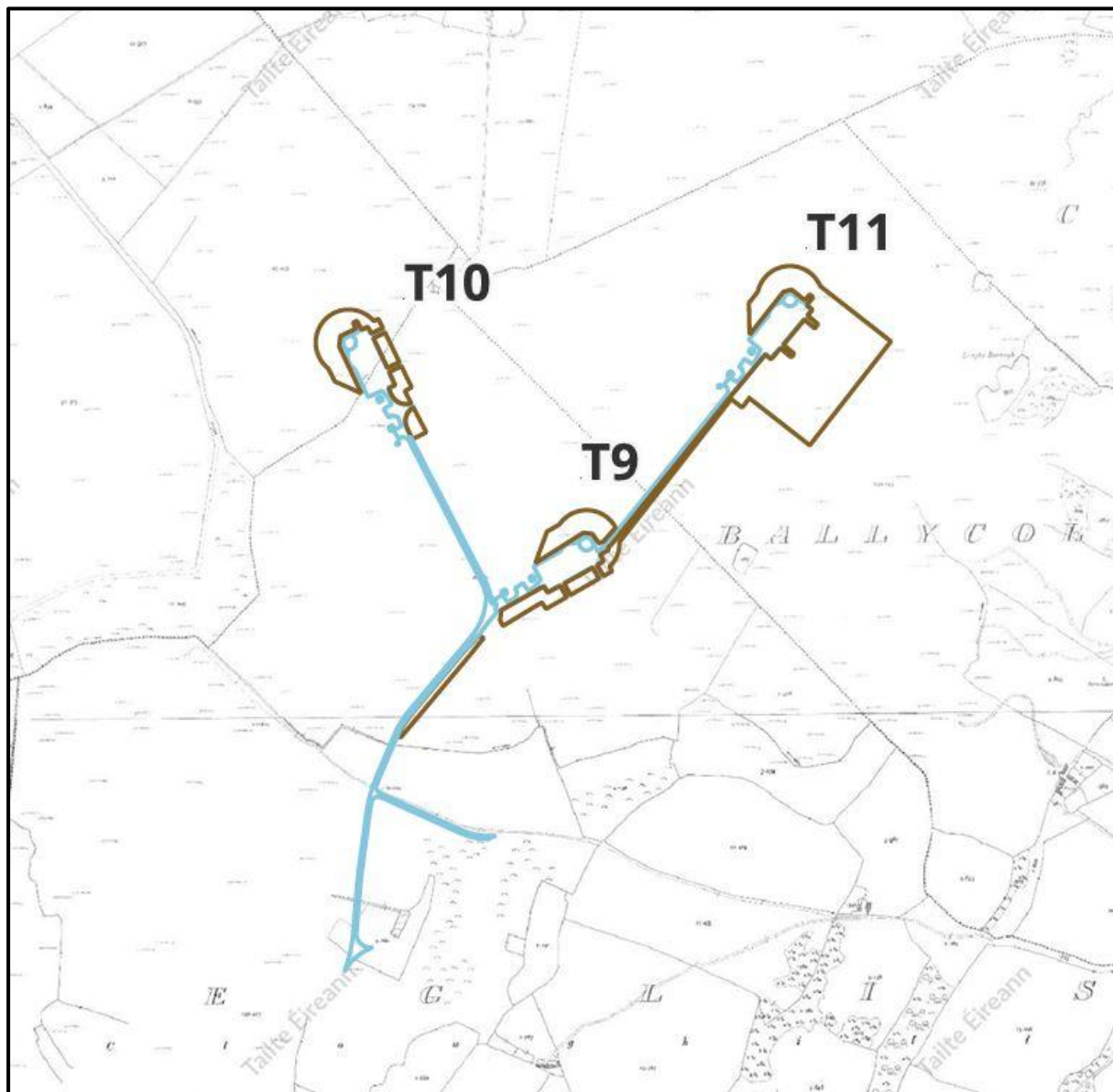


Figure 11.8: Extract from First Edition 1:2,500 Ordnance Survey map (1910), showing location of Turbines 9–11 and associated infrastructure

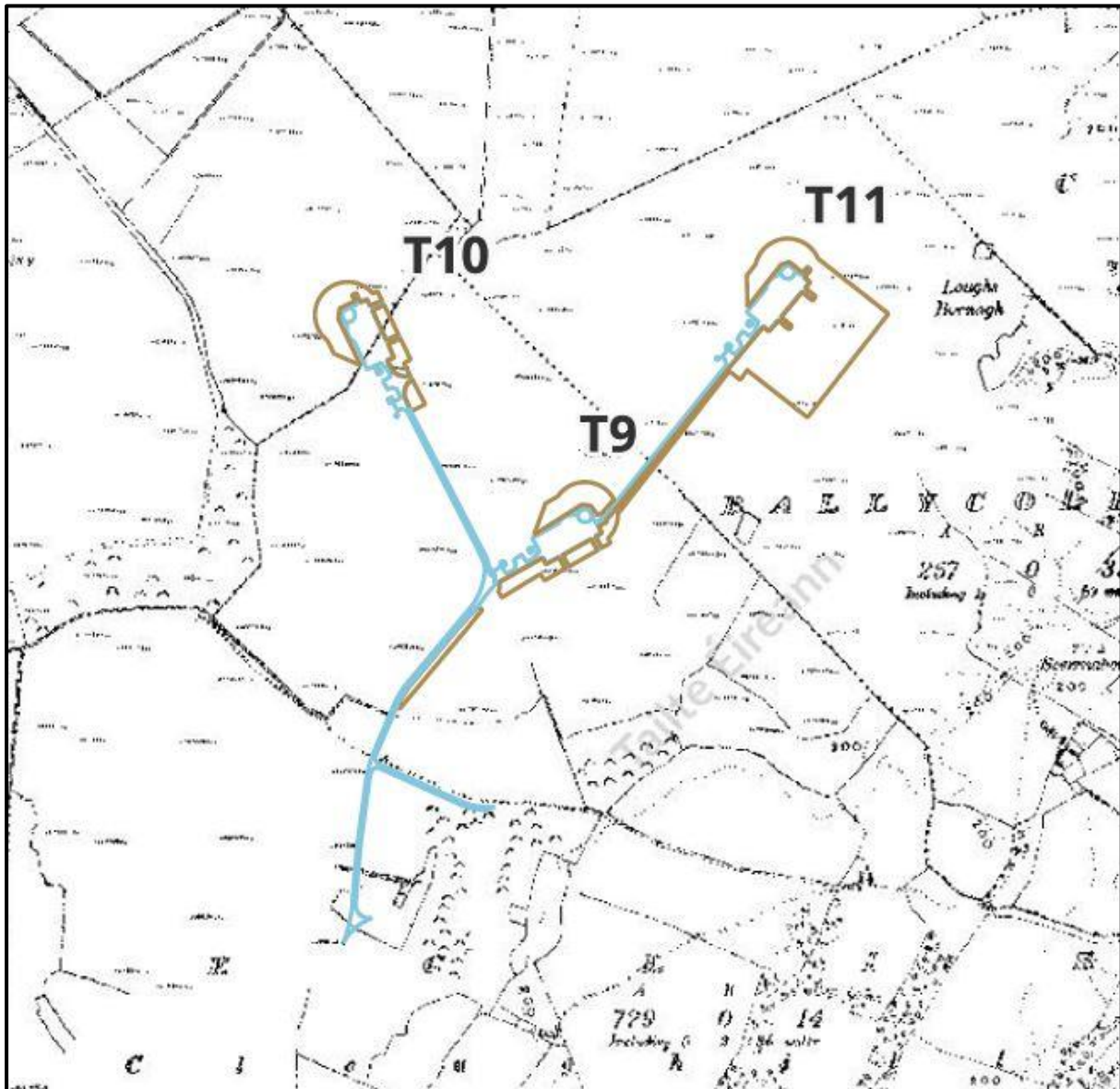


Figure 11.9: Extract from Third Edition 1:10,560 Ordnance Survey map (1912), showing location of Turbines 9–11 and associated infrastructure

11.4.4 AERIAL PHOTOGRAPHS

Aerial photographs held by Tailte Éireann (www.tailte.ie) and Bing aerial photography (www.bing.com/maps) were consulted to examine for the presence of archaeological and architectural remains within the land take of the project.

Aerial photography of the proposed wind farm site records a similar landscape to that which was noted during the peatland survey, with the proposed turbines and associated infrastructure located on bog. The underground electricity line traverses poor to good quality undulating pasture land and tillage overlying cut over raised peat.

There is no evidence of any archaeological or architectural features recorded on aerial photography within the project site.

11.4.5 TOPOGRAPHICAL FILES OF THE NATIONAL MUSEUM OF IRELAND

Information on artefact finds and excavations from County Offaly is recorded by the National Museum of Ireland. Location information relating to such finds is important in establishing prehistoric and historic activity in the study area.

There are no entries recorded in the Topographical Files of the National Museum of Ireland from within the project site.

Archaeological objects found in Galros Bog include a lid from a wooden vessel (NMI 1980:124: IA/202/1980), found at a depth of 1m in Ballycollin townland, in the immediate vicinity of Lough Bornagh in the eastern part of the bog. A Lucas Type 4 leather shoe (NMI 1969:70) is also attributed to Ballycollin townland found 2.7m deep in "Alexander's Bog", a name which may refer to the landowner at that time. North east of Ballycollin townland peat extraction in the part of Coologe townland that extends into Galros Bog uncovered a bog butter (NMI 2014:231) with a birch withy (NMI 2014:232) tied to either end, and traces of animal membrane that may originally have wrapped the butter. A whetstone (NMI 1992E148:52) was recovered from either Galros East or Galros West townlands during the 1997 Irish Archaeological Wetland Unit survey.

Finds from the area around Galros Bog include the Dowris hoard (NMI 2018:94 - 2018:189: IA/110/1922: IA/49/83), a collection of over 200 Bronze Age objects found in Doorosheath townland (the original townland name for Whigsborough townland), on the shores of Lough Coura. From broadly the same location, a single bronze crotal (NMI 1882:40) and an axe head (NMI 1869:9) may have been either part of the same hoard or separate deposits.

11.4.6 PREVIOUS ARCHAEOLOGICAL FIELDWORK

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) confirmed that no fieldwork programmes have been carried out within the project site.

Galros Bog was surveyed in 1997 by the Irish Archaeological Wetland Unit (Licence Number not recorded) as part of the Archaeological Survey of Ireland Peatland Survey. At that time four brushwood sites were identified within the bog. The sites were widely dispersed across the northern half of the bog and were all recorded in drain faces. Three of the sites were single isolated pieces of wood (RMP OF030-081, RMP OF030-082 and RMP OF030-083) while the fourth, a road-Class 3 Togher, (RMP OF030-080), consisted of closely placed east-west oriented brushwood flanked on either side by roundwood. A re-assessment survey (Licence Number 09E0415) was carried out by Archaeological Development Services Ltd. in 2009 on behalf of Bord na Móna. The objective of the reassessment survey was to reidentify any surviving previously recorded sites, identify new sites, and subsequently record all archaeological sites identified during the course of the survey. A handheld GPS unit was used to find the location of the above-mentioned four widely dispersed, previously identified sites but they were no longer extant. However, two new brushwood sites, including a platform and a deposit of archaeological wood, were identified in Whigsborough and Ballycollin townlands in the north eastern and eastern parts of the bog respectively. These two new sites have not been added to the Record of Monuments and Places but are known to be outside the land take of the project.

Clongawney Bog, which includes Galros East and Galros West townlands, was surveyed in 1994 by the Irish Archaeological Wetland Unit (Licence Number not recorded) as part of the Archaeological Survey of Ireland Peatland Survey. A total of 10 archaeological sites, which were located within a cluster in the south west corner of the bog, were recorded at that time. A re-assessment survey (Licence Number 09E0411) carried out by Archaeological Development Services Ltd. in 2009 on behalf of Bord na Móna noted that the location of the previously recorded sites was overgrown, and as a result the sites were no longer visible. The area immediately west remained in production and two previously unrecorded sites, including a possible platform and a deposit of archaeological wood, were noted.

Monitoring (Licence Number 04E0178) was carried out during topsoil-stripping at a sand and gravel pit at Boolinarig Big townland in 2004. Across the 4ha site topsoil sealed natural deposits of grey sands and gravels, except on the line of the access road where buff coloured marl lay beneath peaty soil. Nothing of archaeological significance was recorded.

Monitoring of test pits at Clongawney and Drinagh Bogs, which include Galros East townland among others, was carried out in 2019 (Licence Number 19E0095) and revealed pieces of wood in three site investigation test pits. The timbers were preserved *in situ* and were considered to be of archaeological potential, however the test pits were in townlands located outside the project site.

There are no additional fieldworks programmes recorded as having been carried out in any townlands within the project site.

11.4.7 TOPONYMS

Townland names are an important source in understanding the archaeology, geology, land-use, ownership and cultural heritage of an area.

Name	Irish	Translation
Ballycollin	<i>Baile an Cholláin</i>	Possibly translates as townland of the holly.
Ballynaguilsha	<i>Béal Átha na Gailsí</i>	Possibly translates as town of the English woman.
Clonbeale Beg Glebe	<i>Cluain Béala Beag</i>	Possibly translates as lawn of the old tree.
Cloncarban	<i>Cluain Corbáin</i>	Possibly translates as Carban's meadow.
Eglis	<i>An Eaglais</i>	The church.
Galros East	<i>Gallros Thoir</i>	Possibly translates as wood of the foreigners.
Mullanafawnia	<i>Muileann na Fáine</i>	Translation not recorded.
Shanacloon	<i>Seanchluain</i>	Possibly translates as old lawn or meadow.
Whigsborough	<i>Baile na bhFuigeanna</i>	Possibly translates as townland of the whigs.

Table 11.2: Toponyms

11.4.8 NATIONAL MONUMENTS

The Department of Housing, Local Government and Heritage maintains a database on a county basis of National Monuments in State Care: Ownership and Guardianship. The term National Monument is defined in Section 2 of the National Monuments Act

(1930) 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.”
(www.archaeology.ie).

There are no National Monuments in State Care within the proposed wind farm site or within 5km of the wind farm site. There are no National Monuments in State Care within the underground electricity line or within 100m either side of the underground electricity line.

The Department of Housing, Local Government and Heritage maintains a database on a county basis of National Monuments with Preservation Orders or Temporary Preservation Orders.

There are no National Monuments with Preservation Orders or Temporary Preservation Orders within the proposed wind farm site or within 5km of the wind farm site. There are no National Monuments with Preservation Orders or Temporary Preservation Orders within the underground electricity line or within 100m either side of the underground electricity line.

The Department of Housing, Local Government and Heritage maintains a Register of Historic Monuments on a county basis.

There are no Registered Historic Monuments within the proposed wind farm site. There are two Registered Historic Monuments within 5km of the proposed wind farm site (**Figure 11.10**).

- Register of Historic Monuments ID 1933. RMP OF035-003. Ringfort, Ballindown townland. Located c. 2.8km south of T9; and
- Register of Historic Monuments ID 1938. RMP OF030-009. Ringfort, Ballykealy townland. Located c. 3.2km north east of T11.



site

There are no Registered Historic Monuments within the underground electricity line or within 100m either side of the underground electricity line.

A 20km study area has been applied around the project site to assess the presence of any World Heritage Sites or sites included in the Tentative List as consideration for nomination to the World Heritage List. There are no World Heritage Sites within 20km of the project site. There is one site included in the Tentative List as consideration for nomination to the World Heritage List within 20km of the project site. Birr Observatory is located approximately 6.4km south west of the nearest turbine (T9).

11.4.9 COUNTY DEVELOPMENT PLAN

11.4.9.1 Archaeological Heritage

Offaly County Development Plan 2021-2027

It is a Policy (BHP-33) of Offaly County Council to:-

“support and promote the protection and appropriate management and sympathetic enhancement of the county’s archaeological heritage within the Plan area, in particular by implementing the Planning and Development Act 2000 (as amended) and the National Monuments Act 1930 (as amended).” (Offaly County Council 2021, 334).

It is an Objective (BHO-05) of Offaly County Council to:-

“protect archaeological sites and monuments, and archaeological objects, which are listed in the Record of Monuments and Places, and to seek their preservation in situ (or at a minimum, preservation by record) through the planning process.” (ibid., 337).

Table 10.1 of the Offaly County Development Plan (*ibid.*, 325) contains a list of *National Monuments in State Ownership in County Offaly*. There are no National Monuments in State Ownership recorded in the Offaly County Development Plan within the wind farm site or within 5km of the wind farm site. There are no National Monuments in State Ownership recorded in the Offaly County Development Plan within the underground electricity line or within 100m either side of the underground electricity line.

Table 10.2 of the Offaly County Development Plan (*ibid.*, 325 - 326) contains a list of *National Monuments in Guardianship of the State in County Offaly*. There are no National Monuments in Guardianship of the State recorded in the Offaly County Development Plan within the wind farm site or within 5km of the wind farm site. There are no National Monuments in Guardianship of the State recorded in the Offaly County Development Plan within the underground electricity line or within 100m either side of the underground electricity line.

Table 10.3 of the Offaly County Development Plan (*ibid.*, 326) contains a list of *Monuments Protected by Preservation Order in County Offaly*. There are no Monuments Protected by Preservation Order recorded in the Offaly County Development Plan within the wind farm site or within 5km of the wind farm site. There are no Monuments Protected by Preservation Order recorded in the Offaly County Development Plan within the underground electricity line or within 100m either side of the underground electricity line.

The Offaly County Development Plan (*ibid.*, 327) contains a list of *Zones of Archaeological Potential* within the county. There are no Zones of Archaeological Potential recorded in the Offaly County Development Plan within the wind farm site or within 5km of the wind farm site. There are no Zones of Archaeological Potential recorded in the Offaly County Development Plan within the underground electricity line or within 100m either side of the underground electricity line.

There are 23 recorded Early Medieval monasteries in County Offaly. Conservation Management Plans have been prepared for Clonmacnoise, Leamanaghan, Durrow, Rahan and Killeigh (*ibid.*, 327), none of which are within the project site or within 5km

of the project site.

11.4.9.2 Architectural Heritage

Offaly County Development Plan 2021-2027

It is a Policy (BHP-01) of Offaly County Council to:-

"ensure the protection, sympathetic and sensitive modification, alteration, extension or reuse of protected structures or parts of protected structures, and the immediate surrounds included and proposed for inclusion in the Record of Protected Structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, together with the integrity of their character and setting." (ibid., 331).

It is an Objective (BHO-01) of Offaly County Council to:-

"review the Record of Protected Structures on an on-going basis and make additions, deletions and corrections as appropriate over the period of this Plan." (ibid., 337).

The Offaly County Development Plan contains the *Record of Protected Structures* for the county. There are no Protected Structures recorded in the Offaly County Development Plan within the proposed wind farm site or within 1km of the proposed wind farm site. There are 15 Protected Structures recorded in the Offaly County Development Plan within 5km of the proposed wind farm site (**Figure 11.11**) (13 no. of which are also included in the National Inventory of Architectural Heritage – see **Section 11.4.10.1** below).

- Whigsborough House (RPS No. 40-02) located c. 1.4km north east of T11;
- Whigsborough House Folly (RPS No. 40-03) located c. 1.4km north east of T11;
- St. James's Roman Catholic Church (RPS No. 49-01) located c. 1.5km south east of T11;
- Eglisk Castle (RPS No. 49-02) located c. 1.5km south east of T9;
- Eglisk Cottage (RPS No. 49-05) located c. 1.4km south east of T11;
- Eglisk Church of Ireland Church (RPS No. 49-03) located c. 1.5km south east of T9;
- Tinnacross House (RPS No. 50-17) located c. 3.6km south east of T11;
- Rathmount Roman Catholic Church (RPS No. 50-19) located c. 4.1km east of T11;
- Thomastown Park House Walled Garden, Outbuilding, Deer Park and former Entrance Gates (RPS No. 50-18) located c. 4.8km south east of T11;
- Clonbeale House (RPS No. 49-07) located c. 3.6km south east of T9;
- Tullanisk House (RPS No. 49-06) located c. 4.4km south west of T9;
- Tullanisk House Gate Lodge (RPS No. 49-08) located c. 4.6km south west of T9;
- Thatched House (RPS No. 49-04) located c. 3.6km south west of T10;
- Kiltimony Lodge (RPS No. 49-09) located c. 4.4km south west of T9; and,

- Tithe Barn (RPS No. 41-22) located c. 3.5km north east of T11.



Figure 11.11: Protected Structures recorded in the Offaly County Development Plan within 5km of the proposed wind farm site

There are no Protected Structures recorded in the Offaly County Development Plan within the underground electricity line. There are two Protected Structures recorded in the Offaly County Development Plan within 100m either side of the underground electricity line (**Figure 11.12**) (both of which are also included in the National Inventory of Architectural Heritage – see **Section 11.4.10.1** below).

- Eglisk Castle (RPS no. 49-02) located c. 75m north of the underground electricity line; and,
- Eglisk Church of Ireland Church (RPS no. 49-03) located c. 95m north of the underground electricity line.

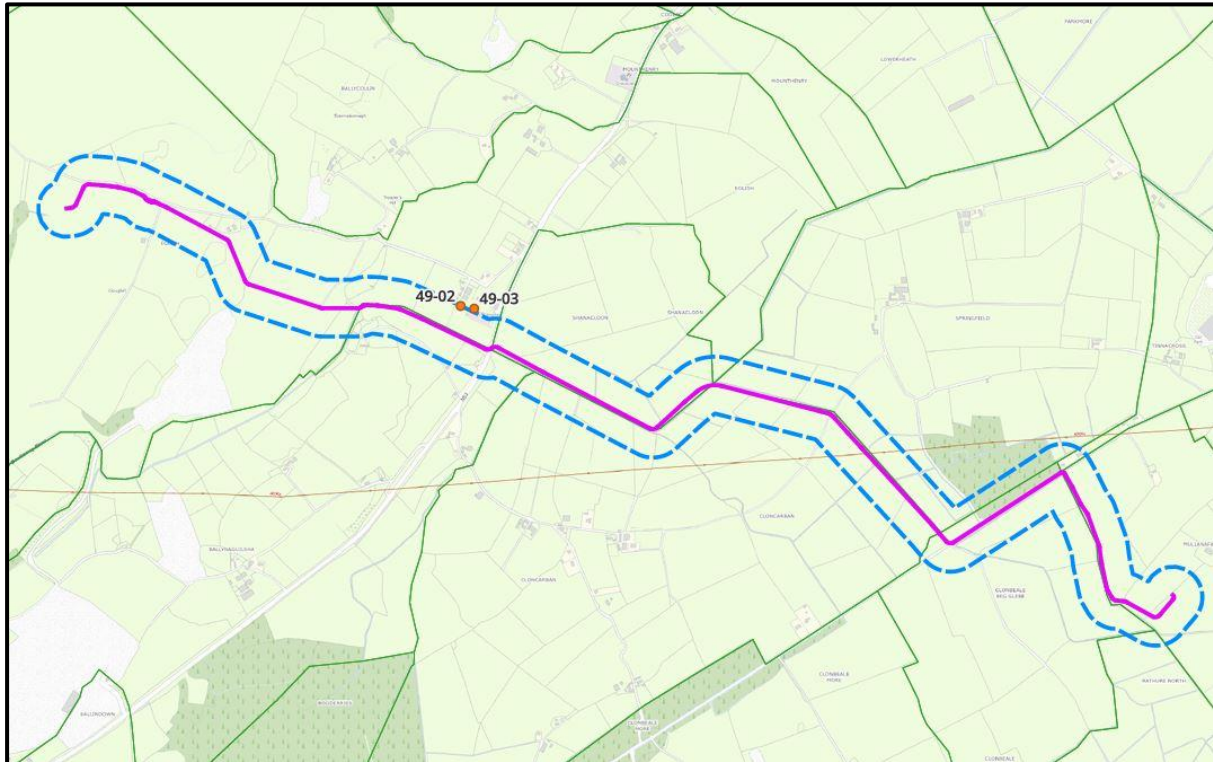


Figure 11.12: Protected Structures recorded in the Offaly County Development Plan within 100m either side of the underground electricity line

There are no Architectural Conservation Areas recorded in the Offaly County Development Plan (*ibid.*, 320) within the proposed wind farm site or within 5km of the proposed wind farm site. There are no Architectural Conservation Areas recorded in the Offaly County Development Plan within the underground electricity line or within 100m either side of the underground electricity line.

11.4.9.3 Cultural Heritage

Offaly County Development Plan 2021-2027

There are no designated Cultural Heritage features recorded in the Offaly County Development Plan within the project site or within 5km of the project site.

11.4.10 NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE

11.4.10.1 Building Survey

The National Inventory of Architectural Heritage maintains a non-statutory register of buildings, structures, etc. recorded on a county basis (www.buildingsofireland.ie).

There are no structures recorded on the National Inventory of Architectural Heritage within the proposed wind farm site or within 1km of the proposed wind farm site. There are 13 structures recorded on the National Inventory of Architectural Heritage within 5km of the proposed wind farm site (all of which are recorded as Protected Structures) (**Figure 11.13**).

- Whigsborough House (NIAH No. 14930001) located c. 1.4km north east of T11;
- Whigsborough House Folly (NIAH No. 14930002) located c. 1.4km north east of T11;
- St. James's Roman Catholic Church (NIAH No. 14930003) located c. 1.5km south east of T11;
- Eglish Castle (NIAH No. 14930004) located c. 1.5km south east of T9;
- Eglish Cottage (NIAH No. 14930009) located c. 1.4km south east of T11;
- Eglish Church of Ireland Church (NIAH No. 14930005) located c. 1.5km south east of T9;
- Tinnacross House (NIAH No. 14930007) located c. 3.6km south east of T11;
- Rathmount Roman Catholic Church (NIAH No. 14931002) located c. 4.1km east of T11;
- Thomastown Park House Walled Garden, Outbuilding, Deer Park and former Entrance Gates (NIAH No. 14931001) located c. 4.8km south east of T11;
- Clonbeale House (NIAH No. 14935010) located c. 3.6km south east of T9;
- Tullanisk House (NIAH No. 14935003) located c. 4.4km south west of T9;
- Tullanisk House Gate Lodge (NIAH No. 14935013) located c. 4.6km south west of T9; and,
- Thatched House (NIAH No. 14930006) located c. 3.6km south west of T10.

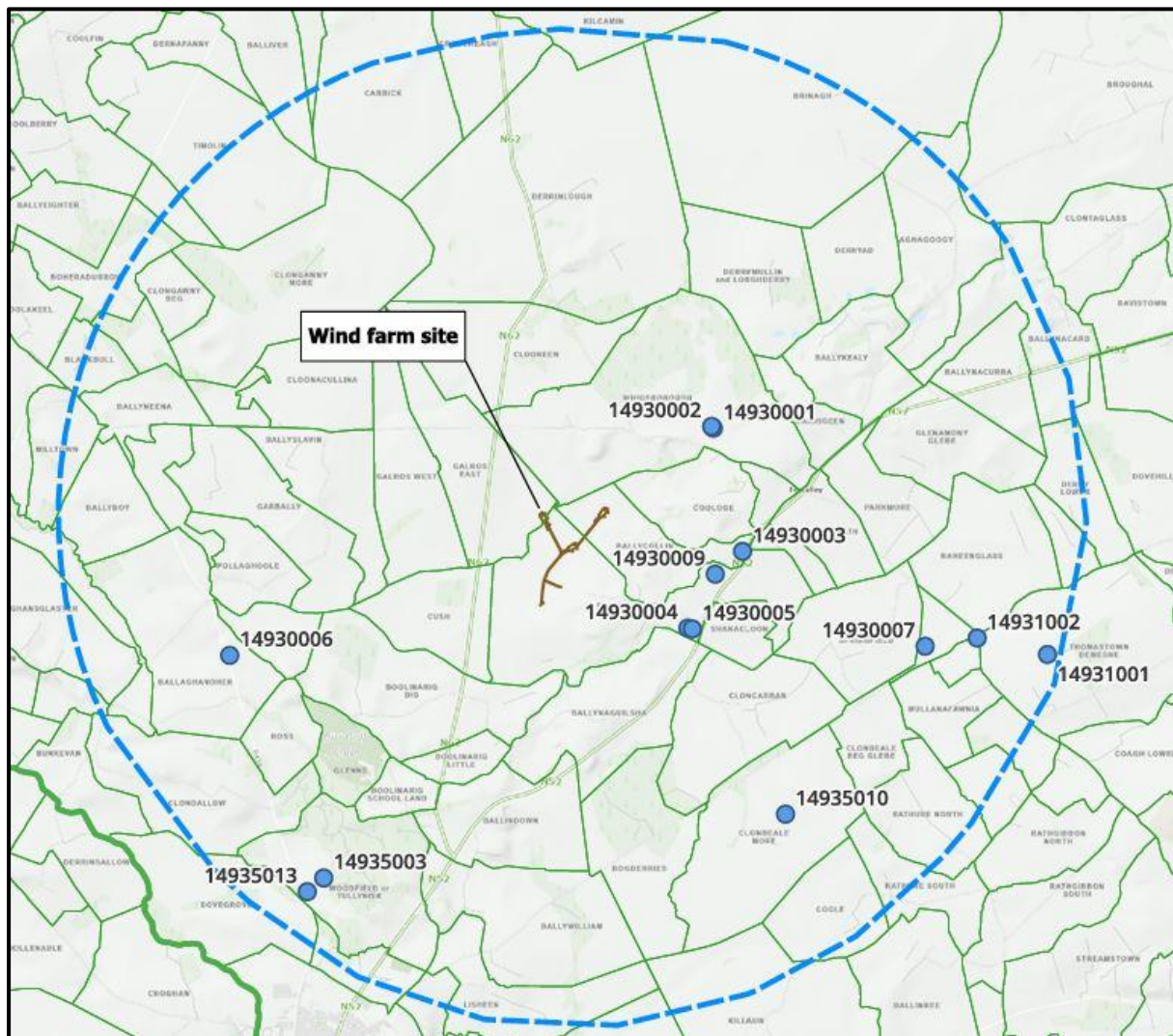


Figure 11.13: Structures recorded on the National Inventory of Architectural Heritage within 5km of the proposed wind farm site

There are no structures recorded on the National Inventory of Architectural Heritage within the underground electricity line. There are two structures recorded on the National Inventory of Architectural Heritage within 100m either side of the underground electricity line (both of which are recorded as Protected Structures) (**Figure 11.14**).

- Eglis Castle (NIAH No. 14930004) located c. 75m north of the underground electricity line; and,
- Eglis Church of Ireland Church (NIAH No. 14930005) located c. 95m north of the underground electricity line.

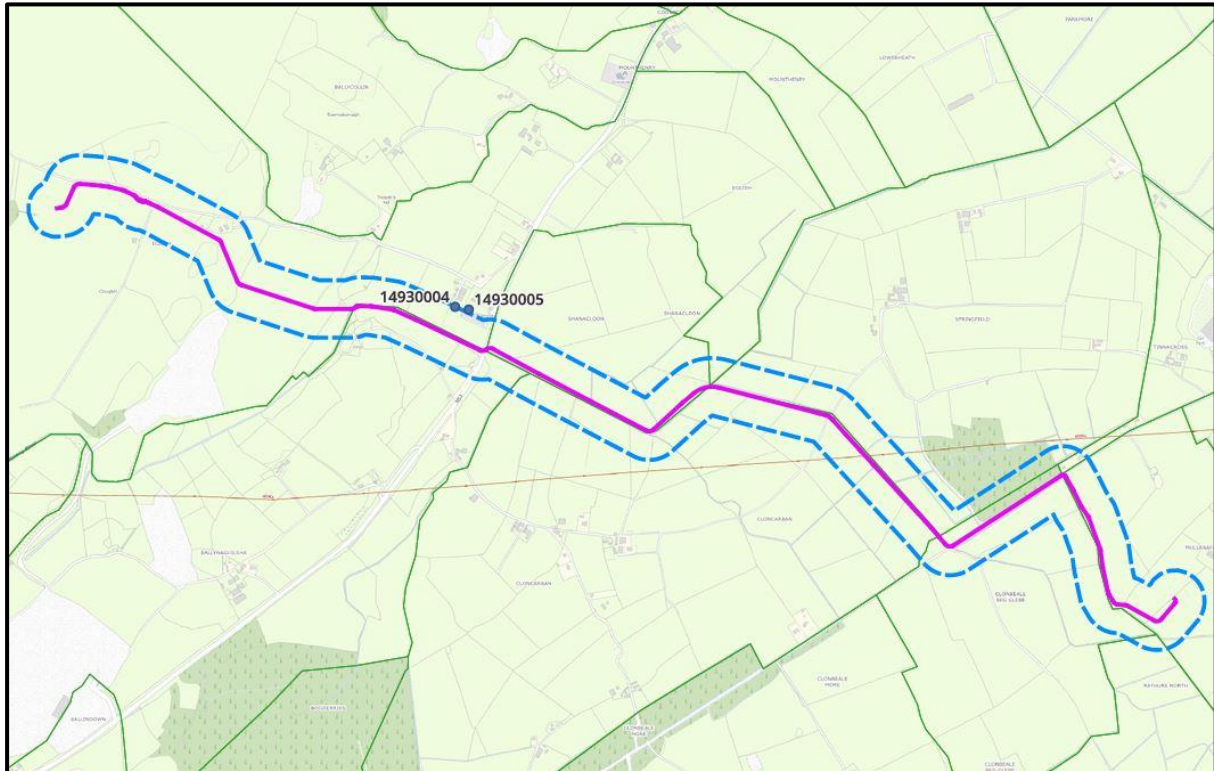


Figure 11.14: Structures recorded on the National Inventory of Architectural Heritage within 100m either side of the underground electricity line

11.4.10.2 Historic Gardens & Designated Landscapes

There are no historic gardens or designed landscapes recorded on the National Inventory of Architectural Heritage within the proposed wind farm site.

There is one historic garden recorded on the National Inventory of Architectural Heritage within the underground electricity line (**Figure 11.15**).

- Eglsh Castle (NIAH Garden No. 87) located within the underground electricity line.

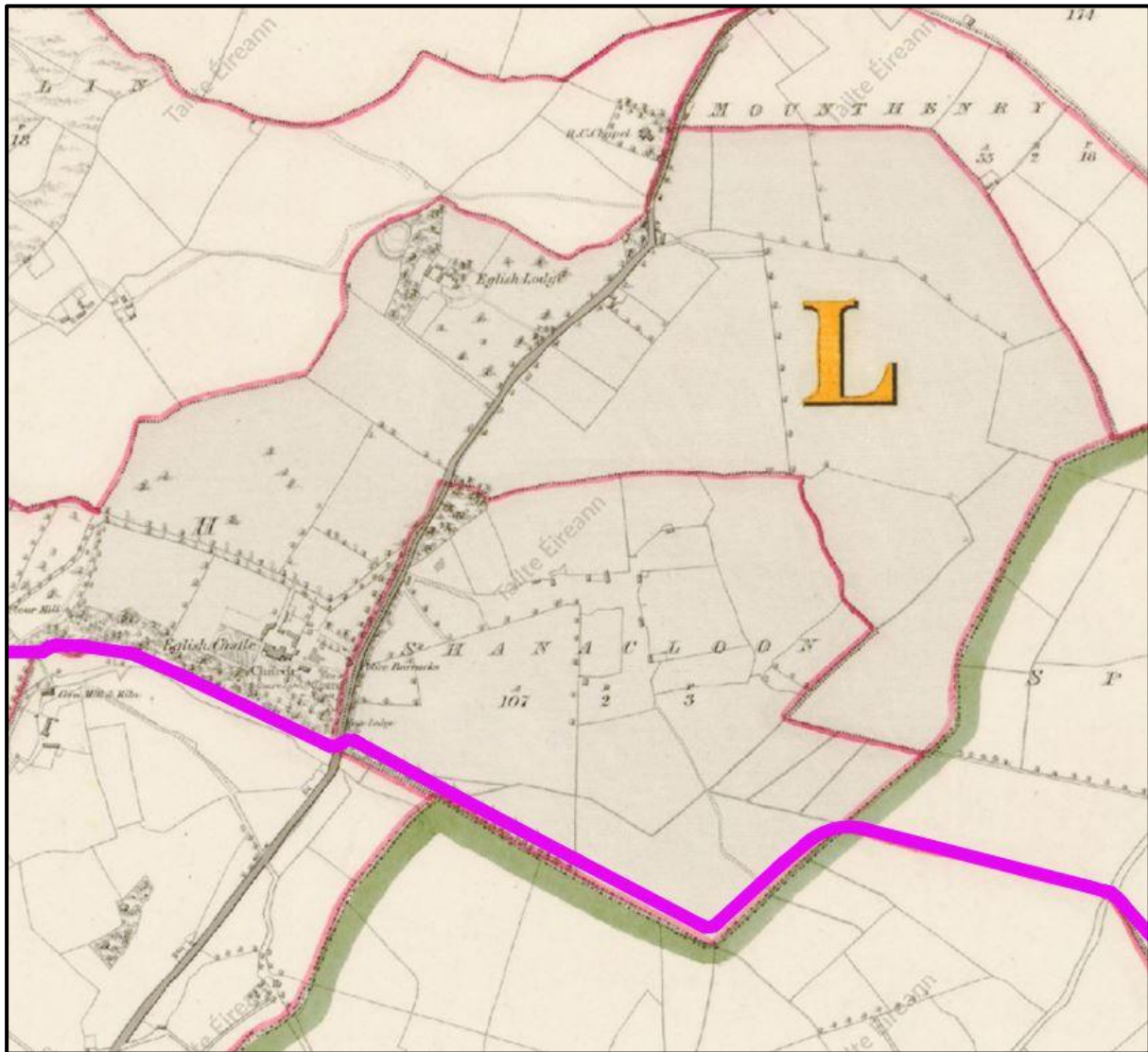


Figure 11.15: Historic Garden recorded on the National Inventory of Architectural Heritage within the underground electricity line

11.4.11 SITE-SPECIFIC ARCHAEOLOGICAL FIELDWORK

11.4.11.1 Site Visit

Field inspection is necessary to determine the extent, character and condition of archaeological, architectural and cultural heritage features, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The visit for the proposed wind farm site was carried out in November 2022 in dry weather conditions. The site visit for the underground electricity line was carried out in September 2026 in dry weather conditions.

The location of Turbine 9 (**Plate 11.1**) was recorded as bog, and the depth of the drain sections indicated peat was in excess of 1m in this area. The peat was mid- to dark brown in colour, well-humified, and with occasional light rooty material evident on the field surface. Exposed drain sections in the vicinity were also checked for potential

archaeological features, although most of the drains were filled with water or had silted up. No archaeological features or artefacts were revealed in the vicinity of Turbine 9.

The location of Turbine 10 (**Plate 11.2**) was recorded as close to a headland on a cutaway/ex-production area. The area of land take required for Turbine 10 encompasses both high and low peat fields. Some waterlogging/overtopping of drains was noted in the vicinity of Turbine 10, although the surface of the bog was for the most part firm enough to walk without difficulty. At the southern end of the bog, c. 300m from the centre of the hardstand area, the bog was under water. The hardstand is located in an area of dark brown, well-humified peat with occasional rooty inclusions. Minimum depth measured in a drain to the east of the hardstand location was 0.50m. No archaeological features or artefacts were revealed in the vicinity of Turbine 10.

The location of Turbine 11 (**Plate 11.3**) was noted as being much lower and wetter than that at Turbines 9 and 10, and as far as could be ascertained the peat was also notably deeper (in excess of 1m). A tree horizon, comprising rooty material, detritus and milled tree stumps, was visible on the field surface and in drains. The peat was dark brown in colour and was poorly humified. On occasion pool peat was visible in exposed drain sections and drains were filled with water and/or had re-vegetated. No archaeological features or artefacts were revealed in the vicinity of Turbine 11.

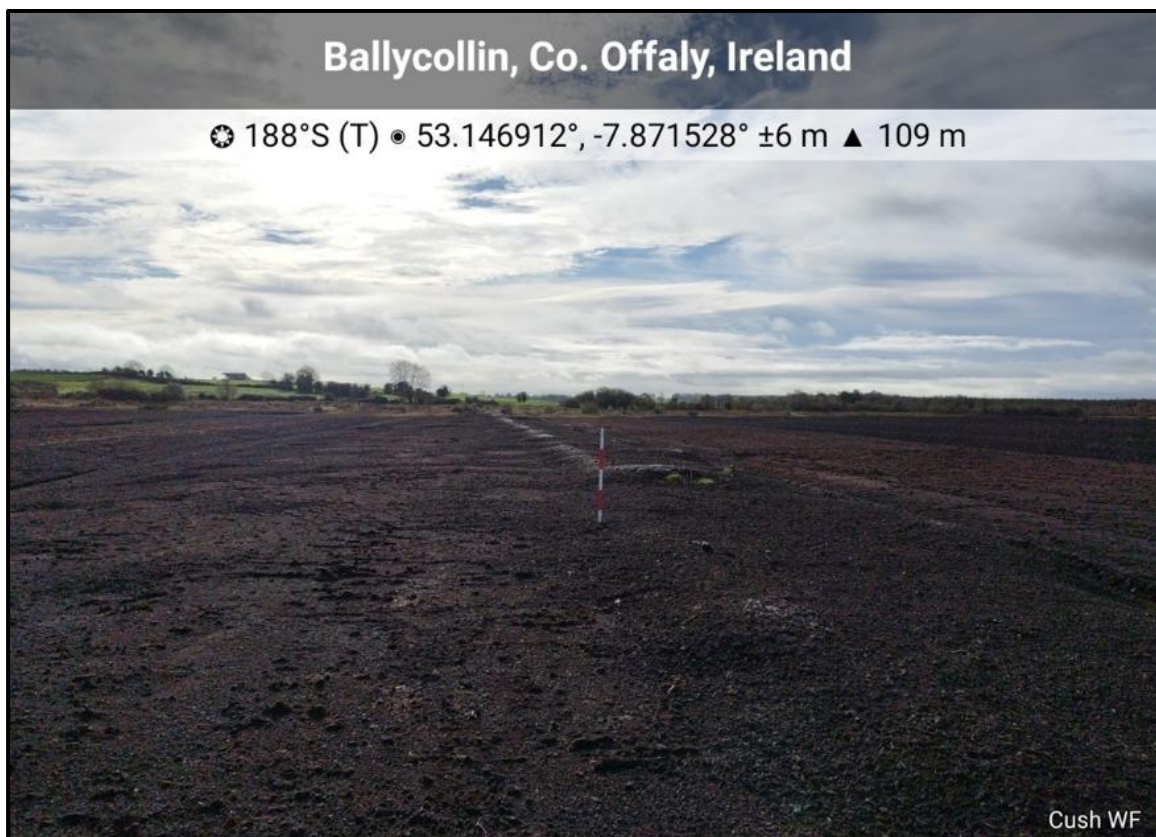


Plate 11.1: General location of Turbine 9

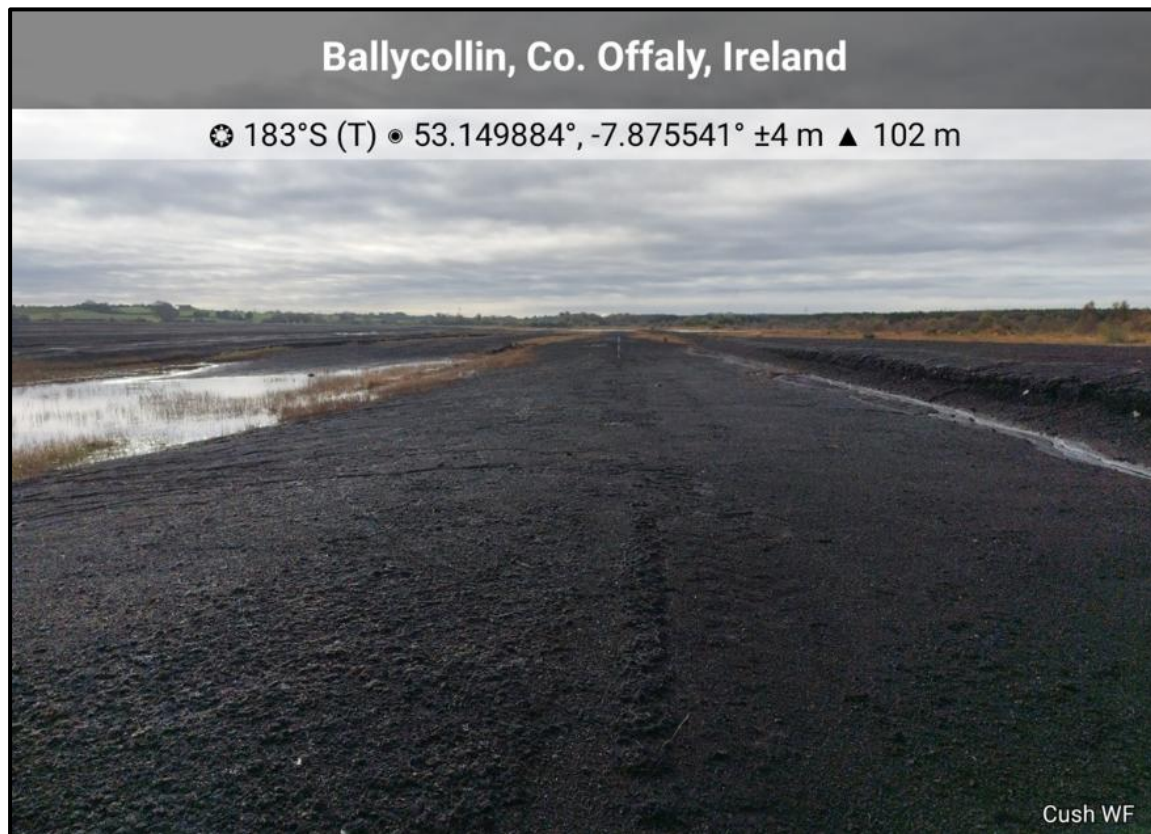


Plate 11.2: General location of Turbine 10



Plate 11.3: General location of Turbine 11

No archaeological, architectural or cultural heritage features were revealed within the proposed wind farm site as a result of carrying out the walkover survey.

No archaeological, architectural or cultural heritage features were revealed within the underground electricity line as a result of carrying out the walkover survey.

11.4.11.2 *Peatland Walkover Survey*

A specialist peatland walkover survey was carried out over the proposed wind farm site in April 2026 in generally clear, bright conditions but with intermittent heavy showers of rain and hail (Moore 2026; **Annex 11.1**). In summary, the field inspection of Galros Bog identified one possible archaeological site, which lies outside the area subject to planning (planning application boundary, see **Section 1.3, Chapter 1**) and will therefore not be directly affected by construction of the wind turbines.

None of the six archaeological sites previously identified by the Irish Archaeological Wetland Unit in Galros Bog were found during the field inspection. One possible site was identified in Whigsborough townland (ITM 608626.7418, 711340.6215), close to the northern end of the bog and approximately 400m north west of Turbine 11. Visible in the section of a west-facing drain it comprised 5–6 parallel roundwoods with occasional smaller pieces (**Plate 11.4**). The possible site was not visible in the opposing drain face which was slightly lower, nor was there any evidence of it having been exposed and milled on the adjacent field surfaces. The drains to the east and west were also checked but no further sightings were identified.

The possible archaeological site has the appearance of a small togher or possibly a platform of parallel roundwoods and brushwood. Visual examination of the wood noted that it was quite red in colour and the northernmost piece was particularly irregular, gnarly and root-like. Early prehistoric sites in bogs can, however, be quite natural in appearance. Furthermore its location approximately 150m north west of a no longer extant peatland structure (RMP OF030-083) is notable, where distributions of archaeological sites within bogs tend to remain relatively static over time. It is also possible however that the pieces of wood are the roots of a tree, the stump of which lies further into and beneath the field surface, and their truncation by the drain has caused them to appear artificially regular and parallel. Against this there was little other natural wood evident in the area. Ultimately, in the absence of further investigation, it is not possible to state for certain that this is an archaeological site.



Plate 11.4: General Possible previously unrecorded archaeological site visible in drain face approximately 400m north west of Turbine 11

Other features of note within Galros Bog were small deposits of late 19th and early 20th century ceramics and glass close to the eastern boundary. Occurring as several discrete deposits, these were spread across the field surfaces and had clearly been milled and dragged by harvesting machinery. Small deposits of bog ore were also encountered, as were natural tree stumps and roots, both in drains and on field surfaces where they were exposed, sun-bleached and damaged by milling.

11.4.11.3 Geophysical Survey

An archaeological geophysical survey of the c.5km long underground electricity line was carried out by Target Archaeological Geophysics in July 2026 (Target Archaeological Geophysics 2026; **Annex 11.2**). No responses of definite archaeological character or significant archaeological potential were recorded by the geophysical survey along the route of the proposed underground electricity line. No clear representation of enclosure remains, concentrations of ditch-type responses, potential pit groupings or burnt/fired deposits are indicated by the results. An abundance of responses associated with recent land use were detected, including remnants of former/suspected former field boundaries, past cultivation, land drains and modern ferrous/magnetic disturbance. Small-scale positive responses, trends and zones of increased response of potential note were identified by the geophysical survey. The precise nature of these anomalies remains uncertain. While an archaeological explanation should not be entirely dismissed, it is suggested that the majority of these responses relate to effects from recent land use, modern ferrous/magnetic disturbance and/or natural soil/geological variation (Target Archaeological Geophysics 2026, 14).

11.5 DESCRIPTION OF LIKELY EFFECTS

All elements of the project are assessed as having the potential to affect or impact upon archaeological, architectural or cultural heritage features, either during the construction or decommissioning phases through excavations, or through visual effects during the operation phase.

Construction phase effects may arise as a result of the development of turbine foundations and hardstand areas, access tracks, underground cabling, grid connection works, haul route upgrade works and associated activities; which may involve the mechanical excavation of overburden down to and through geologically deposited strata at their identified locations. Operation phase effects may arise as a result of the visual effects resulting from the presence of the proposed wind turbines in the landscape. Decommissioning phase effects are assessed as likely to be similar to the construction phase but of a reduced magnitude and significance.

As a result of carrying out this assessment, the following likely archaeological, architectural and cultural heritage direct, indirect, construction, operation, decommissioning, cumulative and residual effects have been assessed. The following sections undertake an assessment of all elements of the project described in **Chapter 3**.

11.5.1 CONSTRUCTION PHASE

11.5.1.1 Archaeological Resource

There are no Recorded Monuments or any additional statutorily protected archaeological features within the footprint of the proposed wind farm site and underground electricity line. Accordingly, it is assessed that there will be no direct construction phase effect on the recorded archaeological resource.

There are four Recorded Monuments within 1km of the proposed wind farm site. There are four Recorded Monuments within 100m either side of the underground electricity line. It is assessed that there will be a likely permanent, direct and imperceptible construction phase effect on any previously unrecorded archaeological remains that may exist within the project site and which may be discovered during the construction phase.

It is assessed that there will be a likely temporary, reversible and imperceptible construction phase visual and noise effect on the archaeological resource.

There are two Registered Historic Monuments within 5km of the proposed wind farm site. It is assessed, given the intervening distances, that there will be no construction phase visual or noise effect on the two Registered Historic Monuments within 5km of the proposed wind farm site.

It is assessed that there will be a likely permanent, direct and imperceptible construction phase effect on any townland, parish or barony boundaries that may be affected by the project.

No direct construction works are proposed within any natural watercourse. The proposed access tracks have been designed to avoid natural watercourse crossings; where crossings of existing artificial drainage ditches are required, appropriately sized culverts or cross-drains will be installed in accordance with the drainage design. The

underground electricity line will cross the Rapemills River at 2 no. locations using Horizontal Directional Drilling (HDD), such that no culverting or in-stream works will be required. Accordingly, no direct disturbance of the bed of any natural watercourse is proposed and no effect on underwater archaeology is anticipated.

11.5.1.2 Architectural Resource

There are no Protected Structures, Architectural Conservation Areas, Proposed Architectural Conservation Areas or structures recorded on the NIAH within the footprint of the proposed wind farm site and underground electricity line. Accordingly, it is assessed that there will be no direct construction phase effect on the architectural resource.

There are 15 Protected Structures within 5km of the proposed wind farm site, 13 no. of which are also included in the National Inventory of Architectural Heritage. There are two Protected Structures within 100m either side of the underground electricity line. There are two structures recorded on the National Inventory of Architectural Heritage within 100m either side of the underground electricity line (both of which are recorded as Protected Structures). It is assessed that there will be a likely temporary, reversible and imperceptible construction phase visual and noise effect on the architectural resource.

11.5.1.3 Cultural Heritage Resource

There are no protected cultural heritage features within the footprint of the proposed wind farm site and underground electricity line. Accordingly, it is assessed that there will be no direct construction phase effect on the protected cultural heritage resource.

There is one historic garden recorded on the National Inventory of Architectural Heritage within the underground electricity line. There are no above-ground features associated with the historic garden within the underground electricity line, and no associated features were recorded as a result of carrying out the geophysical survey (Target Archaeological Geophysics 2026; **Annex 11.2**). It is assessed that there will be a likely permanent, direct and imperceptible construction phase effect on any previously unrecorded features associated with the historic garden recorded on the National Inventory of Architectural Heritage that may exist within the underground electricity line and which may be discovered during the construction phase.

It is assessed that there will be a likely temporary, reversible and imperceptible construction phase visual and noise effect on the historic garden recorded on the National Inventory of Architectural Heritage.

11.5.2 OPERATION PHASE

11.5.2.1 Archaeological Resource

There are no Recorded Monuments or any additional statutorily protected archaeological features within the footprint of the proposed wind farm site and underground electricity line.

There are four Recorded Monuments within 1km of the proposed wind farm site, none of which survive above-ground. It is assessed, based on the fact that they no longer

survive above-ground, that there will be no operation phase visual effect on the four Recorded Monuments within 1km of the proposed wind farm site.

There are an additional 10 Recorded Monuments within 2km of the proposed wind farm site. It is assessed, based on analysis of photomontages prepared for the project (**Annex 10.2** and **Annex 10.3**), that there will be a likely long-term, reversible and moderate operation phase visual effect on the additional 10 Recorded Monuments within 2km of the proposed wind farm site. Following decommissioning any moderate effects will be reversed.

There are four Recorded Monuments within 100m either side of the underground electricity line. It is assessed, given the fact that the electricity line will be underground, that there will be no operation phase visual effect on the four Recorded Monuments within 100m either side of the underground electricity line.

There are two Registered Historic Monuments within 5km of the proposed wind farm site. It is assessed, based on analysis of photomontages prepared for the project (**Annex 10.2** and **Annex 10.3**), that there will be a likely long-term, reversible and moderate – slight operation phase visual effect on the two Registered Historic Monuments within 5km of the proposed wind farm site. Following decommissioning any moderate – slight effects will be reversed.

A 20km study area has been applied around the project site to assess the presence of any World Heritage Sites or sites included in the Tentative List as consideration for nomination to the World Heritage List. There are no World Heritage Sites within 20km of the project site. There is one site included in the Tentative List as consideration for nomination to the World Heritage List within 20km of the project site. Birr Observatory is located approximately 6.4km south west of the nearest turbine (T9). It is assessed, given the distance between Birr Observatory and the project site and the intervening landscape, that there will be a likely long-term, reversible and imperceptible operation phase visual effect on this site included in the Tentative List as consideration for nomination to the World Heritage List. Following decommissioning any imperceptible effects will be reversed.

It is assessed that there will be no likely operation phase noise effect on the archaeological resource.

11.5.2.2 Architectural Resource

There are no Protected Structures, Architectural Conservation Areas, Proposed Architectural Conservation Areas or structures recorded on the NIAH within the footprint of the proposed wind farm site and underground electricity line.

There are 15 Protected Structures within 5km of the proposed wind farm site, 13 no. of which are also included in the National Inventory of Architectural Heritage. Having regard to the assessment presented in **Chapter 10** and the photomontages at **Annexes 10.2** and **Annex 10.3**, operation phase visual effects on Protected Structures and structures recorded on the NIAH within 5km of the proposed wind farm site are assessed to range from imperceptible to moderate. The highest assessed effect relates to Whigsborough House and its setting, where **Chapter 10** identifies a Moderate visual effect. Effects on more distant and/or screened heritage receptors are lower. Following decommissioning any moderate effects will be reversed. No significant effect on the architectural heritage resource is therefore predicted.

There are two Protected Structures within 100m either side of the underground electricity line, both of which are also included in the National Inventory of Architectural Heritage. It is assessed, given the fact that the electricity line will be underground, that there will be no operation phase visual effect on the two Protected Structures (which are also structures recorded on the National Inventory of Architectural Heritage) within 100m either side of the underground electricity line.

It is assessed that there will be no likely operation phase noise effect on the architectural resource.

Although Birr Castle and Demesne lies outside the 5km study area for Protected Structures, its setting has also been considered by reference to Chapter 10 and Annex 10.1. At Viewpoint 21, within the demesne at the Leviathan telescope, screening results in an Imperceptible visual effect despite the receptor's Very High sensitivity. Chapter 10 also addresses elevated views from the Castle's Music Room, concluding that the proposed Phase II turbines are outside the available field of view and are not expected to be visible. Wider views towards the Castle are represented by Viewpoint 27 at Westgate, where the effect is assessed as Slight. Accordingly, no likely significant operation phase visual effect on the setting of Birr Castle and Demesne is predicted.

11.5.2.3 Cultural Heritage Resource

There are no protected cultural heritage features within the footprint of the proposed wind farm site and underground electricity line.

There is one historic garden recorded on the National Inventory of Architectural Heritage within the underground electricity line. There are no above-ground features associated with the historic garden within the underground electricity line, and no associated features were recorded as part of the geophysical survey (Target Archaeological Geophysics 2026). It is assessed, given the fact that the electricity line will be underground, that there will be no likely operation phase effect on the historic garden.

11.5.3 DECOMMISSIONING PHASE

The decommissioning phase will involve the dismantling and removal of the proposed wind turbines and other above ground infrastructure, together with localised below ground works as described in **Chapter 3**.

Turbine foundations will be grubbed up to a depth of approximately 1m below ground level; hardstanding areas and access tracks will generally be removed; buried internal electrical cabling will be removed where this would not cause greater environmental disturbance, as described in **Chapter 3**; and the electrical switch room will be demolished, with its foundations and building services grubbed up to approximately 1m below ground level. Excavated areas will subsequently be backfilled and reinstated in accordance with the Decommissioning Management Plan to be agreed with the Planning Authority.

These works will take place principally within areas which will already have been subject to ground disturbance during the construction phase of the project and, where relevant, archaeological monitoring in accordance with the mitigation measures set out in **Section 11.6**. Accordingly, no new substantial disturbance of

previously undisturbed ground is anticipated during decommissioning and no likely significant direct effect on the archaeological resource is predicted.

Decommissioning activities, including the temporary presence and movement of machinery and the dismantling and removal of infrastructure, will give rise to short-term changes in the visual and noise environment. Having regard to their temporary nature and reduced intensity relative to the construction phase, these effects on the archaeological, architectural and cultural heritage resource are assessed as temporary, reversible and imperceptible.

The underground electricity line will also be decommissioned. The electricity line will be disconnected and removed from the existing ducting. Localised excavations will be required at jointing locations to facilitate removal of the cable in sections; however, the ducting will remain in situ in order to avoid reopening the underground electricity line trench and thereby minimise further ground disturbance. As these localised works will occur within areas previously disturbed during construction, no likely significant effect on the archaeological, architectural or cultural heritage resource is predicted.

Following removal of the wind turbines and associated above-ground infrastructure and completion of reinstatement works, the visual presence of the project within the surrounding landscape will cease. Any operation phase visual effects on cultural heritage receptors will therefore be reversed.

11.5.4 CUMULATIVE EFFECTS

Cumulative effects are defined as:-

"The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects" (Environmental Protection Agency 2022, Section 3: 52).

Cumulative effects encompass the combined effects of developments or activities on a range of receptors. In this case, the receptors are archaeological, architectural and cultural heritage sites. Cumulative effects at the construction, operation and decommissioning phases are considered. All developments listed at **Chapter 1** have been assessed; however, due to their scale and relative proximity, the developments listed below are considered to be of particular relevance.

The assessment of cumulative effects is based principally on the wind energy developments outlined in **Chapter 1** and which occur within approximately 20km of the proposed wind farm site.

There are 10 no. existing, permitted or proposed wind farm developments within approximately 20km of the proposed wind farm site. The name, relative distance and number of turbines of these are included in **Table 11.3**, below.

Wind Farm	Number of turbines	Distance to nearest turbine	Status
Cush Wind Farm Phase I	8	500m (T9)	Permitted ²
Carrig Renewables Wind Farm	7	12.5 km (T9)	Permitted
Derrinlough Wind Farm	21	2.2km (T10)	Existing
Cloghan Wind Farm	9	4.3 km (T11)	Existing
Meenwaun Wind Farm	4	3km (T10)	Existing
Leabeg Wind Farm	2	11.2 km (T11)	Existing
Skehanagh Wind Farm	5	15.7 km (T9)	Existing
Carrig Wind Farm	3	14.4 km (T9)	Existing
Ballincor	11	11.6 km (T9)	Proposed
Lea Mor Turbine	1	11.3km (T11)	Permitted

Table 11.3: Cumulative Baseline

Of the total number of cumulative turbines, the densest concentration are the existing developments of Meenwaun, Cloghan and Derrinlough, to the north of the proposed wind farm site. Cush Wind Farm Phase I is located immediately south west of the site. The smaller developments of Carrig and Skehanagh are both existing at 14km-15km from the site, whilst Carrig Renewables Wind Farm is permitted and Ballincor Wind Farm is proposed. The smaller existing Leabeg Wind Farm and permitted Lea Mor Turbine are located to the north. As confirmed in **Chapter 10** (Landscape and Visual) the primary cumulative relationship will be with Cush Wind Farm Phase I, where the proposed development presents as an extension to the north east of the permitted wind farm.

It is clear from this cumulative context that the wider landscape is strongly influenced by wind energy development which is present and visible throughout the area, with turbines a recurring element in views from much of the landscape.

As confirmed in **Chapter 10** (Landscape and Visual), the cumulative landscape and visual effects of the project are considered to be not significant.

Construction phase cumulative effects are largely concerned with direct impacts on any unrecorded sub-surface archaeological features or artefacts which may exist within the area where it is proposed to construct the project. There will be no interaction between any archaeological remains which might survive within the project site and the above-mentioned wind farms. As likely direct effects on the archaeological, architectural and cultural heritage resource will be localised and contained within the project site and have been assessed and mitigated (in respect of the subject project), cumulative direct effects are not likely to occur during the construction phase of the project.

In terms of other (non-wind energy) existing, permitted or proposed developments, it is assessed that there are no developments which could act in combination with the project to result in direct or indirect construction or decommissioning phase effects.

Overall, it is assessed that the operation of the project, in combination with Cush Wind Farm Phase I and the other existing, permitted and proposed developments identified

² Currently subject to a Section 146B Alteration Request (to alter the permitted turbine parameter range) to An Coimisiún Pleanála: ACP-324405-26.

in **Chapter 1**, will result in a long-term, reversible and not significant cumulative visual effect on the archaeological, architectural and cultural heritage resource.

11.5.5 'DO NOTHING' EFFECTS

If the project were not to proceed, there would be no likely effect on the archaeological, architectural or cultural heritage resource.

11.5.6 INTERACTIVE EFFECTS

The excavation of soil during the construction of the project may result in the discovery of previously unrecorded cultural heritage features; and, therefore, it is assessed that there is a likelihood for interaction between land and soil and cultural heritage. However, on the basis of this assessment, it is concluded that the effect of interaction is not likely to be significant.

During the operation phase, it is assessed that the project will likely result in, at worst, moderate visual effects on archaeological and architectural heritage features; and, therefore, will result in, at worst, a moderate interaction between heritage and landscape.

11.5.7 RISK OF ACCIDENTS

It is assessed that there will be no likely effects on the archaeological, architectural or cultural heritage resource as a result of any unplanned accidents which may occur during the construction, operation or decommissioning phases.

11.5.8 WORST CASE EFFECTS

It is assessed that, under a 'worst-case' scenario, and in the absence of mitigation, there would be a likely permanent and direct construction phase effect on any previously unrecorded archaeological remains that may exist within the project site.

11.6 MITIGATION & MONITORING MEASURES

The layout of the proposed wind farm site and underground electricity line has been designed to avoid recorded archaeological, architectural and cultural heritage features. A specialist peatland survey, a geophysical survey, and 2 no. walkover surveys have been carried out to ensure there are no above-ground previously unrecorded archaeological features within the project site.

11.6.1 MITIGATION MEASURES

The following mitigation measures are proposed for the construction phase of the project:-

- Post-consent pre-construction test trenching shall be carried out within the footprint of the three turbine bases and hardstand areas. Test trenching will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during test trenching;
- Archaeological monitoring of all excavations associated with construction of

the wind farm shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring;

- Archaeological monitoring of all excavations associated with construction of the underground electricity line shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring;
- Archaeological monitoring of all excavations at townland, parish and barony boundaries shall be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring;
- Archaeological monitoring of decommissioning phase works shall be carried out in areas which were not subject to ground disturbance during the construction phase of the project. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland, and to the satisfaction of Offaly County Council. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring; and,
- Written and photographic records will be created of any townland, parish and barony boundaries that may be impacted on. The written and photographic records will be created in advance of excavations commencing on site.

No mitigation measures are assessed as required for the operation phase.

11.6.2 MICROSITING

There are no Recorded Monuments, Protected Structures, Architectural Conservation Areas, Proposed Architectural Conservation Areas, NIAH structures, or any additional statutorily protected archaeological, architectural or cultural heritage features within the footprint of the proposed wind farm site and underground electricity line. As such, the micrositing of infrastructure within the tolerances outlined in **Chapter 3** will not result in any additional effect on archaeological, architectural or cultural heritage features.

It is recommended that micrositing associated with construction of the underground electricity line not be allowed within the historic garden recorded on the National Inventory of Architectural Heritage.

11.6.3 MONITORING MEASURES

With the exception of the mitigation measures recommended in **Section 11.6.1** which will be implemented in advance of and during construction, and during decommissioning where applicable, there are no future monitoring requirements.

11.7 RESIDUAL EFFECTS

Following the implementation of the above mitigation measures, it is assessed that there will be no likely significant residual effects during the construction or decommissioning phases of the project. Residual effects during the operation phase are addressed below.

11.7.1 ARCHAEOLOGICAL RESOURCE

It is assessed that there will be a likely long-term, reversible and moderate residual operation phase visual effect on 10 Recorded Monuments within 2km of the proposed wind farm site.

It is assessed that there will be a likely long-term, reversible and moderate – slight residual operation phase visual effect on two Registered Historic Monuments within 5km of the proposed wind farm site.

It is assessed that there will be a likely long-term, reversible and imperceptible residual operation phase visual effect on Birr Observatory which is included in the Tentative List as consideration for nomination to the World Heritage List.

It is assessed that there will be no residual operation phase effects on the archaeological resource as a result of the underground electricity line.

11.7.2 ARCHITECTURAL RESOURCE

It is assessed that there will be likely long-term and reversible residual operation phase visual effects ranging from imperceptible to moderate on the 15 Protected Structures within 5km of the proposed wind farm site, 13 of which are also recorded on the National Inventory of Architectural Heritage. The highest assessed effect is moderate and relates to Whigsborough House and its setting.

It is assessed that there will be no residual operation phase effects on the architectural resource as a result of the underground electricity line.

11.7.3 CULTURAL HERITAGE RESOURCE

It is assessed that there will be no likely residual operation phase effects on the cultural heritage resource.

11.8 SUMMARY

The likelihood of effects; in relation to construction, operation, decommissioning, cumulative and residual effects; have been set out in the foregoing sections. This assessment has concluded that the effect on the archaeological, architectural and cultural heritage resource of the proposed wind farm site and underground electricity line will in general be long-term, reversible and, at worst, moderate.

There will be no likely significant direct or indirect construction or decommissioning phase effects on the recorded archaeological, architectural or cultural heritage resource. However, there will be a likely long-term, reversible and moderate operation phase visual effect on 10 Recorded Monuments within 2km of the proposed wind farm site; a likely long-term, reversible and moderate – slight operation phase visual effect on two Registered Historic Monuments within 5km of the proposed wind farm site; and

a likely long-term, reversible and imperceptible operation phase visual effect on one site included in the Tentative List as consideration for nomination to the World Heritage List. In addition, there will be likely long-term and reversible operation phase visual effects ranging from imperceptible to moderate on the 15 Protected Structures within 5km of the proposed wind farm site, 13 of which are also recorded on the National Inventory of Architectural Heritage.

Following the implementation of mitigation measures outlined above, the likely residual effects of the project remain, at worst, moderate. There will be a likely long-term, reversible and moderate residual operation phase visual effect on 10 Recorded Monuments within 2km of the proposed wind farm site; a likely long-term, reversible and moderate – slight residual operation phase visual effect on two Registered Historic Monuments within 5km of the proposed wind farm site; and a likely long-term, reversible and imperceptible residual operation phase visual effect on one site included in the Tentative List as consideration for nomination to the World Heritage List. In addition, there will be likely long-term and reversible residual operation phase visual effects ranging from imperceptible to moderate on the 15 Protected Structures within 5km of the proposed wind farm site, 13 of which are also recorded on the National Inventory of Architectural Heritage.

This assessment has further concluded that the project will not result in any likely significant cumulative effects with other existing, permitted or proposed development; including those identified at **Chapter 1**.

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