

14 CULTURAL HERITAGE

14.1 INTRODUCTION

This Cultural Heritage impact assessment was undertaken with regard to a proposal to construct a wind farm, known as Shronowen Wind Farm, in County Kerry. A full description of the proposed development and its components has been provided in **Chapter 2** of this EIAR. This chapter assesses the impacts on the wider cultural heritage and archaeology of:

- Twelve (12 No.) proposed turbines at Shronowen
- Proposed Substation
- Peat Deposition Areas
- Two temporary site compounds
- Access trackways and internal trackways
- Grid connection to the adjacent 110kV OHL
- Proposed alternative grid cable connection route

14.1.1 Scope of Assessment

14.1.1.1 Conventions, Legislation and Guidelines

This report was undertaken with due regard to:

- National Monuments Act, 1930 to 2014.
- European Union (Environmental Impact Assessment) (National Monuments Act 1930) (Section 14D) (Amendment) Regulations 2020 (S.I. No. 528/2020).
- Heritage Act, 1995, as amended.
- European Convention on the Protection of the Archaeological Heritage (the 'Valletta Convention') ratified by Ireland in 1997.
- Council of Europe Convention on the Protection of the Architectural Heritage of Europe (the 'Granada Convention') ratified by Ireland in 1997.
- Framework and Principles for the Protection of the Archaeological Heritage, 1999, Department of Arts, Heritage, Gaeltacht and the Islands.
- The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous) Provisions Act, 1999, as amended.
- The conservation principles as set out by International Council on Monuments and Sites (ICOMOS) in the Venice and Burra Charters.
- Planning and Development Act, 2000, as amended.
- The publication in 2011 of the Architectural Heritage Protection-Guidelines for Planners by the Department of the Environment Heritage and Local Government (DoEHLG).
- The Advice Series-A Guide to the Care of Older Buildings published by the Architectural Heritage Advisory Unit of the DoEHLG, 2007-2011.
- The Handbook of the National Inventory of Architectural Heritage (NIAH) of March 2017.

The conservation aims as stated in the Burra Charter are for the retention or restoration of historical significance with the minimum of physical intervention and that such intervention work be reversible, maintain the structure's character and setting and that all conservation works should be undertaken following comprehensive research.

14.1.2 Competency of the Assessor

Laurence Dunne is an archaeologist licensed by the National Monuments Service since 1996. In that time, he has completed an extensive and diverse range of projects, the vast majority of which are development driven. Projects range from small scale single house constructions to large scale residential and major commercial developments, wind and solar farms, roadways, water and sewerage schemes, pipelines, inter-connector telecom and electrical cabling both terrestrial and undersea, coastal defence and channel deepening projects, dive surveys and shipwreck excavations. In a renewable energy context, he has completed numerous archaeological / cultural heritage sections for Environmental Impact Statements (EIS), Archaeological Impact Assessments (AIA, Licensed Excavations and Monitoring in Ireland relating to renewable energy. These include over 30 wind farms and 21 solar farms, battery storage compounds - many of which included assessments for linear grid cable connection routes.

14.1.3 Methodology

The assessment was completed using a combination of (1) desk-based assessment of all available archaeological, historical, cultural and cartographic sources; (2) inspection of the limits of the proposed development site first in January 2019 and re-visit in August 2020 and further targeted inspection in early January 2021. The desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets.

The core research included:

- Sites and Monuments Records / Record of Monuments and Places

The Sites and Monuments Records (SMR) / Record of Monuments and Places (RMP) compiled by the Archaeological Survey of Ireland of the National Monuments Service (NMS) comprises lists, classifications of monuments and maps of all recorded monuments with known locations and zones of archaeological notification. The monument records are searchable online from the NMS (www.archaeology.ie).

- Topographic Files of the National Museum of Ireland

The National Museum of Ireland (NMI) Topographic Files of artefacts found in Ireland by townland were examined as well as the online searchable browser database of artefacts on the Heritage Maps produced by the Heritage Council (www.heritagemaps.ie).

- Excavations Bulletin

Excavations Bulletin is a summary of every archaeological excavation that has taken place in Ireland since 1970 and has been edited by Isabel Bennett. This information is also available online (www.excavations.ie).

- Placename Studies

Placenames (Logainmneacha) are an important aspect of understanding the history and topography of a location particularly when used in association with the Ordnance Survey Name Books (OSNB). The general or baseline placename research source is an online GIS portal which was accessed in August 2020 (www.logainm.ie).

- Historic Ordnance Survey mapping.

Several historic maps were examined including Carew's Map of Kerry from 1598; the Down survey maps of between 1650-1670 and the 19th / 20th century Ordnance Survey Maps (refer to References **Section 14.9**).

- Analysis of aerial imagery

Aerial photographic coverage provides an initial information on the terrain and its likely archaeological potential and is an important source of information regarding the precise location of sites and their extent. A variety of aerial photography was examined including aerial orthophotos from the National Monuments Service and Ordnance Survey websites. Also, targeted low-flown aerial imagery was undertaken by Laurence Dunne Archaeology (LDA) with an unmanned aerial vehicle (UAV) in January 2019, August 2020 and again in January 2021.

14.1.4 Assessment Criteria

Determination of the significance of an effect will be made, where practicable, in accordance with the terminology outlined in EPA *Draft Guidelines on Information to be contained in environmental impact assessment reports (2017)* as set out in **Table 14-1** below.

Table 14-1: Impact Assessment Criteria

| | | |
|-------------------------|-------------------|--|
| Quality of Effects | Positive | A change which improves the quality of the environment |
| | Neutral | No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error |
| | Negative /adverse | A change which reduces the quality of the environment |
| Significance of Effects | Imperceptible | An effect capable of measurement but without significant consequence |
| | Not significant | An effect which causes noticeable changes in the character of the environment but without significant consequences |
| | Slight | An effect which causes noticeable changes in the character of the environment without affecting its sensitivities |
| | Moderate | An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends |
| | Significant | 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 alters most of a sensitive aspect of the environment |
| | Profound | An impact which obliterates sensitive characteristics |
| Duration of Effect | Momentary | Effects lasting from seconds to minutes |
| | Brief | Effects lasting less than a day |
| | Temporary | Effects lasting less than a year |
| | Short-term | Effects lasting one to seven years |
| | Medium-term | Effects lasting seven to fifteen years |
| | Long-term | Effects lasting fifteen to sixty years |

| | | |
|------------------|----------------|--|
| | Permanent | Effects lasting over sixty years |
| | Reversible | Effects than can be undone e.g. through remediation or restoration |
| | Frequency | How often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually) |
| Types of Effects | Indirect | Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway. |
| | Cumulative | The addition of many minor or significant effects, including effects of other projects, to create a larger, more significant effect. |
| | 'Do Nothing' | The environment as it would be in the future should the subject project not be carried out. |
| | 'Worst case' | The effects arising from a project in the case where mitigation measures substantially fail. |
| | Indeterminable | When the full consequences of a change in the environment cannot be described |
| | Irreversible | When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost. |
| | Residual | The degree of environmental change that will occur after the proposed mitigation measures have taken effect. |
| | Synergistic | Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SO _x and NO _x to produce smog). |

Source: EPA Draft Guidelines on Information to be contained in environmental impact assessment reports (2017)

14.2 EXISTING ENVIRONMENT

14.2.1 Description of the receiving lands

The proposed wind farm (PWF) site, comprising c.364ha is situated at Shronowen Bog, a rural area situated c.5 km north of the town of Listowel, Co. Kerry and c.3.2km south of Ballylongford (**Figure 14-1**). The PWF straddles four townlands: Tullamore, Coolkeragh, Ballyline West and Dromalivaun. The townlands of Tullamore and Coolkeragh are situated in the parish of Galey while Ballyline West and Dromalivaun are situated in Aghavallen parish within the ancient Barony of Iraghticonnor.

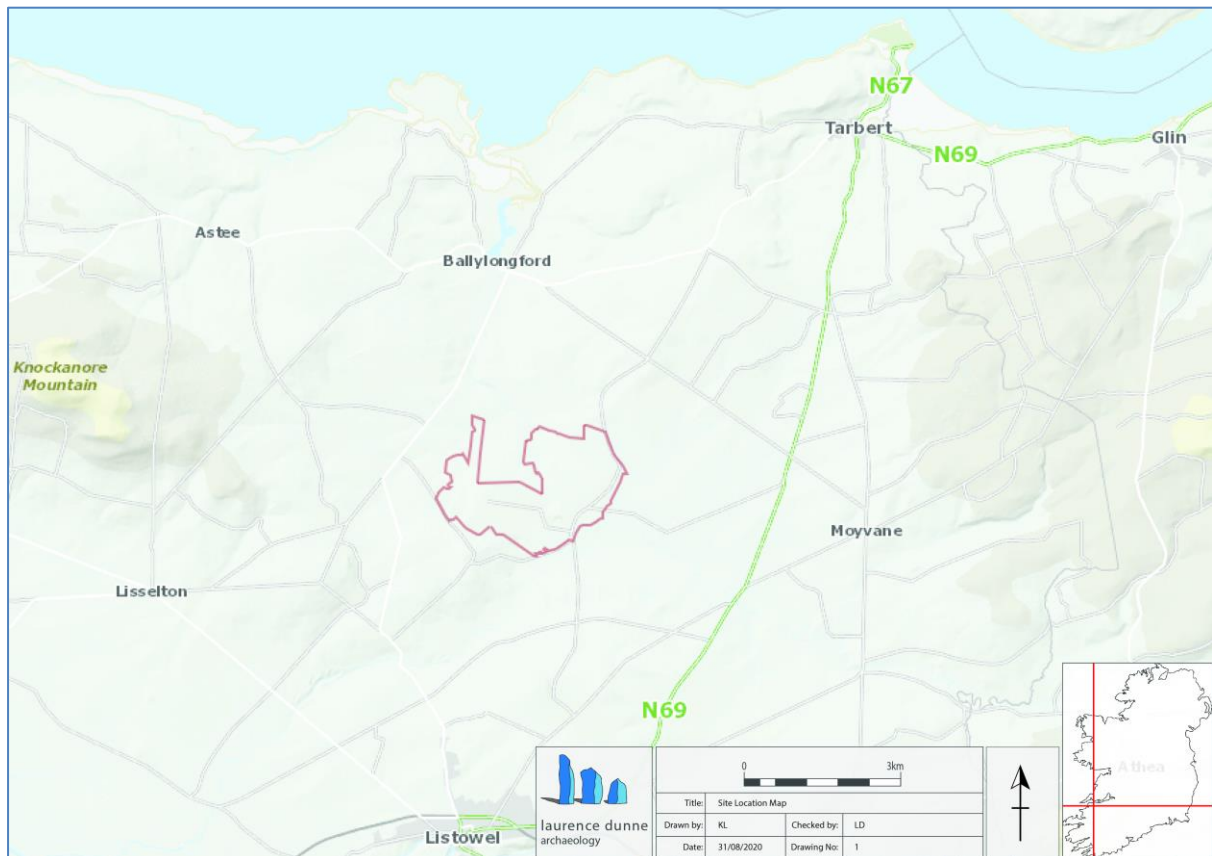


Figure 14-1: Shronowen Wind Farm location.

14.2.1.1 Proposed Turbines

The proposed 12 No. turbines (T1-T12) will be situated within the limits of Shronowen Bog. Turbines T1 & T2 will be situated in Coolkeragh townland; T3-T9 & T12 in Tullamore townland; T7 & T11 in Ballyline West and T10 in Dromalivaun. Ten of the proposed turbines sites comprise of bogland while T1 is situated in coniferous forestry and T2 within a greenfield site of reclaimed pasture.

14.2.1.2 Proposed Substation

Proposed substation will be located at the eastern limits of the PWF in Tullamore partially on bog and partially on reclaimed pasture.

14.2.1.3 Proposed Trackways

An existing track network facilitates access to proposed turbines T3, T4, and partially to T7, T8, T9 and T12-T5 extending through the centre and eastern parts of the PWF through existing bog. It is intended to upgrade the accessway.

New trackways will be constructed at the western limits of the PWF commencing at the site entrance and traversing along the boundary through green fields to the proposed temporary compound and eventually through bogland to T2. The remainder of the proposed new internal trackways will consist of floating roads or floating log roads.

14.2.1.4 Peat Deposition Areas

It is intended to create six proposed Peat Deposition Areas (PDA's) within existing bogland. The first and smallest PDA 1 will be situated just south of T1 in Coolkeragh townland; PDA 2 & 3 is comprised of a large deposition area in two parts to the south of T6 in Tullamore townland, PDA 4 is adjacent to

T6 hardstand on the western side, PDA 5 will be situated east of T11 in Dromalivaun townland and PDA 6 situated just east of T12, also in Tullamore.

14.2.1.5 Temporary Compounds

Two temporary compound locations were selected. The western compound will be located at a large green reclaimed field (same as T2) at Coolkeragh. The second compound location is proposed at eastern limits of the PWF south of T10 at Dromalivaun townland within bog.

14.2.1.6 Met Mast

The proposed Met Mast will be situated at southern limits of the PWF at Tullamore townland within featureless bog.

14.3 DESK-BASED IMPACT ASSESSMENT

14.3.1 Placenames

Townlands comprise the smallest unit of land division in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of the Irish townlands were recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish roots of townland names often refer to natural topographical features, but some name elements may also give an indication of the presence of past human activity within the townland. For instance, placename elements such as *lis*, *dun* and *rath* indicate the presence of a ringfort; while *kill* and *temple* suggest an association with a church site.

Table 14-2: Townland Names and Meaning, proposed development boundary (www.logainm.ie)

| Townland | Irish Name | Translation |
|----------------|-------------------------------|---|
| Tullamore | <i>An Tulaigh Mhóir</i> | <i>Mór</i> - great, big <i>Tulach</i> (also: <i>tulaigh</i>)- hillock 'great hill' |
| Coolkeragh | <i>Cúil Chaorach</i> | <i>Cúil</i> - corner, nook <i>Chaorach</i> - sheep 'corner or angle of the sheep' |
| Ballyline West | <i>Baile Uí Fhloinn Thiar</i> | <i>Baile</i> - townland, town, homestead <i>Uí Fhloinn</i> 'O'Flynn's town' |
| Dromalivaun | Drom an Leamháin | <i>Droim</i> (also: <i>drom</i>)- ridge <i>Leamhán</i> = crann leamháin- elm tree 'ridge of an elm tree' |

14.3.2 Archaeology within c.3km radius from centre of Proposed Wind Farm Site

In the context of this report a 3km study area encompassing the proposed windfarm (PWF) was examined (**Figure 14-2 & Table 14-3**).

Examination of the National Monuments Service Online Sites & Monuments Records (SMR) database revealed that there are no recorded archaeological monuments within the boundary of the PWF site at Shronowen (www.archaeology.ie). The SMR indicates evidence of human activity in a c.3km wide study area of the Shronowen site dating from the Neolithic to the Early Medieval period representing a total of nine monuments (**Figure 14-2 and Table 14-3**).

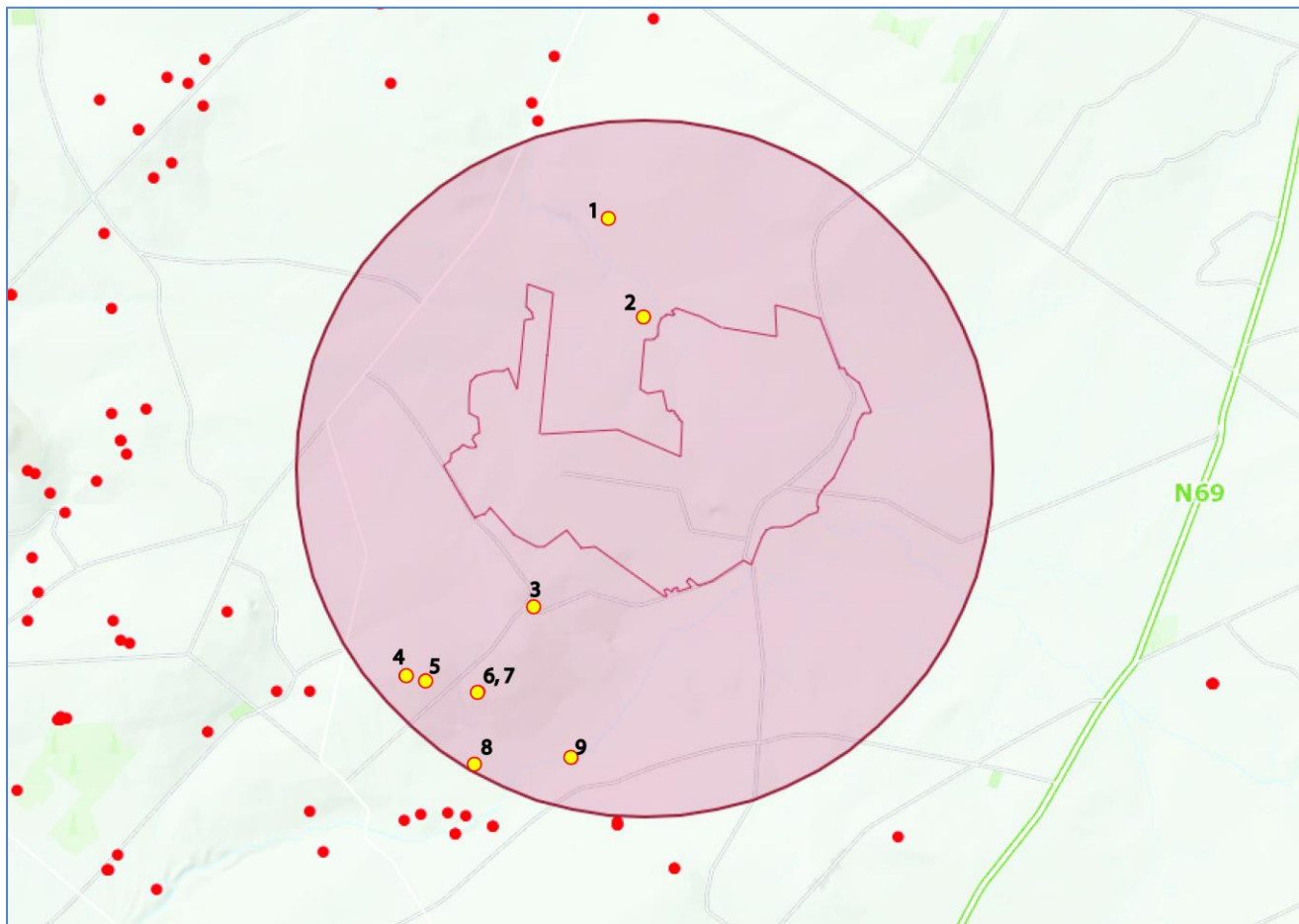


Figure 14-2: Recorded monuments within a c.3km radius encompassing proposed Shronowen Wind Farm (www.archaeology.ie).

Table 14-3: Recorded monuments within 3km radius encompassing proposed Shronowen Wind Farm extracted from SMR (www.archaeology.ie).

| No. | SMR No | Class | Townland | Location | ITM (E, N) |
|-----|---------------|--------------------------|----------------|----------------|-------------------|
| 1 | KE006-012---- | Ringfort - rath | BALLYLINE WEST | 1.4km NW of T7 | 499929, 642614 |
| 2 | KE006-013---- | Megalithic structure | BALLYLINE WEST | 670m NW of T7 | 500245, 641743 |
| 3 | KE005-092---- | Enclosure | TULLAMORE | 970m S of T4 | 499289, 639202 |
| 4 | KE005-089---- | Enclosure | COOLKERAGH | 1.9km SW of T2 | 498148, 638583 |
| 5 | KE005-090---- | Ringfort - rath | COOLKERAGH | 1.8km SW of T2 | 498335, 638554 |
| 6 | KE005-091---- | Ringfort - rath | TULLAMORE | 1.8km SW of T4 | 498815, 638554 |
| 7 | KE005-091001- | Children's burial ground | TULLAMORE | 1.8km SW of T4 | 498815, 638554 |
| 8 | KE010-025---- | Ringfort - rath | DROMBEG | 2.4km SW of T4 | 498776, 637822 |
| 9 | KE010-026---- | Earthwork | BEDFORD | 2.2km S of T6 | 499635, 637857 |

14.3.2.1.1 Prehistory

The nearest recorded archaeological monument to the PWF boundary and probably the earliest one within this 3km study zone is the site of a Megalithic structure, KE006-013, situated c. 670metres from T7. According to the SMR definition a megalithic structure is: *'construction of large stones of a 'megalithic' nature which, though comparable in certain respects with megalithic tombs, cannot be classified as any other known archaeological monument type on present evidence. (..) These may date from the prehistoric period onwards'* (www.archaeology.ie). The megalithic structure recorded as KE006-013 is situated c.200m to the NW of the Shronowen site boundary and c.670m to the NW of the proposed Turbine 7 (**Figure 14-2**). It is depicted as *'Giant's Grave'* on the 1841-42 1st Edition OS map (**Figure 14-3**) and as *'Giant's Grave (Site of)'* on later 25'' 2nd Edition map. On the 1st Edition map, it is depicted as a rectangular structure. Targeted UAV survey of the location site of the monument was undertaken by LDARCH in January 2019 and again in August 2020. However, no evidence of the monument was noted on the surface (**Plate 14-1**).



Plate 14-1: Vertical UAV image of the location of the recorded Megalithic structure, KE006-013 (marked with ranging rods), LDA January 2019.



Figure 14-3: KE006-013 depicted on 1st Ed. OS map. Site boundary in red.

14.3.2.1.2 Early Medieval

Four recorded ringforts are situated within c.3km radius from centre of the PWF (Nos 1,5,6,8, **Figure 14.2**). The nearest is a named univallate ringfort known as Meelish Fort / *Maol-lios* (flat, bald or bare ringfort) KE006-012, which is situated c.1km NW of the site boundary at Ballyline West (No. 1, **Figure 14-2**). The second univallate ringfort within the study area is also named, *Shanasta/Seaneasta* (old abode) KE005-091 (No.6, **Figure 14-2**) which is located c.1.6m SW of the site boundary at Tullamore townland. According to local tradition, this ringfort was used also as a Children's Burial Ground, KE005-091001 (www.archaeology.ie). Two more univallate ringforts are situated further to the south of the limits of the PWF. These are KE010-025 at Drombeg townland and KE005-088 at Coolkeragh townland (Nos. 5 & 8, **Figure 14-2**).

Ringforts are one of most numerous archaeological field monuments found in Ireland to the present day and date to the Early Medieval period (c.400–1169 AD), otherwise referred to as the Early Christian or Early Historic period. Morphologically, they are subdivided into those of earthen construction known as a *rath* or *lios* or those of dry-stone construction that are referred to as a *caiseal*, *caher*, *cathair* or *dún*. Ringforts referred to as *raths* are derived from the Old Irish word *ráth*, meaning 'earthen rampart' while others are known as *lios* or *liss* refers to the ringfort's interior space. The morphology of ringforts generally comprises of an earthen enclosing bank that was constructed by the casting up of material by the excavation of an outer circular or sub-circular ditch otherwise known as a fosse. In more prestigious examples there can be two (bi-vallate) or three (tri-vallate) enclosing banks and ditches. A contiguous wooden palisade was often built on top of the enclosing bank and an entrance preference at the south-east often across a small causeway. Ringforts average between 20m-30m in diameter, however much larger examples are known. Their size indicates that ringforts were most likely occupied by extended and dispersed family units and were probably largely self-sufficient. The interior would have contained features such as domestic

dwelling, outhouses, animal pens, food processing structures, craft areas, hearths and souterrains (for storage and refuge). A mixed economy would have been practised which would have involved cereal growing and animal husbandry, in particular, dairying. According to Stout (1997, 24) the majority of ringforts were constructed over a three-hundred-year period between the start of the 7th century and end of the 9th century AD.

14.3.2.2 Enclosures

Within the c.3km study area there are also two recorded monuments classified as Enclosures (Nos. 3 & 4, **Figure 14-2**). The nearest one, KE005-092 is situated at Tullamore townland c.0.6km SW the PWF boundary. It is clearly depicted on the 1841-42 1st Edition OS map as a circular enclosure. The second enclosure, KE005-089 is situated west of a univallate ringfort KE005-090 at Coolkeragh. It is also marked on 1st Edition OS map as sub-D-shaped enclosure. At present only a faint, barely visible trace of E-S bank can be seen as the site has been completely ploughed out (www.archaeology.ie). Both enclosures may represent denuded / levelled ringforts.

14.3.2.3 Earthwork

The final monument within c.3km study zone is KE010-026 classified as Earthwork (No. 9 at **Figure 14-2**). It is situated at Bedford townland c.2km south of limits of the PWF. It is not depicted on 1st Edition OS map but it is clearly marked at 2nd Edition 25" map as hachured sub-rectangular area abutting Galey river (www.archaeology.ie). According to the definition an earthwork is: *'An anomalous earthen structure, usually raised (...) in a variety of shapes and sizes, that (...) possess no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards'*.

14.3.3 Wider Cultural Context of North Kerry

The study area is situated within the ancient baronies of Iraghticonnor and to a lesser extent into Clanmaurice, extending along the coastal fringe of the Shannon Estuary around Ballylongford-Tarbert and west as far as the Cashen River Mouth south of Ballybunnion (**Figure 14-4**).

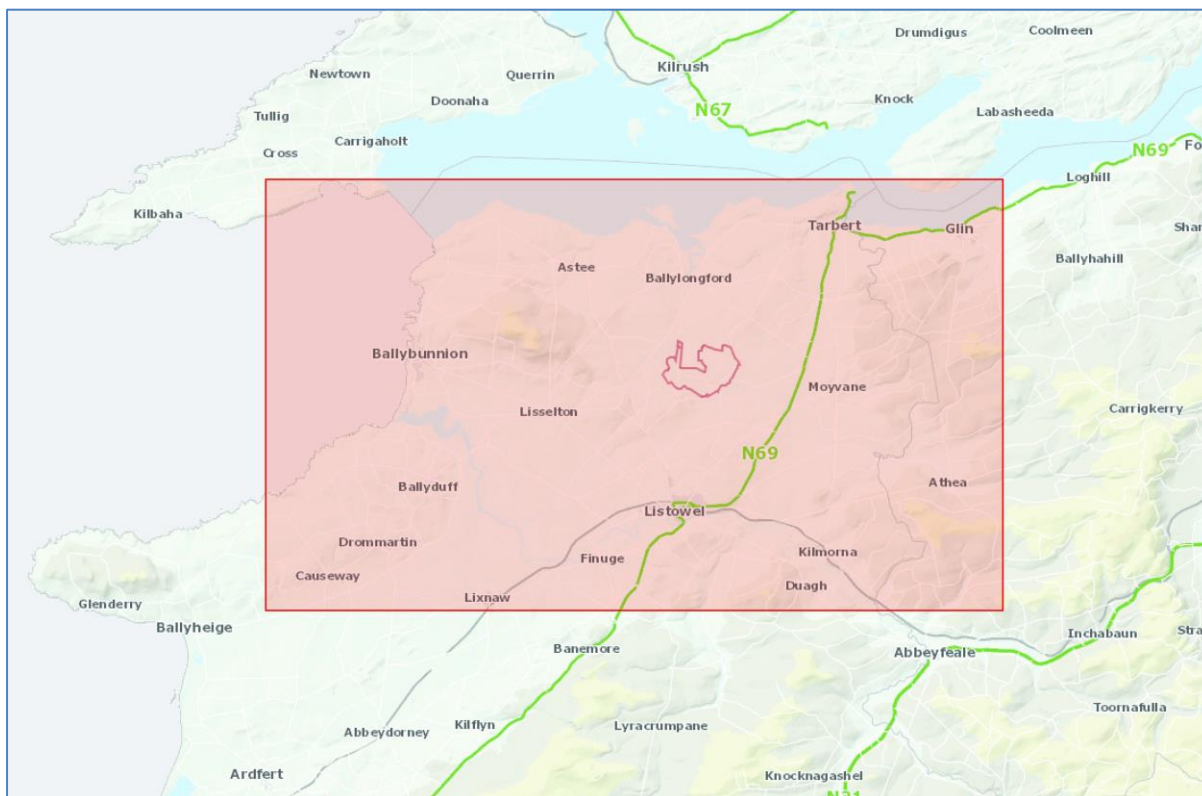


Figure 14-4: Wider study area of North Kerry. PWF at Shronowen outlined in red.

14.3.3.1.1 Prehistory

Up to the recent past the earliest evidence of human occupation in Ireland has been at Mount Sandel in Co. Derry which has been radiocarbon dated to the Mesolithic or Middle Stone Age period c.8,000 BC (Woodman, Anderson & Finlay 1999, 131-151). However, recent research by Dr. Marion Dowd in collaboration with Dr. Ruth Carden have undertaken analysis of cut marks on the patella or kneecap of a bear in the National Museum of Ireland that has established that the marks were made by humans who were present in Ireland 2,500 years earlier than had previously been thought, i.e. at the end of the Palaeolithic or Old Stone age period some 12,500 years ago. *'The adult bear bone was one of thousands of bones originally discovered in Alice and Gwendoline Cave, Co. Clare in 1903 by a team of early scientists. They published a report on their investigations and noted that the bear bone had knife marks'* (Dowd & Carden 2016).

Palaeolithic and Mesolithic people were hunter-gatherer-fisher transient nomadic groups whose imprint on the landscape was ephemeral at best. The earliest evidence of human activity in Co. Kerry was discovered at Ferriter's Cove on the north-western tip of the Dingle Peninsula and dates to the very end of the Mesolithic period, c.4,000BC (Woodman, Anderson & Finlay 1999, 113). Currently there is no recorded archaeological evidence from the Mesolithic period in the North Kerry area in the archaeological record, either in the form of excavated sites or stray artefacts. However, there is a high probability that Mesolithic sites occur on the coastal fringe of the Shannon Estuary situated only 6km to the north of limits of the PWF and the Atlantic shore at Ballybunnion c.11km to the west. Mesolithic people in Kerry accessed and exploited the rivers that issued into the sea where resources were bountiful and along which they could travel inland. Sea level has risen c.6m since the Mesolithic period which, along with erosion, has destroyed many of these coastal Mesolithic sites. At low tide along the coast from Tarbert, Ballylongford, Beale and all along the coast of North Kerry including Tralee Bay there is evidence of this earlier ancient, drowned landscape, comprising tracts of extensive bog and stumps of ancient forests.

Currently, the earliest settlement evidence from the wider study area, thus far recorded, dates from the Neolithic period (4,000-2,400BC). Monumentally, the number of Neolithic sites in North Kerry is very small, essentially comprising of four embanked enclosures at Gullane East, Knockeanagh North, Garryard and Ballynorrigh West (Toal 1995, 69-72). However, the Henge at Gullane East has been re-classified by the National Monuments Service as a Ring Barrow (www.archaeology.ie). Henges and Barrows are low profile earthen monuments that have shared morphological characteristics often making it difficult to determine which is which. Ring-barrows have a long currency of use with examples known from the Bronze and Iron Ages and extending to the arrival of Christianity in the 5th century and possibly as late as the 7th century AD (ibid 69). They are essentially regarded as burial sites although several sites have produced no burials at all (Daly & Grogan 1992, 12).

North Kerry is devoid of any extant megalithic tombs although there are references to possibly four examples that are denoted on the 1st Edition OS maps as '*Diarmuid & Grainne's Beds*' or '*Giants Beds*'. One of which is KE006-013 mentioned above (refer to Section 13.3.3). At Ballydonoghue, Lisselton, c.5.5km to the SW, a megalithic tomb, (KE010-007) denoted as a '*Giants Grave*' was levelled in the 1980's. (www.archaeology.ie; Toal 1995, 41; Tarrant & O'Connell 1991, 3-4). In a more ephemeral context, fishing was of immense importance to Neolithic coastal communities, the evidence of which include varying forms of fish-weirs made of rows of wooden stakes and wattling driven into the mud along the myriad creeks, rivers and estuaries in the wider study area.

In a megalithic Bronze Age context, a single three-stone alignment, KE001-007, is situated on the Shannon mouth at Beale Middle, c.12km to the NW of the PWF. Of the 462 recorded Standing Stones in County Kerry, only twenty are recorded in North Kerry of which, only eleven are extant (Toal 1995, 48; www.archaeology.ie). Of these twenty standing-stones, three, KE001-002; -006 & -022 are situated in the wider study area near the Mouth of the Shannon at the extreme c.15km to the NW while a fourth standing stone, KE003-020 is situated in Glansillagh c.5.2km to the N. Standing Stones appear to have served a variety of functions. Many were used as burial markers to designate the location of a cist grave, which was a simple slab-lined grave containing, cremated remains or single flexed articulated burials, usually accompanied by grave-goods. Certainly, Standing Stones appear to have been largely of ritual significance. Other Standing Stones are believed to have served as territorial markers to denote the extent of tribal or familial land boundaries. The National Monuments Service define them as '*A stone which has been deliberately set upright in the ground, usually orientated on a north-east-south-west axis, although other orientations do occur, and varying in height from 0.5m up to 6m. They functioned as prehistoric burial markers, commemorative monuments, indicators of routeways or boundaries and date from the Bronze and Iron Ages (c. 2400 BC - AD 500), with some associated with early medieval ecclesiastical and burial contexts*' (www.archaeology.ie).

The evidence of other Bronze Age activity occurs principally in the form of Burnt Mounds, more commonly referred to as '*fulachta fiadh*' in the archaeological literature. *Fulachta fiadh* have often been seen as reflecting temporary hunting camps where meals were expediently prepared in prehistoric times. The early work of M.J. O'Kelly, particularly his experiments relating to excavations of burnt mounds at Ballyvourney, Co. Cork, have often been cited as concrete evidence that cooking was the primary purpose of these monuments (O'Kelly 1954). Early Irish literary material does, to an extent, present an image of cooking on sites whose description is similar to burnt mounds, but other activities such as bathing are also mentioned (e.g. Ó Drisceóil 1990). At any rate, the direct relevance of this literature to Bronze Age burnt mounds is questionable, dating as it does to over 1000 years after the main period of burnt mound use. There are around fifty or so *fulachta fiadh* recorded in

North Kerry, (Toal 1995, 51-60; www.archaeology.ie). This number has been recently added to by the discovery of a previously unrecorded example as well as two burnt spreads by Dermot Nelis in 2012 in the course of archaeological testing for the new electrical substation in Kilpaddoge townland near Tarbert c.8km NE of the PWF (www.excavations.ie).

As elsewhere in Munster, Iron Age monumental evidence is not plentiful. However, at least two sites in the wider area of North Kerry may tentatively reflect Iron Age settlement. In 1985 two stone-lined cists, containing the burials of three males were discovered in a garden at Dromkeen East, near Causeway c.17km SW of the PWF. The excavator suggested that the burials because of ‘...*the lack of any ecclesiastical tradition associated with the site does not indicate an Early Christian date, so one may tentatively assign the graves to the very early Historic Period*’ (Bennet 1986, 151-166). More recently, fifteen stone lined graves were excavated at a multi-period site at Farranastack, Lisselton in 2003. Three radiocarbon dates were received from the site including an Iron Age AMS date from charcoal of Cal BC 390-190. However, the excavator suggests that the results of the radiocarbon dates (from three differing periods) are questionable (O’Callaghan, 2003).

Possible Iron Age sites in North Kerry include toghers, ancient roads or bog-trackways which were constructed across bogs and marshes, (often built of wood or stone or a combination of both). In reality a tochar or toghers are known from differing archaeological periods, from the Neolithic to the medieval period and without the benefit of excavation their precise date cannot be determined. Two are recorded in North Kerry c.9km to the SW of the PWF at Dysert Marshes, KE009-088 and Dromalught, KE010-049. An almost complete 6m oak dug-out canoe was found in one of two sections of a tochar discovered in the bog at Ballinclemesig, North Kerry (O’Connell 1939). The trackway was built of oak with some stone metalling, similar to several ancient trackways across the marshlands, notably at Dromalught, Killarida, Ballintogher and Togherbane. In that context the modern name for the village of Causeway (*An Tochar*—the trackway) is best understood as a memory of those ancient trackways. A linear earthwork, the *Cliath Ruadh* or Red Ditch, which runs from Killoory parish out along Kerry Head, might be suggested to originate in this period, on the basis of morphological comparisons with dated Iron Age linear earthworks such as the Dorsey, Co. Armagh and the Black Pig’s Dyke, Co. Fermanagh.

14.3.3.1.2 Prehistoric Artefacts

Although North Kerry is somewhat lacking in extant prehistoric monuments, it does, curiously enough, have quite a large assemblage of prehistoric artefacts. Neolithic finds recorded include polished stone axes that have been found in the townlands of Ballyhennessy, Killomeerhoe, Ahabeg, Dysert, Carrig Island, Ballybunnion, Tarmon and Asdee and also two others excavated by the writer at Ballinagearagh, Lixnaw. A chert javelin head from Kilmoyley and flint arrowhead from Lisselton are also recorded, both of which could also date to the Early Bronze Age (EBA). The coastal midden sites at Ballybunnion and Ballyeagh in particular, have yielded numerous finds, including scores of artefacts of bronze, iron, stone and glass of various dates (NMI topographical files 1941:993-1038; 1942:366-383; 1943:16-48; 1944:152-191 & 430-534). The material from these locations’ dates to a variety of different periods. Nonetheless, finds such as iron blades, Roman coins, bone combs, anvils, hammer-stones and glass beads (Toal 1995), would appear to be largely representative of Late Iron Age or Early Medieval activity.

Quite extensive artefactual evidence of late prehistoric human activity has been recovered in North Kerry. The bogs, marshes, rivers, lakes and ponds were the receptacles of ritual, votive offerings of substantial numbers of artefacts throughout the prehistoric period. This is especially the case in

North Kerry where some exceptional artefacts have been recovered during turf cutting up to the very recent past. Possibly the paradigm discovery occurred on March 10th, 1864 when three gold lunulae were found by Florence Sullivan while cutting turf in Banemore Bog that was then owned by a Captain Oliver. The lunulae, made from sheet gold, had been ritually deposited (**Figure 14-5**). According to Mary Cahill (2005, 12-18) of the National Museum of Ireland the lunulae are very high-status artefacts that suggest that there were a number of individuals or communities in North Kerry that were sufficiently wealthy to be able to afford or commission these exceptional objects either locally or to trade for them outside the region. The high prestige nature of these finds and their recovery from a wetland context is typical of ritual deposition of objects in this period. Other high-status artefacts found in the bogs of North Kerry include an Early Bronze Age (c.2400 –1600 B.C.) dagger recovered near Kilmoyley, while a number of impressive finds of Late Bronze Age (c.1000 – 500 B.C.) date were recovered from bogland at Ballinclemesig in the south-west of the parish. These included a cylindrical gold box featuring geometric decoration (Ryan 1981) and a large sheet-bronze cauldron (O’Connell 1939). The range, quality and quantity of material recovered at Ballinclemesig indicate that it was a focus for exceptional votive deposition in the Later Bronze Age.



Figure 14-5: Illustration of one of the three lunulae found in Banemore Bog in 1864 (O’Connell & Tarrant 1991).

14.3.3.2 *Historic Archaeology*

14.3.3.2.1 **Secular settlement**

Settlement in the area and indeed North Kerry as a whole in the Early Medieval period is best exemplified monumentally in a secular context by Ringforts. These monuments (generally known by their Irish names *Rath* and *Lios*) are the most obvious extant monuments in North Kerry. Over 700 ringforts have been recorded in North Kerry alone (www.archaeology.ie). These sites consist of

circular or roughly circular enclosures with earthen banks and external ditches or fosses (refer to Section 14.3.3).

The recent discovery by archaeologist Aidan Harte in 2013 of a corn drying kiln as well as several other features in proximity to a cluster of ringforts is further testament to the extent of early medieval settlement in this area. The corn drying kiln was discovered in the course of archaeological monitoring of an accessway to the new substation at Kilpaddoge, near Tarbert (**Plate 14-2**; www.excavations.ie).



Plate 14-2: Image of excavated corn drying kiln from Kilpaddoge townland.

14.3.3.2.2 Ecclesiastic Settlement

More or less coeval with the development of Ringforts is the arrival of Christianity in Ireland. Monasticism was the principal characteristic of the Irish Christian Church whose origins lay in the Eastern Mediterranean inspired by Saints like Paul and Anthony who had retreated into the deserts of Egypt to live as hermit monks. Placenames with the word *dísert* is a memory of this. Through time this monastic concept migrated into Ireland most likely through Gaul where its arrival had a profound impact on the existing spirituality of the Irish and witnessed the development of the '*Celtic Church*' - a term that fell out of favour with more modern scholars but appears to be winning back somewhat today. Many of these Early Christian sites are manifest by a number of Ecclesiastic Enclosures, similar in size to Ringforts, some of which later developed into major church sites. The most important monastic site in Kerry is Ardfert (c.24 km SW of the PWF) which is closely associated with Saint Brendan. Brendan, who was born c.484AD in the Fenit-Barrow area of North Kerry, is the patron saint of Kerry and is traditionally regarded as the founder of Ardfert. Ardfert developed

considerably to eventually become the Bishopric of Kerry by the end of the 11th century which it held throughout the middle ages until 1660 (Moore 2007, 45; Bradley et al 1984, 16). At the Synod of Kells in 1152 Ardfert was acclaimed as *'the finest and largest church in the united diocese and therefore most suitable for Cathedral purposes'* (Toal 1995, 259).

There are several other smaller ecclesiastic sites in the wider study area of North Kerry, the majority of which did not develop into major church sites. Although, at Lislaughtin, KE003-016 situated c.5km N of the PWF, the Franciscans founded a friary there in the 13th century. Another nearby early ecclesiastic site, KE002-008 include a large complex at Carrig Island, situated c.7km N near Carrigafoyle on the Shannon, Kilnaughtin, near Ballylongford and Kilgulbin East to the SW. Neachtan is an early local saint and it is likely that the current medieval church is built on an earlier site (O'Donovan 1983, 13).

14.3.3.2.3 Medieval Artefacts

The Topographic Files of the National Museum of Ireland (NMI) record a single find from the Townland of Tullamore. In 1954, in the course of cutting turf, a wooden container with bog butter was discovered in Tullamore (NMI Reg. No 1954:16). Bog-butter has been found in peatbogs throughout Ireland often in wooden containers. Apparently, it was stored in the bog in an attempt to prolong its useable life. It may also have been buried as a votive offering. The custom of burying butter in the bog extends back at least to the late Iron Age, c. AD 100. During Thomas Dineley's travels in Ireland in 1671 he recorded that *'butter, layed up in wicker baskets, mixed with a sort of garlic and buried for some time in a bog to make provision of a high taste for Lent'* (www.irisharchaeology.ie). No finds were recorded within three other townlands of PWF.

There have also been a significant number of medieval artefacts found in the wider study area. Of particular relevance in the context of this report is the significant discovery of a zoomorphic pennannular brooch from the bog at Tullahennel td. c.5km to the NW. Remarkably, the brooch was found by a woman removing the ashes from the grate in a family range in Martara, Ballylongford in 2009. The extremely rare 6th – 7th century brooch has two Maltese crosses set within sunken fields within stylized animal snouts that would have originally been inlaid, possibly with red enamel (**Plate 14-3**; Dunne 2009).



Plate 14-3: 6th -7th century zoomorphic brooch from Tullahennel Bog 2009 (Dunne 2009).

In March 1871 an exquisite late 15th century processional cross was found in the townland of Ballymacasy c.3km to the N during ploughing for reclamation works of boggy land near Ballylongford (Reg. No. 1889-4). This cross is today better known as the Lislaughtin Cross and is arguably one of the most spectacular of Ireland's late medieval treasures and the finest example from Britain and Ireland (**Plate 14-4**). Made of cast and gilt silver, it dates to 1479. An inscription on the cross bears testament to the patronage of the Lord of Kerry, Cornelius O' Connor and his wife Avelina FitzGerald, daughter of the Knight of Glin.



Plate 14-4: Lislaughtin Processional Cross found in Ballymacasy Bog, Ballylongford.

14.3.3.3 Historic Context

Historically, the name of the barony, Iraghticonnor, derived from Oidhreach Uí Chonchúbhair – territory of O'Connor otherwise referred to as *O'Connor's Inheritance*. The O'Connor Kerry family came to dominate North Kerry from the 7th or 8th century. Prior to this the territory or *tríocha* of the region was known as Altry or Alltraighe. The Altry became a sept of the Ciarraighe from which the name Kerry is derived. In that context the O'Connor's were of the Ciarraighe who controlled North Kerry. Viking activity is also recorded in North Kerry with raids recorded in seven separate entries in the annals over a time span of three hundred and sixty years. The first plundering raid in the area occurred c.816 and the last happened in 1176. In 834 a fleet of Vikings entered the Shannon and raided as far as Kilpeacon and Mungret in the territory of Uí Chonaill. In response a force led by Donnchadh leader of the Uí Chonaill and Uí Fidgente defeated the Vikings at Shanid near Shanagolden. Subsequent fleets of Vikings arrived every ten years or so up to AD876 after which there was a hiatus until AD916. This respite was recorded as a literary trope known as the '*forty years rest*' – a term coined by the author of *Cogadh Gáedhel re Gallaibh*, (Ó Corráin 1996, 224). The name Ballylongford - *Baile an Longfoirt* may also have Viking origins as it contains the term *longphort* (stronghold) coupled with the Irish term *baile* town / village (Connolly 2005, 159).

By 1190 the Cambro / Norman advance had squeezed O'Connor into the area now known as Iraghticonnor. Their stronghold was located at Carrigafoyle Castle, Ballylongford from where, ships travelling up the Shannon to Limerick could be intercepted and their cargoes captured, and it is presumably the fear of this that brought most vessels to pay the levy which the O'Connor's imposed on traffic in the estuary (Barrington 1976, 262). Asdee Castle was the headquarters of Diarmuid Sugach O'Connor Kerry in the 12th century. The ruins of this castle survived into the early 20th century, but nothing of it is now visible (Toal 1995, 274). As a medieval cantred it was known as the '*cantred of Listuthal*' (Listowel) and was granted to William de Burgh after whom it was granted to Meiler FitzHenry (MacCotter 2000, 57; MacCotter 2008,167).

The O'Connor clan continued to control Iraghticonnor until Cromwellian times when the last prominent O'Connor was hanged (Barrington 1976, 258). The FitzMaurices held a major seat of power at Listowel and had a number of castles along the western shore of the Shannon. Beal Castle on the mouth of the Shannon was a FitzMaurice stronghold. During the High Medieval period, a number of castles were constructed along the coastline for defensive purposes some of which were constructed within earlier promontory forts i.e. at Ballybunnion.

Monumentally, the High Medieval period of Iraghticonnor is represented by a variety of sites including moated sites, medieval parish churches, monasteries and castles. The arrival of the Cambro / Normans also heralded the arrival of the Cistercians who founded Kyrie Eleison abbey in 1154 as a daughter house to Nenagh at Abbeydorney (Tarrant & O'Connell 1990, 175). A Hospital of St. John the Baptist, (*Fratres Cruciferi*), was founded at Rattoo in AD1200. The foundation at Rattoo later changed to the rule of the canons regular of St. Augustine of Arroaise and was dedicated to SS. Peter & Paul (Bradley 1984, 87; Tarrant & O'Connell 1990, 145). Ardfert became the Bishopric or See for Kerry in 1117. The increase in wealth and status of North Kerry attracted the Franciscans to establish a friary in Ardfert in 1253 and another at Lislaughtin, Ballylongford (Smith 1756, 106). The closest of these monasteries to the study area is Lislaughtin c.5km to the N. It is most likely that the Franciscan Friary was built on the site of an early ecclesiastic site as it is named after St. Lachtin of Bealachabra (Muskerry) who died in 622AD (ibid Smith; O'Donovan 1983, 19; Tarrant & O'Connell 1990, 57; Toal 1995, 254). Lislaughtin Friary was founded for Observant Franciscan friars by John O'Connor Kerry around 1470 or a little earlier (Conlan 1988, 131). Pope Sixtus IV, who was formerly

a general friar of the Franciscan order, gave permission to O'Connor Kerry to complete the friary in 1477 and it was in operation by 1478 (Smith 1756, 118; Leask 1985, 183; Walsh 1976, 29; Toal 1995, 254; Ó Floinn 2010, 82). The stronghold castle of O'Connor Kerry, Carrigafoyle is situated on the shore two miles from the Lislaughtin Friary that he founded. A small carved stone depicting the beautiful east window of Lislaughtin Friary is situated on the first floor of the castle. Very little is known about Lislaughtin up until the suppression of the monasteries other than an account saying that a Chapter of the Observants of Ireland was held there in 1507 and that the friary was the burial place for the founding family of O'Connor Kerry (Walsh 1976, 29). One of the two very fine tomb niches on the north side of the nave in Lislaughtin is thought to have been for the O'Connor's (Dunne 2010).

On Palm Sunday April 6th 1580 Carrigafoyle castle was captured by Sir William Pelham after a very brief siege and immediately after Lislaughtin Friary was also destroyed and three aged friars, Daniel Hanrahan, Philip O'Shea and Maurice Scanlan, were martyred before the high altar by the Elizabethan forces (O'Sullivan 1931, 87). The friary and its estate were granted to Sir William Herbert and Walter and Miles Herbert.

War broke out again in 1598 in what was known as the 'Sugán' (straw) Earl's Revolt (O'Sullivan 1931, 67-8). The following year the English made a surprise raid into North Kerry capturing Liscahane Castle and O'Connor Kerry surrendered Carrigafoyle Castle. The nearby coastal castle at Beal was destroyed by Lord Fitz Morris on the Irish side who Sir George Carew, then President of Munster, described as '*the most obstinate and malicious traitor within the province*'. On the 23rd August 1600 Carew reported the taking of Lixnaw, the caput of Lord Fitz Morris (**Figure 14-6**). By December 1600 Listowel Castle had surrendered to Sir Charles Wilmot who summarily hanged nine of the garrison and then left a hundred soldiers to guard the fortress (ibid).



Figure 14-6: Extract from Carew's 1598 Map of Kerry from the Carew Ms. in Lambeth Palace. Note the half barony of Iraghticonnor with castles of Listowel, Carrigafoyle and Fitz Morris's caput of Lixnaw also shown.

According to the Franciscan friar Donatus Mooney the Lislaughtin Friary was unoccupied in 1617 or 1618 who noted that it was '*...solitary and surrounded by woods*' (Ó Floinn 2010, 88). By 1629 the

friary was again re-occupied by the Provincial Fr. Valentine Browne and appointed Philip O’Holan as guardian (Walsh 1976, 29). The same year they took in friars who had to flee from persecution at Muckross.

In 1652 Lislaughtin was destroyed by Cromwellian forces and the friars went into hiding although they re-emerged circa eight years later. Apparently, the bells of Lislaughtin are now in St. Mary’s Cathedral in Limerick (Tarrant & O’Connell 1990, 57). There is a local tradition also that the roof was used in the construction of the Church of Ireland in Tarbert (ibid). Lislaughtin Friary was finally abandoned in the early decades of the 18th century (Conlan 1988, 131).

14.3.3.4 Down Survey 1656

According to the Down Survey of 1656 the townlands of Tullamore and Coolkeragh were owned by Lord Kerry, a Protestant, whose lands were not confiscated. The 1656 census records that 31 English persons were resident in Tullamore and gives no information about Coolkeragh. Ballyline West, (named in the survey *Ballyloyne*) was owned in 1641 by Murragh O’Connor a Catholic. The land, comprised of 286 unprofitable and 824 profitable acres, was forfeited following the Catholic Confederation Wars and granted to the College of Dublin by 1670. Also, the last townland of the PWF - Dromalivaun (named in the survey *Lisloughthen*) which was owned by Connor O’Connor was forfeited to the College of Dublin (www.downsurvey.tcd.ie).

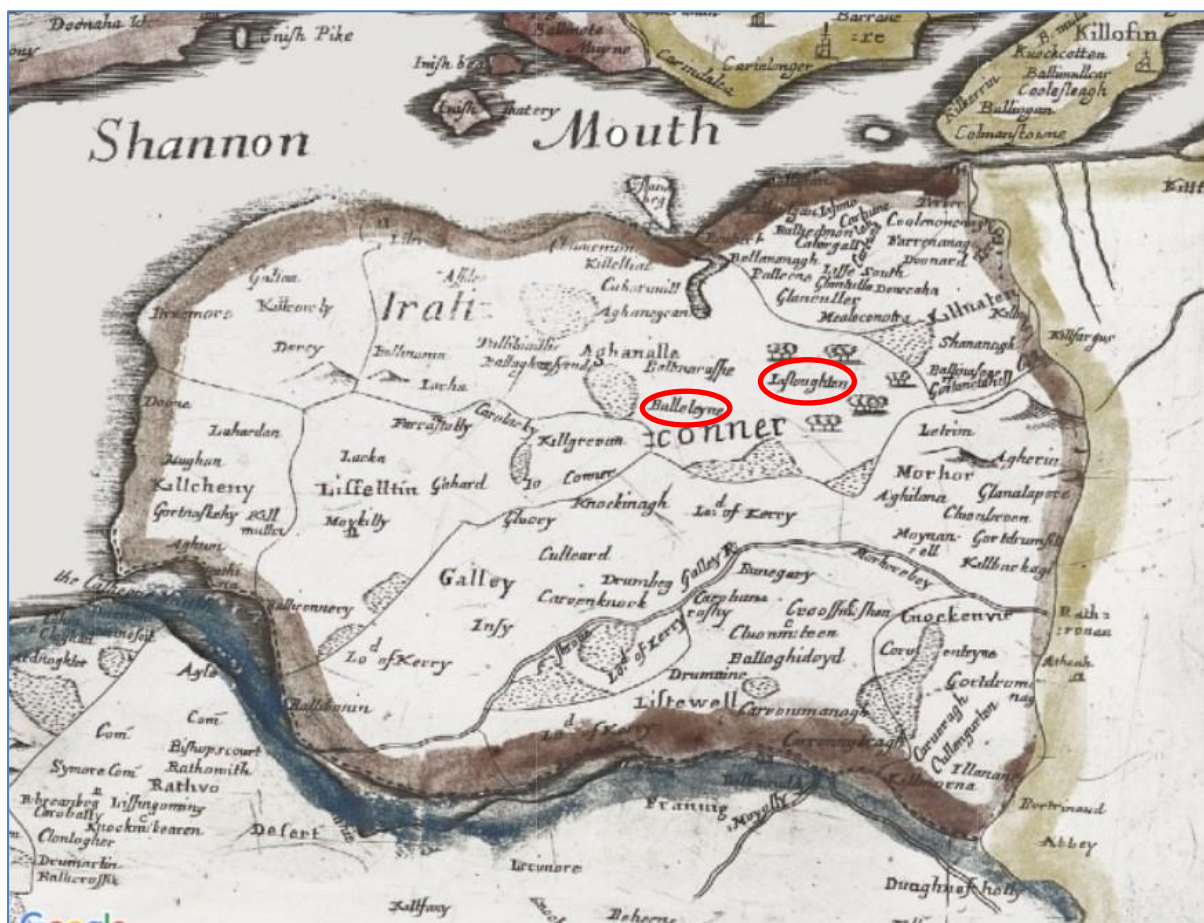


Figure 14-7: Extract from the Down Survey of 1656. Townlands of Ballyloyne and Lislaughtin encircled.

14.3.4 Excavations Ireland Database

Examination of the database of licensed archaeological excavations undertaken in Ireland (www.excavations.ie) record that no archaeological excavations took the place within the limits of

the Shronowen WF site boundary. Also, no licensed archaeological works were undertaken at Dromalivaun and Tullamore townlands. However, and coincidentally, there is an entry for licensed archaeological monitoring undertaken by the author from 2002, Licence No. 02E1660 with regard to the Listowel Regional Water supply Scheme at Tullamore townland near Knockanore but not the Tullamore of this report.

Two entries are recorded for Coolkeragh townland. A programme of testing (License No. 15E0141) was undertaken in advance of the proposed construction of a commercial composting facility on a 4.34ha site. Five test trenches were excavated all with negative results. In 2018 a pre-planning test excavation (License no. 18E0486) was undertaken for an inert construction/demolition material storage facility in low-lying lands in Coolkeragh. Four test trenches were excavated, and no features of archaeological significance were uncovered.

One entry for licensed archaeological works is recorded for Ballyline West townland whereby testing was undertaken of a levelled ringfort, KE005–023 situated c.2km N of limits of the PWF undertaken in 2008 (License No. 08E0989). While the geophysical survey revealed the presence of a number of anomalies on the site, the enclosing elements and outer extent of the monument were not defined with any certainty (www.excavations.ie).

14.3.5 Archaeological Landscapes

Examination of the Kerry County Council Built Heritage section (Chapter 10) of the Kerry County Development Plan, 2015-2021 revealed that the proposed wind farm is not situated within a designated archaeological landscape.

14.3.6 Aerial Imagery

A suite of aerial imagery was examined including ortho imagery available from OSi (www.osi.ie) which includes B&W imagery from 1995 and colour imagery from 2000 and 2005. Higher resolution aerial imagery from the OSi via the NMS portal (www.archaeology.ie) was also examined. Sequential aerial imagery (taken between 2006 and 2019) of the proposed wind farm was also examined on Google Earth. Nothing of an archaeological nature or significant wider cultural feature was noted. Also, targeted UAV survey of the PWF was undertaken by Laurence Dunne Archaeology in August 2020.

14.3.7 Architectural Heritage

There are no recorded National Inventory of Architectural Heritage (NIAH) structures or Recorded Protected Structures within the limits of the PWF or its vicinity.

14.3.8 19th Century Ordnance Survey Maps

Examination of the extents of the Shronowen site boundary on the pre-famine 1st Edition OSi 6" map revealed no archaeological monuments within the study area. Most of the PWF is depicted on the historic maps as featureless bog with small areas of tillage denoted at very southwest, south and eastern limits of the PWF and the very northern tip at Ballyline West. No pre-famine vernacular structures were noted within the buildable area of the PWF.

14.4 FIELD INSPECTION

Archaeological field inspection of all proposed turbine sites (T1-T12) was undertaken in January 2019 and in August 2020. Targeted UAV survey was also undertaken. No previously unrecorded archaeological site, feature, deposits or artefact was noted within limits of the PWF. Nothing of architectural or wider cultural interest was recorded within the limits of the PWF.

14.4.1 Turbine 1

The proposed Turbine T1 will be situated in the southern limits part of the PWF within coniferous forestry (**Plate 14-5**) in Coolkeragh townland close to the townland boundary of Ballyline West. Nothing of archaeological interest was noted.



Plate 14-5: Oblique UAV view from SW of the forestry within which turbine T1 will be located .

14.4.2 Turbine 2

Turbine T2 is the only turbine of the twelve that will not be located on bogland but in the northeast corner of flat reclaimed pasture. (**Plate 14-6**). Nothing of archaeological interest was noted at the site.



Plate 14-6: Location of T2 from NE (UAV image by LDA, August 2020).

14.4.3 Turbine T3

Proposed Turbine T3 will be located in the western limits of the PWF on wet uneven bogland close to an existing trackway (**Plate 14-7**). Nothing of archaeological interest was noted at the location during the field inspection.



Plate 14-7: Location of T3 (from S).

14.4.4 Turbine T4

Turbine T4 is will be located within wet bogland at the southern limits of PWF (**Plate 14-8**). Nothing of archaeological interest was noted at the site of T4 during the field inspection.



Plate 14-8: Location of T4 from N (oblique UAV image by LDA, August 2020).

14.4.5 Turbine 5

Turbine T5 will be located at boggy wet uneven land in the central area of the PWF (**Plate 14-9**). Nothing of archaeological interest was noted.



Plate 14-9: Location of T5 (from S).

14.4.6 Turbine T6

Turbine T6 will be located at the southern limits of the PWF within uneven and boggy land (**Plate 14-10**). Nothing of archaeological interest was noted.



Plate 14-10: Location of T6 from E (oblique UAV image by LDA, August 2020).

14.4.7 Turbine T7

Turbine T7 will be located in the northern limits of the PWF in wet uneven bog close to an existing road (**Plate 14-11**). Nothing of archaeological interest was noted.



Plate 14-11: Location of T7 from S (oblique UAV image by LDA, August 2020).

14.4.8 Turbine T8

Turbine T8 will be situated in the centre of the PWF within featureless wet bog dissected with many open drains (**Plate 14-12**). Nothing of archaeological interest was recorded.



Plate 14-12: Location of T8 from S (UAV image by LDA, August 2020).

14.4.9 Turbine T9

Turbine T9 will be located opposite or slightly W of T8) in the same wet boggy environment (**Plate 14-13**). Nothing of archaeological interest was noted.



Plate 14-13: Location of T9 from SW (oblique UAV image by LDA, January 2021).

14.4.10 Turbine T10

Turbine T10 will be situated at the NE limits of the PWF within wet uneven bog (**Plate 14-14**). Nothing of archaeological interest was recorded.



Plate 14-14: Location of T10 (from E).

14.4.11 Turbine 11

Turbine T11 will be situated in completely featureless flat bog with multiple east-west traversing open drains (**Plate 14-15**). Nothing of archaeological interest was noted.



Plate 14-15: Location of T11 from W (oblique UAV image by LDA, August 2020).

14.4.12 Turbine 12

Turbine T12 will be located at eastern limits of the PWF within very wet uneven cutover bog (**Plate 14-16**). Nothing of archaeological interest was recorded.



Plate 14-16: Location of T12 from E (oblique UAV image by LDA, January 2021).

14.4.13 Proposed Substation

The proposed substation will be located at the eastern limits of the PWF in wet reclaimed pasture beside an existing road (**Plate 14-17**). Nothing of archaeological interest was recorded.



Plate 14-17: Location of Proposed Substation from SE (UAV image by LDA, August 2020).

14.4.14 Peat Deposition Area 1

Peat Deposition area 1 is the smallest of the proposed six deposition areas. It will be situated immediately south of turbine T1 in Coolkeragh townland. The deposition area is located in an area of cut over peat bog (**Plate 14-18**). Nothing of archaeological interest was noted.



Plate 14-18: Peat Deposition Area 1 from S (oblique UAV image by LDA, January 2021).

14.4.15 Peat Deposition Area 2 -3

Peat Deposition Areas 2 - 3 comprises of a large tract of ground spilt in two blocks situated immediately south (**Plate 14-19**) and southeast (**Plate 14-20**) of turbine T6. Both areas comprise of wet uneven bog. Nothing of archaeological interest was noted.



Plate 14-19: Part of Peat Deposition Area 2-3 south of T6, from E (oblique UAV image by LDA, August 2020).



Plate 14-20: Second part of Peat Deposition Area 2-3 from W (oblique UAV image by LDA, August 2020).

14.4.16 Peat Deposition Area 4

Peat Deposition Area 4 will be located adjacent to T6 on its western side. The area is a featureless bogland (**Plate 14-21**). Nothing of archaeological interest was noted.



Plate 14-21: Peat Deposition Area 4 from E (UAV image by LDA, August 2020).

14.4.17 Peat Deposition Area 5

Peat Deposition Area 5 will be situated east of turbine T11 beside the proposed new floating log road on featureless bog (Plate 14-22). Nothing of archaeological interest was recorded.



Plate 14-22: Peat Deposition Area 5 from SE (UAV image by LDA, January 2021).

14.4.18 Peat Deposition Area 6

Peat Deposition Area 6 will be located NE of turbine T12 at the eastern limits of the PWF within wet cutover bog (Plate 14-23). Nothing of archaeological interest was noted.



Plate 14-23: Peat Deposition Area 6 from S (UAV image by LDA, August 2020).

14.4.19 Site Compound 1

Site Compound 1 will be located at the western entrance to the PWF on the same large flat green field as turbine T2 beside its NW boundary (**Plate 14-24**). Nothing of archaeological interest was noted during field survey.



Plate 14-24: Location of Compound 1 from SE (oblique UAV image by LDA, August 2020).

14.4.20 Site Compound 2

Site Compound 2 will be situated at the eastern entrance to the PWF south-east of turbine T10 on featureless bogland (**Plate 14-25**). Nothing of archaeological interest was recorded.



Plate 14-25: Location of Compound 2 from SE (oblique UAV image by LDA, January 2021).

14.4.21 Met Mast

Proposed Met Mast will be situated on the bogland west of Turbine T4 (Plate 14-26). Nothing of archaeological interest was noted during field walk.



Plate 14-26: Met Mast location (oblique UAV image by LDA, August 2020).

14.4.22 Proposed Grid Connection

There are two possible grid connection options considered for the proposed wind farm project. The preferred and shortest route option for the grid connection is by means of a short underground 110kv cable connection from the wind farm substation to the existing 110kv overhead line due east of the proposed substation location. The trench will be 0.9m wide and an average depth of 1.2m and will cross under the local road and through the agricultural field to the south east towards the existing 110kv transmission line. This approach requires the erection of two steel lattice towers in order to intersect the overhead line. The two towers are located in an area of wet grassland due west of the substation location. The towers will each have 4no. pad foundations c.1.8m x 1.8m in

size with minimal intrusive excavations. Nothing of archaeological interest was recorded at the location.

14.4.23 Proposed alternative Grid Cable Connection Route

Alternatively, the proposed grid connection cable may be laid underground in an excavated trench c.0.6m wide x 1.2m deep that would extend from Shronowen Wind Farm for c.5.5km. The cable route would, for the most part, extend along the L6921 local road and to a much lesser extent, along the proposed 4.0m wide accessway associated with the permitted, but as yet unbuilt, Tullamore Solar Farm to connect into the proposed Drombeg 110kv Substation (**Figure 14.8**).

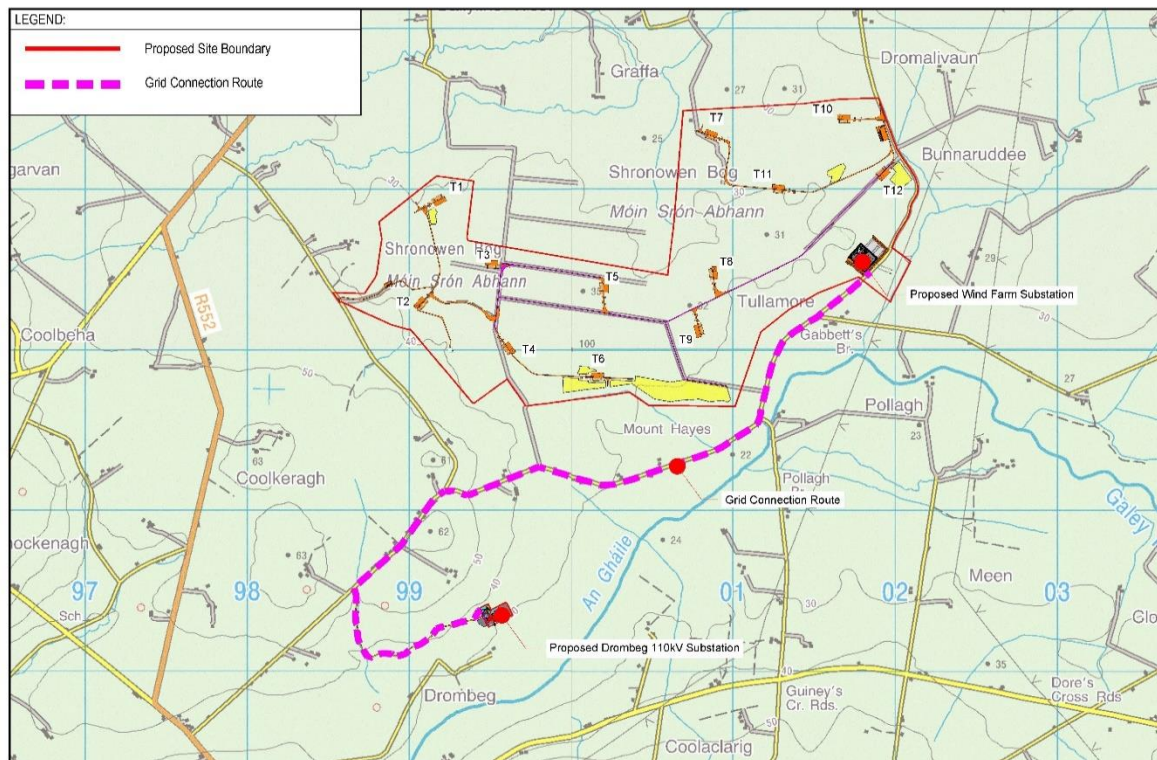


Figure 14.8: Proposed grid connection cable route (courtesy MWP).

14.4.24 Impacts of the Proposed Grid Cable on Archaeology and the Wider Cultural Heritage

The southern limits of the zone of notification (ZON) of a recorded enclosure, KE005-092, extends across the proposed alternative cable route in the townland of Tullamore (**Figure 14.9**). The enclosure was previously recorded as an earthwork in the SMR and RMP but was re-classified as an enclosure in 2013 (www.archaeology.ie). It was not recorded in the North Kerry Archaeological Survey (Toal 1995). The monument was substantially levelled in the second half of the 19th century as it is clearly denoted as a circular hachured enclosure on the pre-famine 1841 1st Ed. OSi map (**Figure 14.10**). However, only a short segment of hachures of the eastern limits of the monument are denoted on subsequent OSi mapping (**Figure 14.11**). The enclosure is situated c.17m – 18m north of the L6921 local road.

There are no other recorded archaeological sites along the proposed route.

In a wider cultural heritage context, the 1st Ed. map also denotes several roadside cottages at the same location that were also destroyed before the publication of the later OSi map of 1896/7 and replaced by a Gravel Pit and Lime Kiln abutting the southern limits of the road (**Figure 14.11**). Several other built features (lime kilns, houses, wells etc) are denoted on the historic OSi maps, particularly

around Mount Hayes where Tullamore School was also located. However, all of these are outside of the actual road and would not be impacted. Ultimately, there would be no impact on the recorded monument, KE005-092, by the proposed alternative grid cable route. Furthermore, there will be no impacts by the proposed alternative grid cable route on the wider cultural heritage.



Figure 14.9: Extract from the online SMR mapping service of the NMS. Note the southern limits of the ZON of the enclosure, KE005-092, extending across the L6921 local road.

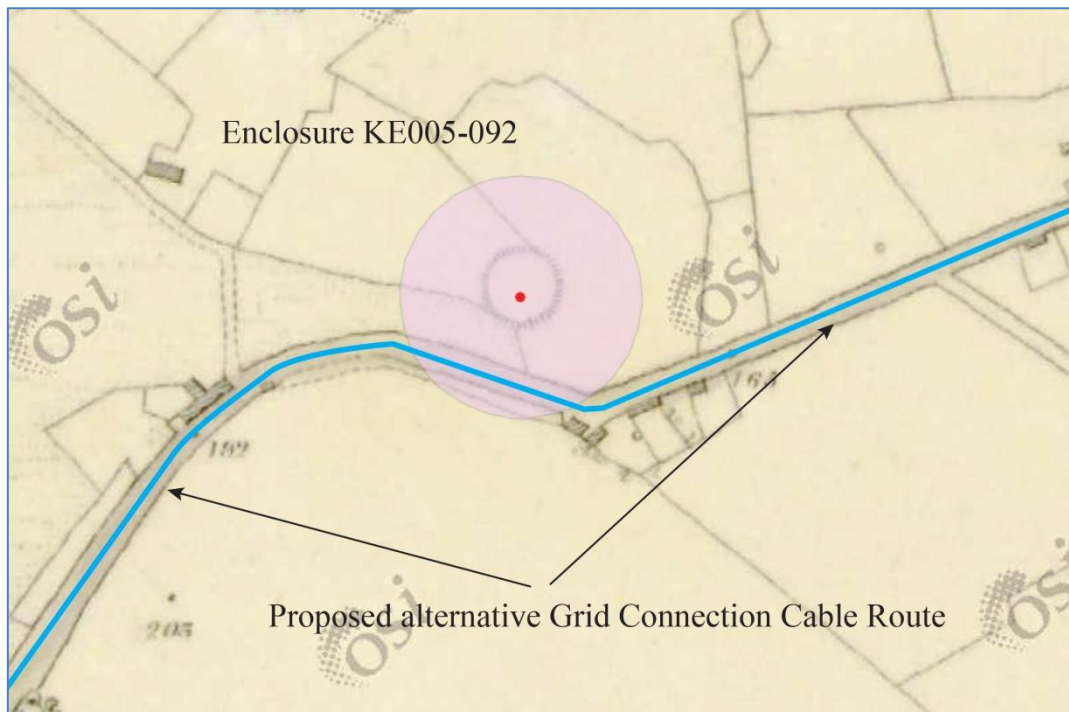


Figure 14.10: Extract from the pre-famine 1st Ed. OSi map of 1841. Note the circle of hachures denoting the enclosure, KE005-092, situated c.17m-18m to the north of the roadway and the now demolished cottages.

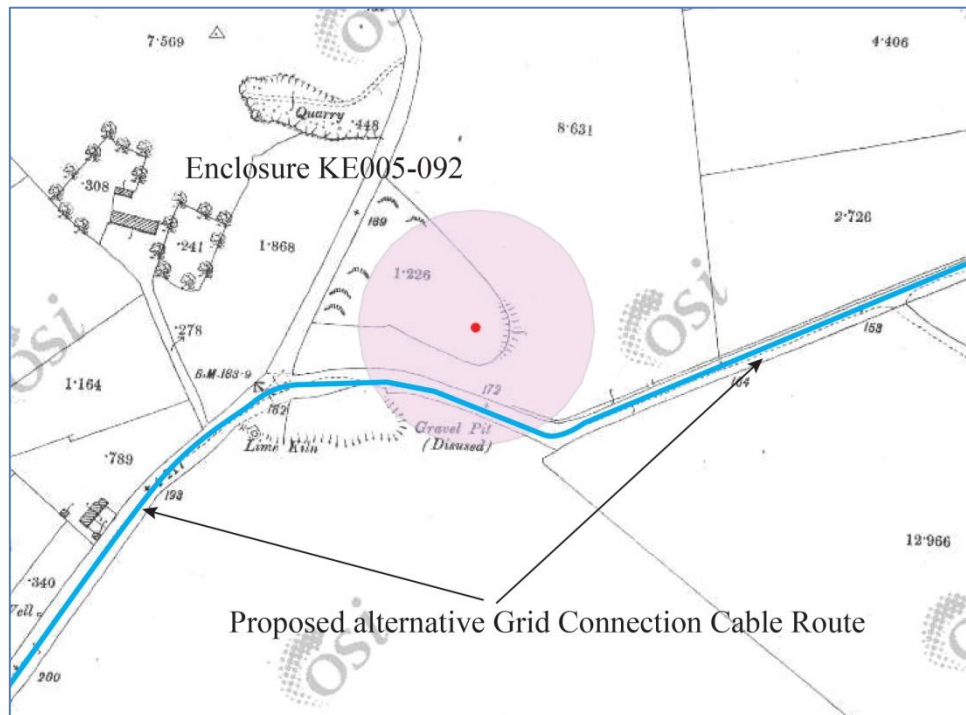


Figure 14.11: Extract from the 1896/7 1:2500 Ed. OSi map. Note the remaining segment of hachures denoting the substantially levelled remains of the enclosure, KE005-092. Further, note the disused gravel pit and lime kiln to the south of the roadway, now also destroyed.

14.4.25 Overview of Results

- There are no recorded archaeological monuments or artefacts within the boundary limits of the proposed Shronowen Wind Farm.
- No previously unrecorded archaeological sites or features were noted or recorded in the course of the field walking or in the course of the desk-based research within the boundary limits of the proposed Shronowen Wind Farm.
- There is a single recorded monument, KE005-092, classified as an enclosure, situated c.17-18m north of the proposed alternative grid cable route. However, this levelled monument, would not be impacted by the cable route trenching works.
- Examination of the wider study area encompassing the development site demonstrates that the wider study area has been occupied from at least the Neolithic period. However, it was not densely settled, being represented by nine recorded sites within c.3km radius from the centre of the Shronowen site.

14.5 LIKELY SIGNIFICANT EFFECTS

Likely Impacts on Known Recorded Archaeology, Unknown Archaeology and Wider Cultural Heritage are described in this section.

14.5.1 Construction Phase

- Given (1) the general spartan record of archaeological artefacts, features and known sites in the wider study area; and (2) the negative archaeological results of this study, the impact is classified as low.
- Given the scale of the proposed construction works there is a low possibility that construction of the: (a) twelve turbine pad foundations; (b) substation; (c) two compounds; (d) internal trackways; (e) peat deposition areas; (f) met mast; (g) grid connection and (h) alternative grid connection may impact on potential unknown subsurface archaeological features, deposits or artefacts that may have survived within the underlying bogland within

the Shronowen site. This impact is assessed as low based on (1) the negative results from (1) the absence of any recorded monuments within the proposed wind farm site; (2) the low number of recorded sites in the wider study area; and (3) the lack of any known recorded artefacts from the study area.

14.5.2 Operational Phase

There are no archaeological impacts envisaged during the operational phase of Shronowen Wind Farm and grid connection.

14.5.3 Do-Nothing Scenario

The wider archaeological and cultural heritage landscape will remain intact and uninterrupted whether the project goes ahead or not.

14.5.4 Decommissioning Phase

There are no archaeological impacts anticipated in the course of the de-commissioning of the proposed turbines. Potential subsurface archaeological issues will have been adequately resolved by the mitigation measures in advance of construction.

14.5.5 Cumulative Effects

No cumulative impacts are anticipated or identified that could impact on the archaeological and wider cultural heritage resource should the proposed development proceed.

14.6 MITIGATION

Licensed archaeological testing should be undertaken in advance of construction at targeted areas of all primary ground impacts associated with the proposed development including: - (a) turbine pad foundations; (b) substation; (c) compounds; (d) proposed new internal excavated trackways; (e) peat deposition areas; (f) met mast; (g) grid connection and (h) alternative grid connection. Based on the results of the above, further mitigation measures, may be required. However, overall the assessment determined the impact is classified as low.

14.7 RESIDUAL IMPACTS

Utilising the proposed mitigation of licensed archaeological testing, no cultural heritage residual impacts are anticipated.

14.8 CONCLUSIONS

- There will be no physical impact by the proposed Shronowen Wind Farm, including: - proposed turbine sites; substation, trackways, compounds, met mast, grid connection and alternative grid connection on the known recorded archaeology within the boundary limits of the PWF as there are no recorded monuments there.
- There is a single recorded monument, KE005-092, classified as an enclosure, situated c.17 - 18m north of the proposed alternative grid cable route. However, this levelled monument, would not be impacted by the cable route trenching works.
- There is a possibility that there will be a low impact on the unknown potential subsurface archaeology within the boundary limits of the proposed Shronowen Wind Farm during the construction phase. The potential that sub-surface archaeological features and artefacts may be present is based on the general anoxic / anaerobic environment of peatland to preserve organic materials. However, the proposed mitigation strategy of licensed archaeological monitoring should offset these possible impacts to varying degrees.

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