

**Chapter 9:
Archaeology &
Cultural Heritage**

9.1 Introduction

9.1.1 Overview

The purpose of this chapter is to assess and define the impacts, if any, on the archaeological, architectural and cultural heritage resource of the proposed development in counties Laois and Kilkenny (Laois OS Sheet 030 and Kilkenny OS Sheet 001, see **Figure 9.1**). It includes mitigation measures designed to avoid, reduce or offset any potential adverse impacts. The following key issues are addressed:

- Direct impacts of the construction phase on recorded and unrecorded archaeological, architectural and cultural heritage features.
- Indirect impacts of the construction phase on recorded and unrecorded archaeological, architectural and cultural heritage features.
- Direct impacts of the operation phase on recorded and unrecorded archaeological, architectural and cultural heritage features.
- Indirect impacts of the operation phase on recorded and unrecorded archaeological, architectural and cultural heritage features.
- Cumulative impacts of the construction phase on recorded and unrecorded archaeological, architectural and cultural heritage features.
- Cumulative impacts of the operation phase on recorded and unrecorded archaeological, architectural and cultural heritage features.

9.1.2 Project Team

This chapter has been prepared by Dermot Nelis who 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 carried out numerous walkover surveys, testing and monitoring programmes. He has acted as Senior Archaeologist on several motorway road schemes for various County Councils/National Roads Authority, and has directed large-scale monitoring, test trenching and multi-period excavations associated with those developments. He has completed over 100 licensed fieldwork programmes and over 50 archaeological, architectural and cultural heritage Environmental Impact Assessments.

9.1.3 Assessment Methodology

The study involved detailed interrogation of the archaeological and historical background of the proposed development area. This included information from the Record of Monuments and Places (RMP) of counties Kilkenny and Laois, topographical files of the National Museum of Ireland (NMI), Kilkenny and Laois County Development Plans, cartographic and documentary records and aerial photographs of Ordnance Survey Ireland.

An archaeological study area of 1km has been imposed around the proposed development and associated areas of land take. In addition, an area of approximately 5km around the proposed development has been assessed to record the presence of Protected Structures and any additional statutorily protected archaeological, architectural or cultural heritage features recorded in the Kilkenny and Laois County Development Plans.

An impact assessment and mitigation strategy has been prepared. The impact assessment is undertaken to outline potential adverse impacts that the proposed development may have on the archaeological, architectural or cultural heritage resource, while the mitigation strategy is designed to avoid, reduce or offset such adverse impacts.

Research has been undertaken in two phases. The first phase comprised a paper survey of archaeological, historical and cartographic sources. The second phase involved a field inspection of the proposed development area.

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 counties Kilkenny and Laois;
- Topographical Files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the study area;
- Aerial photographs of Ordnance Survey Ireland and Bing aerial photography;
- Laois County Development Plan (2011 – 2017) and Kilkenny County Development Plan (2014 - 2020);
- National Inventory of Archaeological Heritage.

Record of Monuments and Places 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 the proposed 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 proposed 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.

Laois County Development Plan (2011 – 2017) and Kilkenny County Development Plan (2014 – 2020) contain objectives and policies on the preservation and management of archaeological, architectural and cultural heritage features. They were consulted to obtain information on sites within the proposed development area, the 1km study area and the wider 5km study area.

National Inventory of Architectural Heritage (NIAH) is a section within the Department of Arts, Heritage and the Gaeltacht (DAHG). The work of NIAH involves identifying and recording 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 in counties Kilkenny and Laois, and it was assessed to look for the presence of any such features in townlands located within the proposed development area.

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. Field inspections were carried out on 3rd August 2012 and 26th August 2014, and all areas of proposed land take were walked and visually assessed.

9.1.4 Significance of Criteria

9.1.4.1 Potential Impacts on Archaeological, Architectural and Cultural Heritage Remains

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of resources potentially affected. Wind energy developments can affect the archaeological, architectural and cultural heritage resource of a given landscape in a number of ways:

Permanent and temporary land-take, associated structures, landscape mounding and their construction 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: disturbance by excavation, topsoil stripping and the passage of heavy machinery, disturbance by vehicles working in unsuitable conditions, burial of sites thus limiting accessibility for future archaeological investigation;

Hydrological changes in groundwater or surface water levels can result from construction activities such as de-watering and spoil disposal, or long-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits;

Visual and noise impacts 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 in general the potential for adversely affecting archaeological remains. This can include machinery, site offices, service trenches, etc;

Although not widely appreciated, positive impacts can accrue from permitted 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.

9.1.4.2 Predicted Impacts on Archaeological, Architectural and Cultural Heritage Remains

There is no standard scale against which the severity of impacts 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 existing environment. Severity of impact 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.

Assessment of the levels of visual, noise and hydrological impacts, either in general or site specific terms, as may be provided by other specialists.

Impacts are defined as:

“the degree of change in an environment resulting from a development” (Environmental Protection Agency 2002, 30).

Impacts are described as indeterminable, negligible, minor, moderate or major on archaeological, architectural and cultural heritage remains. Moderate or major impacts are considered to be significant in Environmental Impact Assessment terms.

<i>Level of Impact</i>	<i>Significance Criteria</i>
Major	An impact which obliterates sensitive characteristics
Moderate	An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Minor	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities
Negligible	An impact capable of measurement but without noticeable consequences
Indeterminable	An impact on a feature of unknown archaeological significance

Table 9.1: Significance Criteria

9.1.5 Legislative & Planning Policy Context

9.1.5.1 Archaeological Resource

The National Monuments Act, 1930 to 2004 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 man-made 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 Arts, Heritage and the Gaeltacht 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 for Arts, Heritage and the Gaeltacht 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”.

9.1.5.2 Architectural and 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 (Amended 2010). 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 all built heritage structures within specific counties in Ireland. 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 (as amended).

The Planning and Development Act, 2000 requires Local Authorities to establish a Record of Protected Structures to be included in the County Development Plan (CDP). This Plan includes objectives designed to protect the archaeological, architectural and cultural heritage resource during the planning process. Buildings recorded in the RPS can include Recorded Monuments, structures listed in 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 in 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.

The 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.

9.1.5.3 Laois County Development Plan (2011 – 2017) & Kilkenny County Development Plan (2014 – 2020)

Laois County Council and Kilkenny County Council have written objectives and policies on the preservation of archaeological, architectural and cultural heritage remains in the face of permitted development. These relate to archaeological monuments and objects, vernacular structures and industrial heritage features amongst others.

9.2 Description of the Existing Environment

9.2.1 Overview

Laois is an inland county in the south midlands covering an area of 1,719 square km, which equates to 2.4% of the national landmass. It is located near the centre of the country and shares borders with Carlow, Kildare, Kilkenny, Offaly and Tipperary. In physical terms, the landmass of Laois consists of a central plain containing most of the productive agricultural land, surrounded by a number of upland areas including the Slieve Bloom Mountains in the north-west, Killeslin Plateau in the south-east and Cullahill Mountain in the south. There are also significant cutaway peatlands in the county, mainly situated between Portlaoise, Mountrath and Abbeyleix.

Kilkenny is the 16th largest county in Ireland and has an area of 2,072 square km. It is bordered by Carlow, Laois, Tipperary, Waterford and Wexford. Brandon Hill at 515m above sea level is the highest

peak and the majority of the county, with the exception of the centre and south of Kilkenny city, is hilly.

During the Mesolithic period (c. 7000-4000 BC) people existed as hunters/gatherers, living on the coastline, along rivers and lakesides. They used flint and other stone to manufacture sharp tools, and locating scatters of discarded stone tools and debris from their manufacture can sometimes identify settlements.

Mesolithic material was recovered from county Kilkenny in 2004 to the north and north east of Waterford city, approximately 65km south of the proposed development area. The Late Mesolithic material was generally recovered from pits or possible natural features and included burnt chert fragments, oak charcoal, a Bann Flake and flint flakes and blades.

The earliest evidence for settlement in county Laois dates from the Neolithic period (c. 4000-2400 BC). During this period the population became more settled with a subsistence economy based on crop growing and stock-raising. While some 1,500 megalithic tombs are recorded in Ireland, they are rare in the midlands and no definite examples are known in county Laois. Five megalithic structures and seven unclassified megalithic tombs are recorded in county Laois (www.archaeology.ie). County Kilkenny contains one court tomb, four passage tombs, nine portal tombs and four wedge tombs. In addition, it contains 14 megalithic structures and nine unclassified megalithic tombs (www.archaeology.ie).

Two megalithic structures (LA024-052 and LA024-055) are located in Knockbaun townland, approximately 1.65km and 2.1km respectively north east of the access track leading to Turbine 1.

The Bronze Age (c. 2400-600 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. During this period knowledge of metalworking was acquired resulting in changes in material culture such as the introduction of metal tools and artefacts as well as the introduction of a highly decorated pottery called Beaker pottery. In addition to changes in material culture, there were changes in burial rite from communal megalithic tombs to single burial in cists.

Bronze Age monuments from counties Laois and Kilkenny include stone rows and standing stones, cist burials, barrows and fulachta fiadh which are one of the most numerous monument types in Ireland with over 4,500 examples recorded (Waddell 2005, 174).

A segmented cist with cremated bone and some small unclassifiable potsherds (LA030-029), located approximately 850m south of Turbine 10 in Ironmills or Kilrush townland, was discovered during ploughing. No further information is recorded in the SMR file.

A ring barrow (KK001-002001) is located approximately 2.1km south east of Turbine 3 in Aughtabrid or Chatsworth townland, county Kilkenny.

Three standing stones (LA024-048, LA024-050 and LA024-053) are recorded approximately 1.95km, 2.3km and 1.8km respectively north east of the access track leading to Turbine 1.

A standing stone (LA025-048) and a stone circle (LA024-062) are both recorded in Knockbaun townland, although there is no information recorded on the RMP (www.archaeology.ie) as to the location of these monuments.

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. Most knowledge for this period stems from Irish folklore, the epic poems and legends of warrior kings and queens which are traditionally believed to be Celtic in origin. These stories however come from an oral society and were first recorded by Early Medieval monks. They are based on imagination rather than fact and thus reflect more the times in which they were written than the past they are concerned with.

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.

During this turbulent period roughly circular defensive enclosures known as ringforts were constructed to protect farmsteads. They were enclosed by an earthen bank and exterior ditch, and ranged from approximately 25m to 50m in diameter. The smaller sized and single banked type (univallate) was more than likely home to the lower ranks of society, while larger examples with more than one bank (bivallate/trivallate) housed the more powerful kings and lords. They are regarded as defended family homesteads and the extant dating evidence suggests they were primarily built between the 7th and 9th centuries AD (Stout 1997, 22-31). Cashels are stone built and are generally situated in coastal or mountainous areas.

The ringfort is considered to be the most common indicator of settlement during the Early Medieval period. Detailed study (ibid., 53) has suggested that there is an approximate total of 45,119 potential ringforts or enclosure sites throughout Ireland.

Souterrains, deriving their name from the French words sous (under) and terrain (ground), are underground structures that are often, though not exclusively, found associated with ringforts. They therefore appear to date to the second half of the first millennium AD. While the distribution of souterrains has yet to be fully investigated, it is known the pattern is uneven and some areas, such as north Louth for example, possess a much larger number of sites than elsewhere.

Enclosure sites belong to a classification of monument whose precise nature is unclear. Often they may represent ringforts, which have either been damaged to a point where they cannot be positively recognised, or are smaller or more irregular in plan than the accepted range for a ringfort. An Early Medieval date is in general likely for this site type, though not a certainty.

There is one enclosure recorded within the 1km study area. LA030-016 is located in Knockardagur townland, approximately 800m north-west of Turbine 4 and approximately 230m north east of the proposed substation. It is recorded in the RMP as part of a large subcircular enclosure visible on aerial photographs. This feature does not survive above-ground.

LA030-24 is located in Boleybawn and Ironmills or Kilrush townlands, approximately 1.1km south west of Turbine 11. It is marked on the First Edition Ordnance Survey map as an irregular enclosure measuring approximately 50m north/south x 25m east/west. This monument no longer survives above-ground.

An additional seven enclosures (LA024-049001, LA024-054, LA030-011004, LA030-013, LA030-015, KK001-001001 and KK001-002002) are recorded within approximately 2km of the proposed development area.

The classification of archaeological monuments is often made difficult by their condition, whether it be the result of deliberate destruction, trampling by livestock or natural weathering and erosion. The term “earthwork” is used to denote any monument or feature of artificial origin which cannot be further categorised without excavation. The term “earthwork site” indicates sites which were levelled before detailed archaeological inspection took place. The majority of such sites may be levelled or destroyed ringforts.

An earthwork (LA024-047) is located in Garrintaggart townland, approximately 1.3km north of the access track leading to Turbine 1.

A linear earthwork (LA024-049002) is located in Knockbaun townland, approximately 2.4km north east of the access track leading to Turbine 1. It is recorded in the SMR file as a linear feature recorded through aerial photography. This feature no longer survives above-ground.

The Early Medieval period is 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 probably 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.

A church (LA030-011001), graveyard (LA030-011002) and cross (LA030-011003) are located in Aghnacross townland, approximately 2km north west of Turbine 4. The church is associated with St Monahan who died in 648 and is situated beside a river in undulating countryside. Within a roughly triangular graveyard, which is defined by an earthen bank, is a nave and chancel church built of roughly coursed limestone. All visible headstones post-date 1700.

Medieval Ireland is considered a very turbulent time in Irish history as kings battled each other to obtain the power of the High King of Ireland or Ard Ri. As early as the middle of the 3rd century, the general area surrounding Portlaoise was ranked as a kingdom, and annexed by Conary, King of Ireland, to his native dominion of Munster, instead of being, as formerly, attached to Leinster. In the war waged by Roderic O'Connor, King of Ireland, against Diarmait MacMurrough, King of Leinster, which led to the invasion under Strongbow, the King of Ossory was one of the princes who were specially summoned by the former of those potentates.

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 is scarce and has been found in Dublin and Waterford, however excavations there 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 Dublin and Waterford, documentary sources provide evidence for the Viking foundation of the coastal towns of Cork, 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. Whilst 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 eventually benefited the Gaelic Irish and the cultural assimilation in some parts would have been significant.

The district now forming Queen's County (the former name of county Laois) was known by the name of Glenmalier and Leix. Leix was made a county palatine, and on the division of the immense possessions of William, Earl Marshal, between his five daughters, it was allotted to the youngest, who had married William de Braosa, Lord of Brecknock. Their daughter Maud married Roger Mortimer, Lord of Wigmore, and from this connection the imperial house of Austria, and the royal families of Britain, France, Prussia, Denmark, Holland, Sardinia and Saxony derive their descent. Mortimer, preferring to reside on his English estates, employed one of the O'Mores to defend and manage his Irish property. Within 20 years however, O'More had become so powerful that he held it by himself and became one of the fiercest opponents of the English settlers in that part of the

Pale. So fully was his authority recognised as lord of the district that he was summoned by the English government to oppose Bruce and the Scotch. For two centuries after, the district was the seat of an almost incessant war between the O'Mores and the English. During the same period the Mac Gillypatricks, or Fitzpatricks, maintained their independence in Ossory, but generally adhered to the English.

The later middle ages is a period marked by continuous raids by the Irish on the Pale and retaliation measures taken by the English crown to secure its authority by attempting to control the Irish families living outside its walls. Portlaoise originated as a fort erected in the mid-16th century as part of the English attempts to subdue the territories of the O'Mores and O'Conors during the reign of Edward VI.

In an attempt to limit the devastation caused by raids on the Pale, the region was reduced to shire ground and incorporated under the name of Queen's County. This new arrangement, however, did not immediately tranquillize the country. For security, a number of affluent families of native Irish, Anglo-Irish and English descent alike erected a type of castle known as a tower house. Though they are not castles in a strict military sense, they are designed primarily to repulse attack while displaying the wealth and status of the family. They are typically tall rectangular crenellated towers, of three to five storeys, with defensive features as well as features to enhance the domestic comfort of the building.

This general area was largely under the control of two powerful Irish families, the O'Conors and the O'Mores. Owen MacRory O'More, the chief of the O'More family, was so powerful that Sir George Carew, President of Munster, accompanied by the Earls of Thomond and Ormonde, was induced to hold a parley with him to bring him back to his allegiance to the English crown and halt his raids. Their attempt however to subdue his family's activities was unsuccessful when they were entrapped in an ambush, and the Earl of Ormonde made prisoner, and detained till a ransom of £3000 was paid. The O'More power was not to last and when their chief was killed shortly after this, in a skirmish with Lord Mountjoy, the followers of the O'Mores were driven into the counties of Cork and Kerry, then nearly depopulated.

At this juncture many English families, to whom grants of the land thus forfeited by the O'Mores had been made, settled in the county. Seven of them, whose founders were most influential in securing the new settlements, acquired the names of the Seven Tribes. The families so called were those of Cosby, Barrington, Hartpole, Bowen, Ruish, Hetherington and Hovenden or Ovington. In 1556 the fort within Laois, known to the English as "Fort Protector" was renamed Maryborough in honour of Queen Mary. The fort attracted settlers and a map of 1560 shows a small walled town around a fort. Maryborough (Portlaoise) was granted a market in 1567 and borough status in 1569. In 1580 the town was plundered by John, son of the Earl of Desmond. In 1597 it was burned by Rory O'Mordha and appears to have been burned again the following year. In the reign of Charles I, large grants of land were made to Villiers, Duke of Buckingham, now forming the extensive manor of Villiers. In the same reign, and during the unsettled period of the Commonwealth, the families of Pigott, Coote, Prior, Parnell and Pole settled there; those of Vesey, Dawson, Staples, Burrows and Johnson obtained lands after the Revolution.

There are many theories as to why Portlaoise was chosen in 1556 as the principal town of a new shire. One possibility was that it was built on the site of the Newtown of Leys and that some sort of hamlet might have lingered into the 16th century. This would explain the name of the parish, which almost certainly has a Medieval origin. The street pattern of the 16th century town is quite unusual and offers no apparent explanation for its form. The form of the 16th and 17th century housing within the town remains unknown.

County Laois had its full share of the calamities of the civil war in 1641, at the beginning of which the insurgents secured Maryborough, Dunamase and other places of strength. The Earl of Ormonde, arriving at Athy from Dublin, detached parties for their relief; on his retreat the whole of the county

submitted to General Preston, but was forced again to submit to the royal arms. In 1646 Owen Roe O'Neill seized upon several forts. In 1650 Cromwell's forces entered the county and met with much resistance. In the course of the struggle most of its fortresses were dismantled by his generals, Hewson and Reynolds. During the rebellion of 1699, a victory was gained by the troops of William at a noted togher or bog-pass near Cappard, where they defeated a much superior number of the Irish. After the termination of the war, the country was so harassed by the ravages of the raparees that the resident gentlemen applied to King William to have a force of infantry and dragoons quartered in it, and specified the castle of Lea as one of the principal stations for their reception.

The arrival of the 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 the Anglo-Normans centered itself 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. Mottes were raised mounds of earth topped with a wooden or stone tower while the bailey was an enclosure, surrounded by an earthen ditch with a timber palisade, used to house ancillary structures, horses and livestock. There are 11 motte and baileys recorded in county Laois and 10 in county Kilkenny (www.archaeology.ie).

A mote and bailey (LA030-021002) is located approximately 1.35km west of Turbine 7 in Moat townland. The site of a ford (LA030-021003) is located approximately 60m north west of the motte and bailey.

In certain areas of Ireland however 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. As in the case of ringforts, these enclosures protected a house and outbuildings usually built of wood. They appear to have been constructed in the latter part of the 13th century though little precise information is available. Moated sites were also built in Britain and elsewhere in north-west Europe. There are 61 moated sites recorded in county Laois and 69 in county Kilkenny (*ibid.*).

Three moated sites (LA024-046, LA030-014 and LA030-027) are recorded within approximately 2km of the proposed development area.

More substantial stone castles followed the motte and bailey and moated sites in the 13th and 14th centuries. Tower houses are regarded as late types of castle and were erected from the 14th to early 17th centuries. Their primary function was defensive, with narrow windows and a tower often surrounded by a high stone wall (bawn). An Act of Parliament of 1429 gave a subsidy of £10 to "liege" men to build castles of a minimum size of 20ft in length, 16ft in breadth and 40ft in height (6m x 5m x 12m). By 1449, so many of these £10 castles had been built that a limit had to be placed on the number of grants being made available. The later tower houses were often smaller, with less bulky walls and no vaulting. There are 30 tower houses recorded in county Laois and 69 in county Kilkenny (*ibid.*).

An unclassified castle (LA030-021001) is located approximately 1.4km west of Turbine 7 in Moat townland, marked in the south west quadrant of a motte and bailey (LA030-021002) on the 1908 Ordnance Survey map. This feature no longer survives above-ground.

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 1315-17 arrived in Ireland, brought about by lengthy periods of severe weather and climate change, its effects were exacerbated by the Bruce Invasion of 1315-18. 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. They wanted to put a stop to the raids of the Gaelic Irish on the 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.

From 1593 until 1603 there was a countrywide war between the Gaelic Irish, who were supported by the French, and the Elizabethan English. The Irish were finally defeated and with the “Flight of the Earls” in 1607, Ulster, which had previously been independent of English rule, was planted.

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

The planned estate town of Abbeyleix, located approximately 7.5km north west of the proposed development area, was founded in approximately 1770 by the second Viscount de Vesci who considered the Oldtown of Abbeyleix to be too close to the river Nore and therefore liable to flooding. He razed the original town and chose a slightly elevated site away from the river which is the location of the modern town.

A field system (KK001-001002) is located in Aughatubbrid or Chatsworth townland, approximately 1.95km east of Turbine 3. There is no further information recorded on this site in the SMR file.

Field systems are regarded as a group or complex of fields which are related and may date to any period from the Neolithic onwards. The practice of enclosing fields in Ireland for agricultural and other purposes dates from the Neolithic period. The enclosed land could have been used for stock-raising, plant husbandry and crop protection. The fields can vary in size and it is possible that many of them are more extensive than currently thought. A wide range of monuments, such as barrows, ringforts, souterrains, hut sites, ecclesiastical remains etc., can be found inside field systems.

A battlefield site (LA024-051), of which there are no above-ground remains, was originally recorded in Knockbaun townland, approximately 2.3km north east of the access track leading to Turbine 1. It is noted (www.archaeology.ie) that it is:

“Named 'Battle (Site of)' only on the 1909 edition of the OS 6-inch map. The source of this 'battle' is Daniel O'Byrne's, The History of the Queen's County (1856) where he makes reference to a battle taking place in the vicinity of eight standing stones. An assessment of this source indicates that this battle was mythical and probably developed either to provide an explanation for the standing stones or the requirement to rationalise the 'dissevering of Ossory from the Kingdom of Leinster, and the infliction of the Boromean tribute which subsequently caused so much bloodshed in the country”.

The following townlands are located within the proposed development area: Graiguenahown, Knockardugar, Boleybawn, Ironmills/Kilrush, Garrintaggart in County Laois and Crutt in County Kilkenny.

Boleybawn, Graiguenahown and Knockardagur are in the barony of Cullenagh and parish of Dysartgallen. Crutt is in the barony of Fassadinin and parish of Castlecomer.

Lewis (1837, Vol. I, 593) records the parish of Dysartgallen as containing, along with Ballinakill, 4,018 inhabitants. He notes that the parish contained 10,557 acres and that:

“the soil is generally good, and the land in a profitable state of cultivation; there is a small quantity of bog, and grit-stone is quarried for building” (ibid.).

The parish of Castlecomer is recorded by Lewis as consisting of:

“21,708 statute acres, and contains the principal portion of the extensive coal field of the district. The coal is of the kind commonly called Kilkenny coal, which, containing no bitumen, burns without blaze or smoke; the larger pieces alone are applied to domestic purposes, the smaller fragments being chiefly used for burning lime. These collieries have been worked for more than a century. . . A great portion of the coal is conveyed through the southern counties by the rivers Suir and Barrow, and by the Grand Canal to Dublin.” (ibid., 202).

9.2.2 Toponyms

Townland names are an important source in understanding the archaeology, geology, land-use, ownership and cultural heritage of an area. **Table 9.2** sets out the meaning of the local townland names, where known.

Townland	Derivation / Meaning
Boleybawn	White booley or dairy
Crutt	Not recorded
Graiguenahown	Village of the river
Knockardagur	Not recorded
Garrintaggart,	Garden of the priest
Ironmills(Kilrush)	Kilrush translates as church of the wood

Table 9.2: Translation or explanation of names from within the proposed development area

9.2.3 Summary of Previous Fieldwork in the Study Area

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) has shown that no fieldwork has been carried out within the proposed development area or in any townlands located within the development area.

9.2.4 Topographical Files of the National Museum of Ireland

Information on artefact finds and excavations from counties Laois and Kilkenny 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.

Ploughing in Knockardagur townland on a hillside in approximately 1910 revealed a large flagstone sealing a cist measuring approximately 1.5m long x 0.6m wide x 0.4m deep (no Topographical File reference). The sides of the cist were made of thin flags set on edge and the bottom was floored by small thin flags set on sand. In this grave there was:

“nothing at all but a little skin of dust on the floor”

and at one end:

“an earthenware vessel” (Topographical Files of the National Museum of Ireland).

A double cist with three cremations (no Topographical File reference) was revealed in 1937 when ploughing an uncultivated hillside in Ironmills or Kilrush townland, which is the townland located immediately south of Turbines 10 and 11. There was no surface indication of the site which lay approximately 0.15m below ground level. The cist consisted of two compartments divided by a single flagstone set on edge.

Cist A revealed three fragments of human bone but no further information was revealed regarding the age or sex of the individual. Cist B revealed fragments of bone of a young fully grown adult and a fragment of a newborn infant. A few small sherds of probable Bronze Age pottery were revealed with the cremated bone. This feature is recorded in the RMP as LA030-029.

9.2.5 Cartographic Analysis

9.2.5.1 Ordnance Survey Map First Edition 1841 (see Figure 9.4)

Four small structures are recorded immediately south of the access track leading to Turbine 1. A single structure is recorded west of the access track leading north to Turbine 1. A single structure is recorded north of the access track leading to Turbine 2. Access tracks leading to Turbines 4 and 6 will truncate a townland boundary. The access track south of Turbine 5 will truncate a townland, parish, barony and county boundary. A structure is recorded north of the access track leading west to Turbine 7. The access track leading west to Turbine 8 will truncate a townland, parish, barony and county boundary. The access track leading west to Turbine 9 will truncate a townland, parish, barony and county boundary. The access track leading west to Turbine 10 will truncate a townland, parish, barony and county boundary. Recent 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).

The well recorded during the site visit on the south side of the road between Turbines 1 and 2 is not recorded on the First Edition map.

There are no additional archaeological, architectural or cultural heritage features recorded on the First Edition map within any areas of proposed land.

9.2.5.2 Ordnance Survey Map Second Edition 1890 (see Figure 9.5)

The Second Edition OS map records a more enclosed landscape in the vicinity of the proposed development area than the First Edition map. The four small structures recorded immediately south of the access track leading to Turbine 1 on the First Edition OS map are not recorded on the Second Edition map. Two structures are recorded west of the access track leading north to Turbine 1.

There are no additional archaeological, architectural or cultural heritage features recorded on the Second Edition map within any areas of proposed land take.

9.2.5.3 Ordnance Survey Map Third Edition 1908 (see Figure 9.6)

There are few changes recorded within the area of proposed land take between the Second and Third Editions of the Ordnance Survey maps. The well noted during the walkover survey (see below) is annotated on the Third Edition map. An Ordnance Survey bench mark is also recorded in this general location. The access track leading to Turbine 1 is partially located on the line of a farm track, with a well at its southern end. This well is outside the area of proposed land take. The access track leading west to Turbine 11 will truncate the line of a farm track and a possible drain as recorded on the Third Edition map.

There are no additional archaeological, architectural or cultural heritage features recorded on the Third Edition map within any areas of proposed land take.

9.2.6 Aerial Photographs

Aerial photographs held by Ordnance Survey Ireland (www.maps.osi.ie) were consulted to look for the presence of previously unrecorded remains within the proposed development area.

The 2000 and 2005 photographs record a similar landscape to that which was noted during the walkover surveys (see below), with Turbines 1 – 11, substation, site compound and access tracks located in either fields with short grass, rushes or forestry plantations and with mature field boundaries. Proposed access tracks are frequently located on existing forestry roads.

More recent aerial photography (www.bing.com/maps) also notes a similar environment as was recorded during the walkover surveys.

There was no evidence of any archaeological, architectural or cultural heritage features recorded on the aerial photographs within the land take of the proposed turbines or access tracks.

9.2.7 County Development Plans

9.2.7.1 Laois County Development Plan 2011 - 2017

It is a Specific Objective (BH 14 / O10) of Laois County Council to:

“Secure the preservation (in-situ or by record) of all sites and features of historical and archaeological interest” (Laois County Council 2011, 220).

It is also a Specific Objective (BH 14 / O13) of Laois County Council to:

“Ensure that development in the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting by reason of its location, scale, bulk or detailing” (ibid.).

It is a Policy (BH 14 / P26) of Laois County Council to:

“Protect the integrity, character, value and settings of Recorded Monuments and Places from inappropriate development” (ibid., 226).

Table 28 of the County Development Plan (2011) contains a list of National Monuments in State Care in Laois. There are no such monuments within the proposed development area, the 1km study area or the wider 5km study area.

Table 29 of the County Development Plan (2011) contains a list of Monuments protected by Preservation Orders in County Laois. There are no such monuments within the proposed development area, the 1km study area or the wider 5km study area.

The County Development Plan (2011) contains a list of Zones of Archaeological Potential. There are no such Zones within the proposed development area or the 1km study area. There is one Zone of Archaeological Potential within the wider 5km study area:

<i>Location</i>	<i>Distance from nearest Turbine</i>
Ballinakill	c. 3.6km west of Turbine 11

Table 9.3: Zones of Archaeological Potential within the 5km study area

It is an Objective (BH 14 / O04) of Laois County Council to:

“Protect all structures listed in the Record of Protected Structures, that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical character or interest in County Laois” (ibid., 214).

Appendix 1 of the Laois County Development Plan (2011) contains the Record of Protected Structures for the county. There are no Protected Structures within the proposed development area. There is one Protected Structure within the 1km study area:

<i>RPS Ref. No.:</i>	<i>Address</i>	<i>Town/Townland</i>	<i>Distance from nearest Turbine</i>
374	Saint Lazerian's Catholic Church	Graiguenahown	c. 750m north west of access track leading to T1

Table 9.4: County Laois Protected Structures within the 1km study area

There are 28 Protected Structures within the wider 5km study area:

<i>RPS Ref. No.:</i>	<i>Address</i>	<i>Town/Townland</i>	<i>Distance from nearest Turbine</i>
298	St. Brigid's Catholic Church	Ballinakill	c. 3.6km west of T11
299	All Saints Church of Ireland Church	Ballinakill	c. 3.6km west of T11
300	Ballinakill Old National School	Ballinakill	c. 3.6km west of T11
301 A	Stanhope Bridge	Ballinakill	c. 3.6km west of T11
301 B	Stanhope Arch	Ballinakill	c. 3.6km west of T11
302	J. Jackman façade	Ballinakill	c. 3.6km west of T11
303	McGrath shop and pub façade	Ballinakill	c. 3.6km west of T11
304	House, The Square	Ballinakill	c. 3.6km west of T11
305	Small Tower House	Ballinakill	c. 3.6km west of T11
395	Medieval Castle	Ballinakill	c. 3.6km west of T11
502	Tower Cross Roads Gate Lodge	Haywood Demesne	c. 2.6km west of T7
503	Heywood Obelisk	Haywood Demesne	c. 2.6km west of T7
504	Heywood Marian Grotto	Haywood Demesne	c. 2.6km west of T7
505	Heywood Folly	Haywood Demesne	c. 2.6km west of T7
506	Heywood Ice House	Haywood Demesne	c. 2.6km west of T7
507	Heywood Summerhouse	Haywood Demesne	c. 2.6km west of T7
508	Heywood Stable Complex	Haywood Demesne	c. 2.6km west of T7
509	Heywood Gardens	Haywood Demesne	c. 2.6km west of T7
510	Heywood Boat House	Haywood Demesne	c. 2.6km west of T7
511	Heywood Bridges	Haywood Demesne	c. 2.6km west of T7

512	Tower of the Winds	Haywood Demesne	c. 2.6km west of T7
513	The Black Church	Haywood Demesne	c. 2.6km west of T7
803	Claude's Seat	Haywood Demesne	c. 2.6km west of T7
804	Ballinakill School	Ballinakill	c. 3.6km west of T11
805	Ballinakill Market	Ballinakill	c. 3.6km west of T11
806	House, The Square	Ballinakill	c. 3.6km west of T11
807	Moneycleare House, Ballinakill	Moneycleare	c. 4.2km west of T11
883	Thatched House, Aghnacross, Spink	Aghnacross	c. 1.7km west of T1

Table 9.4: County Laois Protected Structures within the 5km study area

It is a Policy (BH 14 / P12) of Laois County Council to:

“Designate ACAs (Architectural Conservation Areas) in the towns of Portlaoise, Abbeyleix, Durrow, Ballinakill, Clonaslee, Timahoe and Castletown” (ibid., 219).

There are no Architectural Conservation Areas listed to be designated within the proposed development area or the 1km study area. There is one Architectural Conservation Area listed to be designated within the wider 5km study area:

<i>Location</i>	<i>Distance from nearest Turbine</i>
Ballinakill	c. 3.6km west of Turbine 11

Table 9.5: Architectural Conservation Areas listed to be designated within the 5km study area

9.2.7.2 Kilkenny County Development Plan 2014 - 2020

It is an Objective (8I) of Kilkenny County Council to:

“Protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains” (Kilkenny County Council 2014, 117).

It is an Objective (8K) of Kilkenny County Council to:

“ensure the protection of the architectural heritage of County Kilkenny by including all structures considered to be of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest in the Record of Protected Structures” (ibid., 119).

Appendix I of the Kilkenny County Development Plan (2014) contains the Record of Protected Structures for the county. There are no Protected Structures within the proposed development area, the 1km study area or the wider 5km study area.

Section 8.3.6 of the Kilkenny County Development Plan (2014) contains a list of Architectural Conservation Areas within the county. There are no Architectural Conservation Areas within the proposed development area, the 1km study area or the wider 5km study area.

9.2.8 National Monuments in State Care

The Department of Arts, Heritage and the Gaeltacht maintains a database on a county basis of National Monuments in State Care. 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”.

There are no National Monuments within the proposed development area, the 1km study area or the wider 5km study area.

There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area, the 1km study area or the wider 5km study area.

There are no World Heritage Sites or Candidate World Heritage Sites within the proposed development area, the 1km study area or the wider 5km study area.

9.2.9 National Inventory of Architectural Heritage

NIAH (www.buildingsofireland.ie) maintains a non-statutory register of buildings, structures etc. recorded on a county-wide basis. There are no such structures within the proposed development area. There is one such structure within the 1km study area:

Reg No	Name	Rating	Distance from nearest Turbine
12802409	Saint Lazerian's Roman Catholic Church	Regional	c. 750m north west of access track leading to T1

Table 9.6: NIAH structures within the 1km study area

NIAH maintains a non-statutory register of historic gardens and designed landscapes recorded on a county-wide basis. There are no such structures or features within the proposed development area or the 1km study area.

9.2.10 Field Inspection

The field inspections sought to assess the site, its previous and current land use, the topography and any additional environmental information relevant to the report. The inspections took place on 3rd August 2012 and 26th August 2014 and weather at the time of the site visits was dry and bright.

Turbine No.	Description
1	In a large open field with short grass and is damp underfoot. Views are good to north and west and poor to south and east. Access track is through woodland and across short grass which is damp underfoot.
2	Located in a gently undulating field with frequent tall rushes and is wet underfoot. Views are moderate to west and poor in all other directions. Access track is gently undulating with frequent tall rushes and is wet underfoot. A well, measuring c. 0.70m wide x 0.60m high x 1m deep, was recorded south of the east/west oriented road between Turbines 1 and 2 and outside all areas of proposed land take. This feature is in good condition, is moss-covered and is three courses high with a stone lintel. It forms part of a mature field boundary and has standing water measuring 0.20m deep.
3	In a field with short grass and is wet underfoot. Views are moderate to north and poor in all other directions. Access track is gently undulating with short grass and is wet underfoot.

4	In a large open field which is generally dry with short grass but with occasional rushes which are wet underfoot. Views are good to north, moderate to east and poor to south and west. Access track is generally dry with short grass and occasional rushes.
5	In an overgrown area of removed forest and occasional young conifer trees. Views are good to east, moderate to north and poor to south and west. Access track is off a forestry track.
6	In an overgrown area of removed forest and occasional young conifer trees. Views are good to east, moderate to north and poor to south and west. Access track is across an overgrown area of removed trees.
7	In an enclosed field with short grass and mainly dry underfoot. Views are good to north, west and south and poor to east. Access track is off a forestry track and across an area of removed trees.
8	Located in an area of tree cover. Views are poor in all directions and access is off a forestry track.
9	Located in an area of tree cover. Views are poor in all directions and access is off a forestry track.
10	Located in an area of tree cover. Views are poor in all directions and access is off a forestry track
11	In a flat dry field with short grass. Views are very good to south and poor in all other directions. Access track is flat and is a combination of tree cover and short grass.

Table 9.7: Description of receiving environment

No archaeological, architectural or cultural heritage features were revealed within any areas of proposed land take as a result of carrying out the walkover surveys.

9.2.11 Grid Connection

Grid connection will involve construction of a substation and an access track within the proposed development area and creating a connection to the approved 110kV Laois-Kilkenny Grid Reinforcement Project overhead power line (An Bord Pleanála Reference PL11.VA0015). There are no recorded archaeological, architectural or cultural heritage features located in the area of the proposed substation or access track.

9.2.12 Road Widening

Limited road widening will be required in Graiguenahown townland, approximately 900m north west of the proposed development area. In addition, minor works involving the moving of road signs etc. will be required at Newtown Crossroads on N78 turning on to R430. There are no recorded archaeological, architectural or cultural heritage features located in any areas of land take associated with road widening or access works

9.2.13 Overall Assessment of the Existing Environment

There are no RMP sites within the proposed development area. There are no Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens or designed landscapes within the proposed development area. There are two RMP sites within the 1km study area. There are no National Monuments within the proposed development area, the 1km study area or the wider 5km study area. There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area, the 1km study area or the wider 5km study area. There are no World Heritage Sites or Candidate World Heritage Sites within the proposed development area,

the 1km study area or the wider 5km study area. There is one Protected Structure within the 1km study area. There are 28 Protected Structures within the wider 5km study area. There are no Architectural Conservation Areas within the 1km study area. There is one proposed Architectural Conservation Area within the wider 5km study area. There is one NIAH structure within the 1km study area. There are no NIAH historic gardens or designed landscapes recorded within the 1km study area. Reference to Summary Accounts of Archaeological Excavations in Ireland revealed that no fieldwork exercises have been carried out in townlands located within the proposed development area. There is one entry recorded in the Topographical Files for a townland within the area of proposed land take. Access tracks will truncate six townland boundaries, four parish boundaries, four barony boundaries and four county boundaries as recorded on the First Edition Ordnance Survey map. There was no evidence of any archaeological, architectural or cultural heritage features recorded on aerial photographs within the land take of the proposed turbines, access tracks, substation or site compound. No archaeological, architectural or cultural heritage features were revealed within any areas of proposed land take as a result of carrying out the walkover surveys. There are no recorded archaeological, architectural or cultural heritage features located in the area of the proposed substation. There are no recorded archaeological, architectural or cultural heritage features located in any areas of land take associated with road widening or access works.

9.3 Description of Likely Impacts

9.3.1 Construction Phase

The proposed development will involve the mechanical excavation of topsoil and overburden down to and through geologically deposited strata. As a result of carrying out this assessment, the following potential archaeological, architectural and cultural heritage impacts have been identified:

There are no RMP sites, Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens or designed landscapes within the proposed development area. As a result there will be no construction impact on the recorded archaeological, architectural or cultural heritage resource.

There are two RMP sites within the 1km study area. There is an indeterminable potential direct impact on previously unrecorded archaeological remains.

Access tracks will have a direct negligible impact on six townland boundaries, four parish boundaries, four barony boundaries and four county boundaries.

9.3.2 Operational Phase

There are two RMP sites within the 1km study area, neither of which survive above-ground. It is considered there will be a negligible visual impact on the archaeological resource.

There are two RMP sites within the 1km study area, neither of which survive above-ground. It is considered there will be no noise impact on the archaeological resource.

There is one Protected Structure (Saint Lazerian's Catholic Church, Graiguenahown: RPS Ref. No. 374) within the 1km study area. There are an additional 28 Protected Structures within the 5km study area. It is considered there will be a minor visual impact on Saint Lazerian's Catholic Church (RPS Ref. No. 374). Due to the distance of the remaining Protected Structures from the proposed development area, and the nature of the undulating landscape, it is considered there will be a negligible visual impact on the 28 Protected Structures.

9.4 Mitigation & Monitoring Measures

9.4.1 Construction Phase

Due to the presence of two RMP sites within the 1km study area and the discovery of a find from a townland within the development area recorded in the Topographical Files, it is recommended that archaeological monitoring be carried out in all areas of proposed land take. Monitoring will be

carried out under Licence to the Department of Arts, Heritage and the Gaeltacht and the National Museum of Ireland. Provision should be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring;

It is recommended that a written and photographic record be created, well in advance of any development works, where the access tracks truncate the townland, parish, barony and county boundaries. It is also recommended that monitoring be carried out where the access tracks truncate the townland, parish, barony and county boundaries. Provision should be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.

9.4.2 Operational Phase

There are no mitigation measures available to offset the negligible visual impact on the archaeological resource;

There are no mitigation measures available to offset the minor visual impact on Saint Lazerian's Catholic Church (RPS Ref. No. 374). There are no mitigation measures available to offset the negligible visual impact on the additional 28 Protected Structures within the 5km study area.

<i>Potential Impact</i>	<i>Significance</i>	<i>Proposed Mitigation</i>	<i>Residual Impact</i>
Potential direct impact on previously unrecorded archaeological remains	Indeterminable	Monitoring, and full-scale excavation if required	None
Direct impact on six townland boundaries, four parish boundaries, four barony boundaries and four county boundaries	Negligible	Written and photographic record. Monitoring, and full-scale excavation if required	None
Visual impact on the archaeological resource	Negligible	None	Negligible
Visual impact on one Protected Structure (Saint Lazerian's Catholic Church, Graiguenahown, RPS Ref. No. 374)	Minor	None	Minor
Visual impact on 28 Protected Structures	Negligible	None	Negligible

Table 9.8: Summary of Impacts

References:

- Archaeological Survey of Ireland. (1995). Archaeological Inventory of County Laois. (Dublin). Stationery Office.
- Department of Arts, Heritage, Gaeltacht and the Islands. (DAHGI). (1999a). Framework and Principles for the Protection of the Archaeological Heritage. (Dublin). Stationery Office.
- DAHG. (1999b). Policy and Guidelines on Archaeological Excavation. (Dublin). Stationery Office.
- Department of Arts, Heritage and the Gaeltacht. Record of Monuments and Places, Counties Kilkenny and Laois. Unpublished.
- Edwards, N. (2006). The Archaeology of Early Medieval Ireland. (Oxford). Routledge.
- Environmental Protection Agency (EPA). (2002). Guidelines on the Information to be Contained in Environmental Impact Statements. (Dublin). Environmental Protection Agency.
- EPA. (2003). Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). (Dublin). Environmental Protection Agency.
- Kelly, E.P. (2006). "Secrets of the Bog Bodies: The Enigma of the Iron Age Explained", in Archaeology Ireland Vol. 20, No. 1, Issue No. 75. (Wicklow). Wordwell.
- Kilkenny County Council. (2014). Kilkenny County Development Plan 2014 – 2020. (Kilkenny). Kilkenny County Council.
- Laois County Council. (2011). Laois County Development Plan 2011 – 2017. (Laois). Laois County Council.
- Lewis, S. (1837). A Topographical Dictionary of Ireland. Two Volumes. (London). S. Lewis & Co.
- National Museum of Ireland. Topographical Files, Counties Kilkenny and Laois. Unpublished.
- Stout, M. (1997). The Irish Ringfort. (Dublin). Four Courts Press.
- Waddell, J. (2005). The Prehistoric Archaeology of Ireland. (Wicklow). Wordwell.
- Walsh, J.R. (2000). "The early Church", in Jefferies, H.A. and Devlin, C. (eds.). History of the Diocese of Derry from Earliest Times. (Dublin). Four Courts Press.

Cartographic Sources

Ordnance Survey	Map Editions 1841, 1842, 1890, 1902 and 1908
Internet Sources	
www.archaeology.ie	National Monuments Service
www.bing.com/maps	Bing aerial photography
www.buildingsofireland.ie	National Inventory of Architectural Heritage
www.excavations.ie	Database of Irish Excavation Reports
www.kilkennycoco.ie	Kilkenny County Council
www.laois.ie	Laois County Council
www.logainm.ie	Placenames Database of Ireland
www.maps.osi.ie	Ordnance Survey Ireland aerial photographs
www.pleanala.ie	An Bord Pleanála

Appendix 9.1: RMP Sites within the 1km Study Area

RMP No.:	LA030-016
Location:	Knockardagur
Classification:	Enclosure
Distance from proposed development area:	800m north west of Turbine 4
Description:	Part of a large subcircular enclosure visible on aerial photographs. No visible surface remains.
Reference:	www.archaeology.ie
RMP No.:	LA030-029
Location:	Ironmills or Kilrush
Classification:	Cist
Distance from proposed development area:	850m south of Turbine 10
Description:	A segmented cist with cremated bone and some small unclassifiable pot sherds.
Reference:	www.archaeology.ie

Appendix 9.2: Mitigation Measures and the Archaeological Resource

Potential Mitigation Strategies for Archaeological Remains

Mitigation is defined as features of the design or other measures of the proposed development that can be adopted to avoid, prevent, reduce or offset negative impacts.

The best opportunities for avoiding damage to archaeological remains or intrusion on their setting and amenity arise when the site options for the development are being considered. Damage to the archaeological resource immediately adjacent to developments may be prevented by the selection of appropriate construction methods. Reducing adverse impacts can be achieved by good design, for example by screening historic buildings or upstanding archaeological monuments or by burying archaeological sites undisturbed rather than destroying them. Offsetting adverse impacts is probably best illustrated by the full investigation and recording of archaeological sites that cannot be preserved in situ.

Definition of Mitigation Strategies

The ideal mitigation for all archaeological sites is preservation in situ. This however is not always a practical solution, and a series of recommendations are therefore offered to provide ameliorative measures where avoidance and preservation in situ are not possible.

Archaeological excavation involves the scientific removal and recording of all archaeological features, deposits and objects to the level of geological strata or the base level of a given development. Full archaeological excavation is recommended where initial investigation has uncovered evidence of archaeologically significant material or structures and where avoidance of the site is not possible.

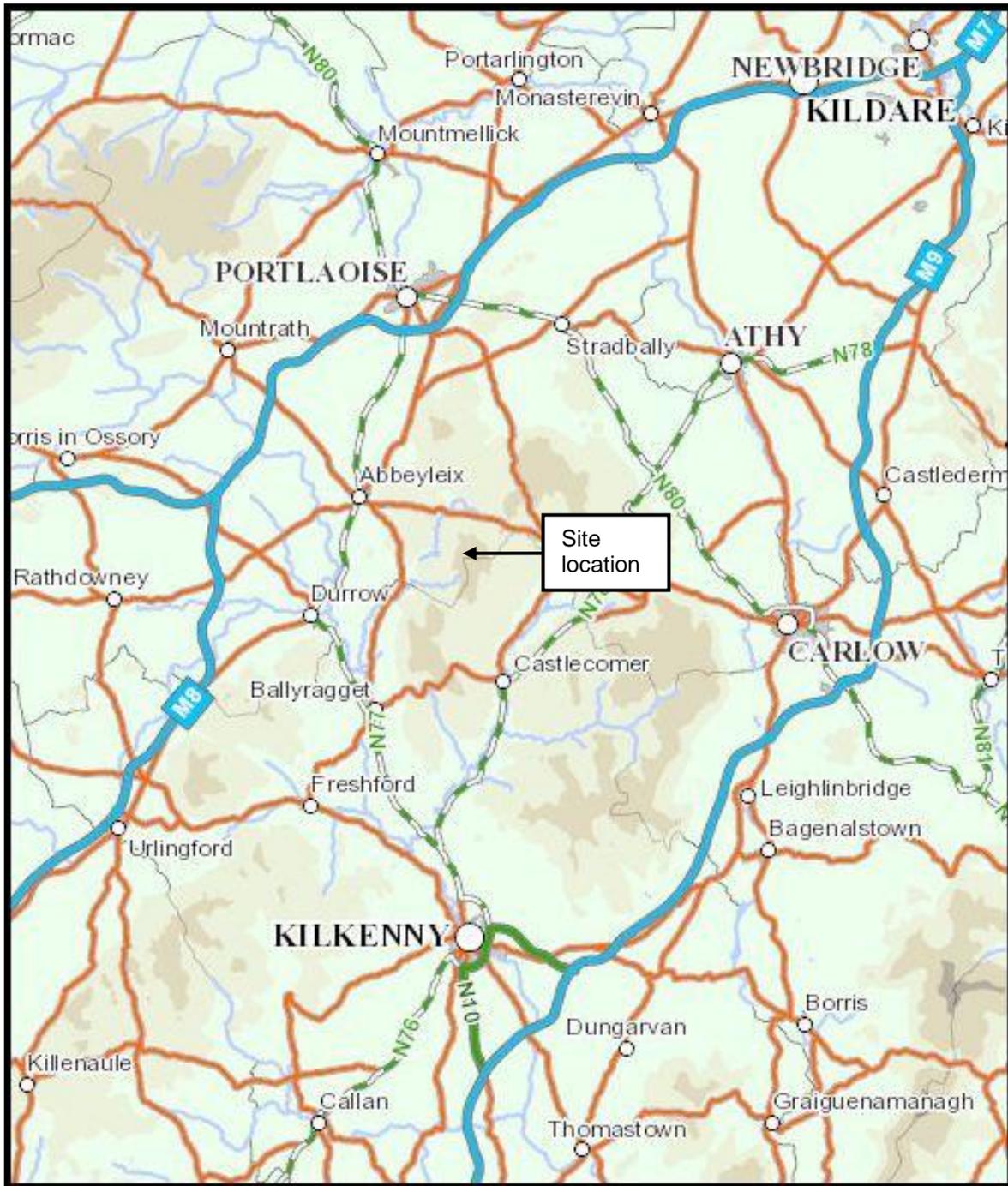
Archaeological test trenching is defined as:

“that form of excavation where the purpose is to establish the nature and extent of archaeological deposits and features present in a location which it is proposed to develop (though not normally to fully investigate those deposits or features) and allow an assessment to be made of the archaeological impact of the proposed development” (DAHGI 1999a, 27).

Archaeological monitoring:

“involves an archaeologist being present in the course of the carrying out of development works (which may include conservation works), so as to identify and protect archaeological deposits, features or objects which may be uncovered or otherwise affected by the works” (DAHGI 1999a, 28).

Appendix 9.3: Figures



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

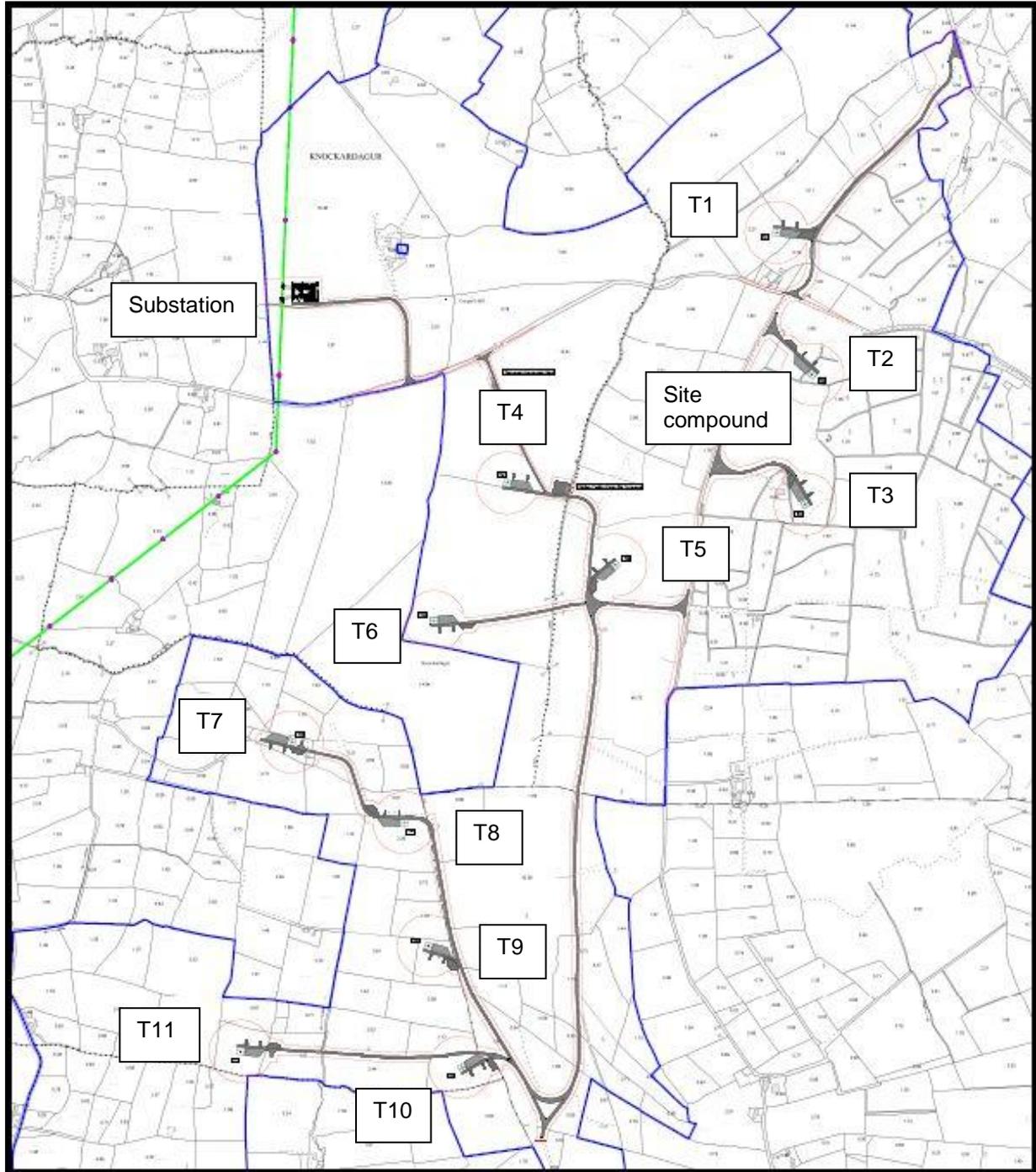
Title: Site location

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.1



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

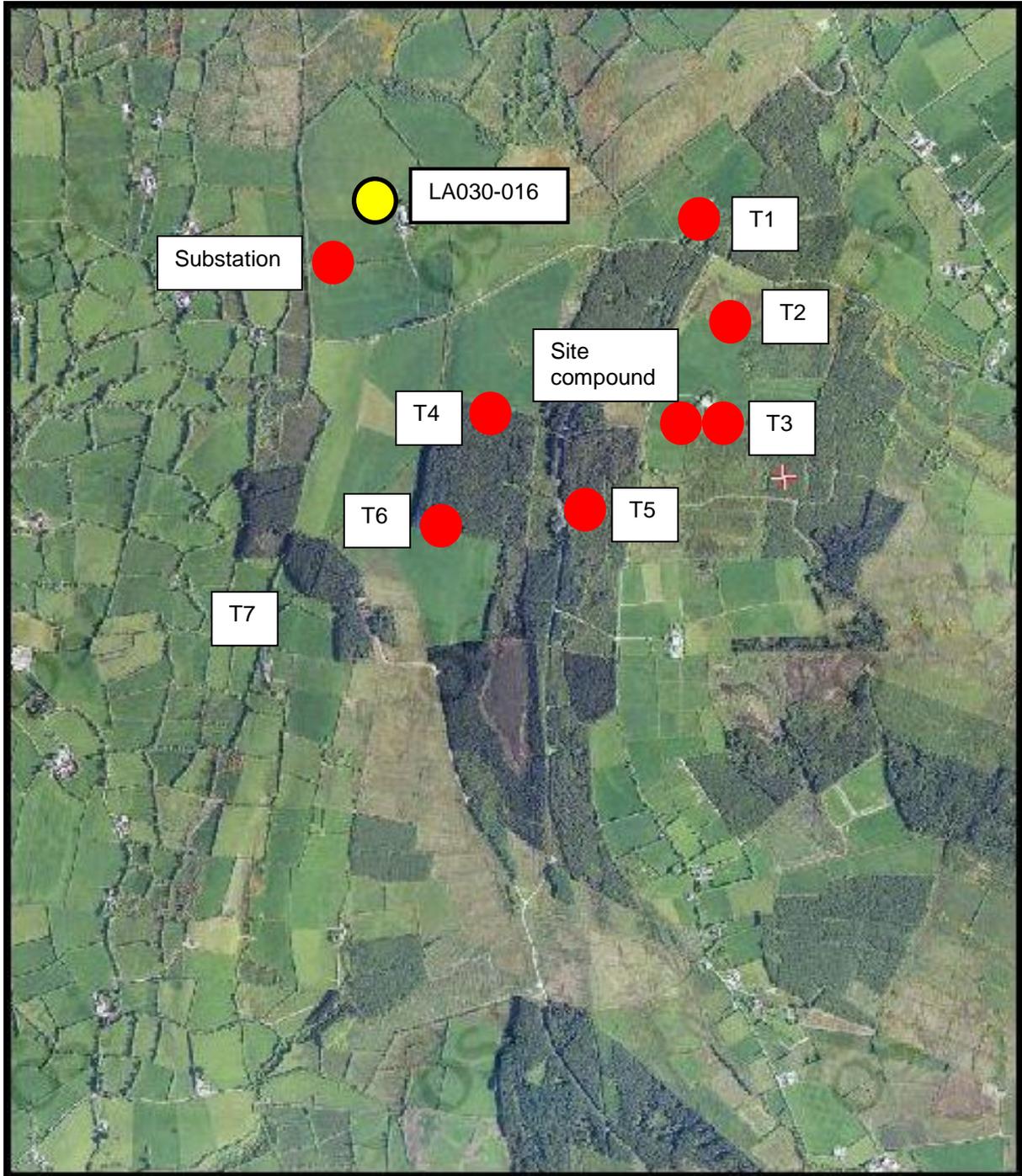
Title: Site layout showing Turbines 1 – 11, substation and site compound

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.2



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

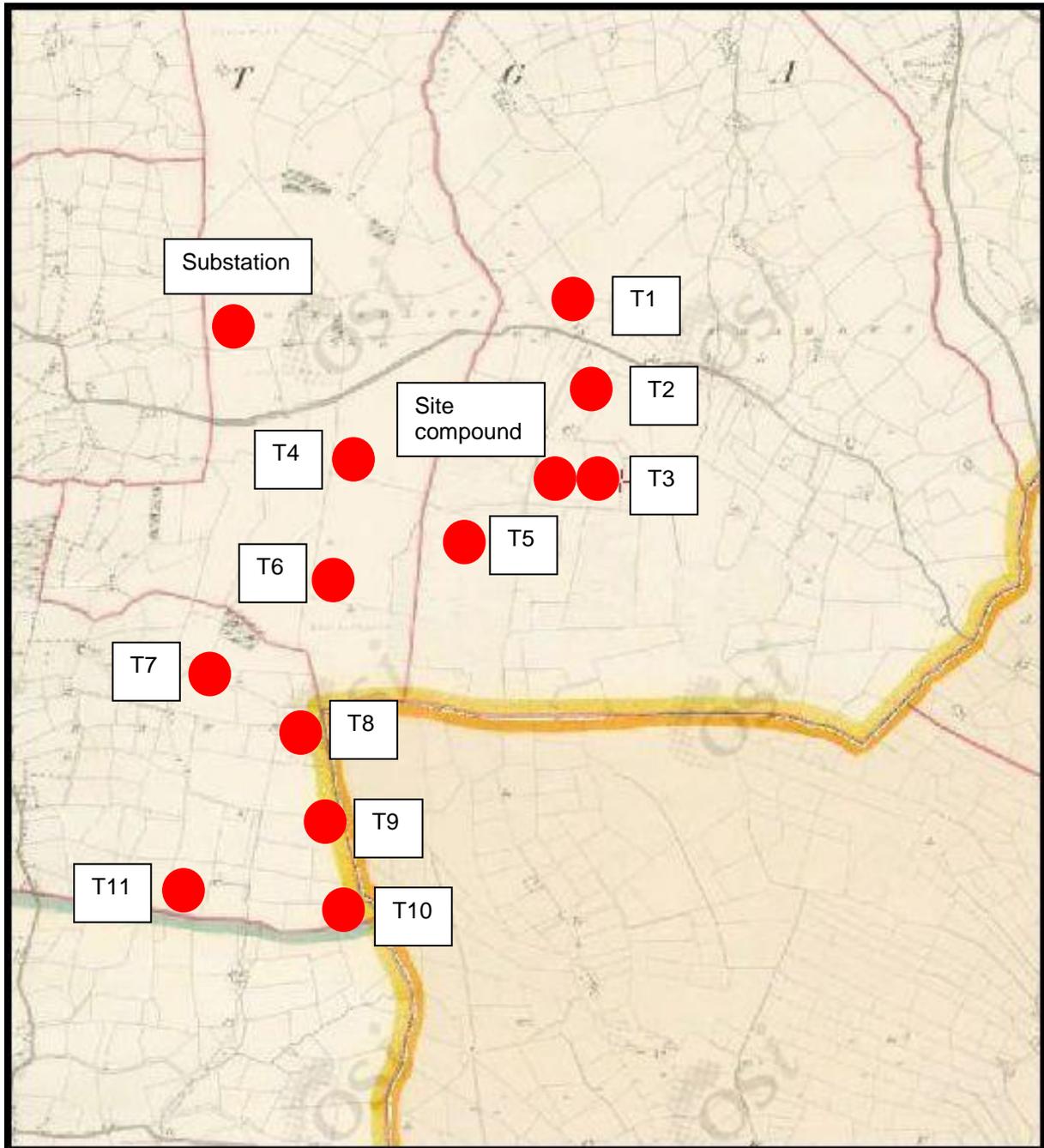
Title: Aerial photograph showing Turbines 1 – 11, substation, site compound and RMP sites within the 1km study area

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.3



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

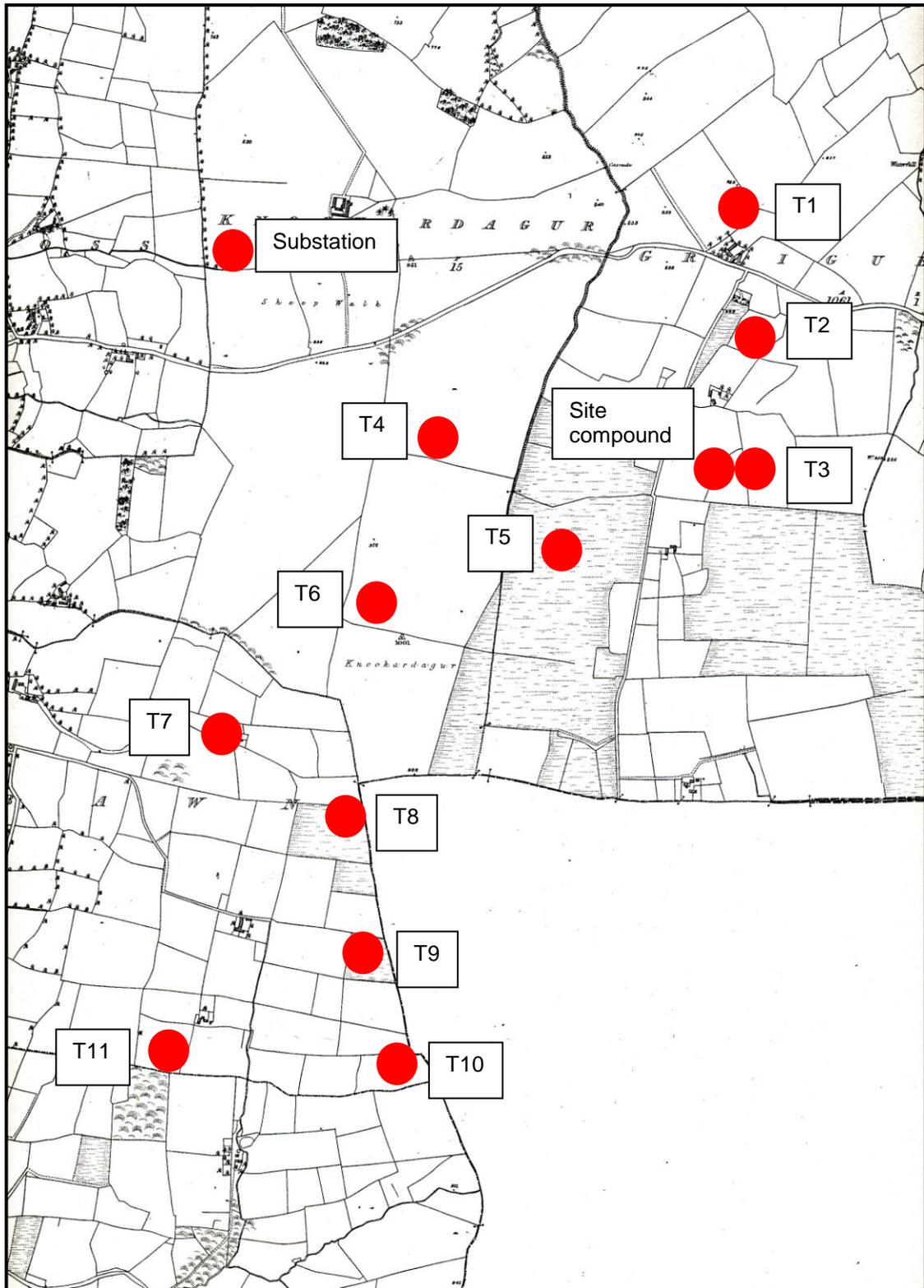
Title: Extract from First Edition OS map (1841) showing Turbines 1 – 11, substation and site compound

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.4



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

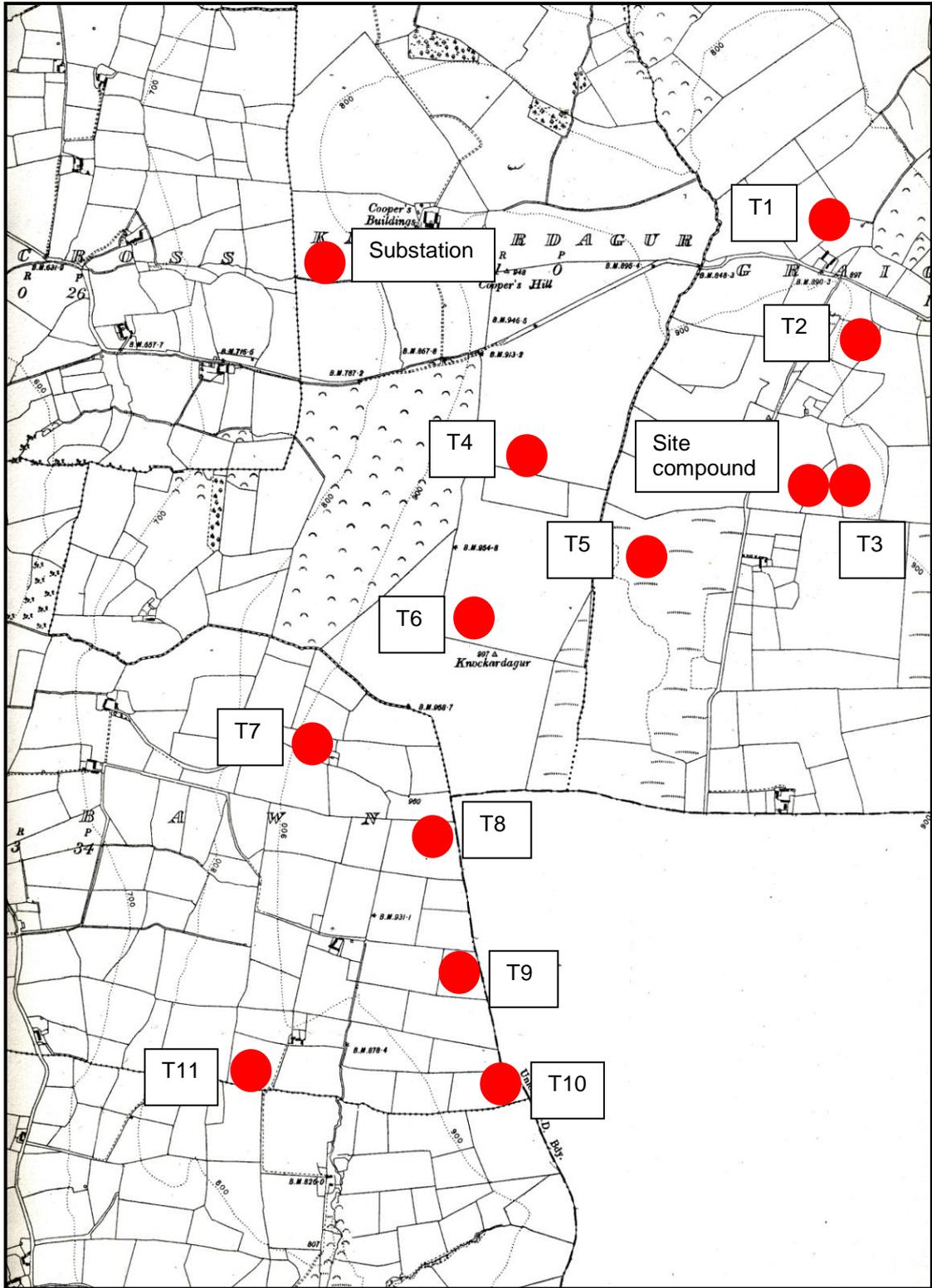
Title: Extract from Second Edition OS map (1890) showing Turbines 1 – 11, substation and site compound

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.5



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: Extract from Third Edition OS map (1908) showing Turbines 1 – 11, substation and site compound

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Figure: 9.6

Appendix 9.4: Plates



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: North east of Turbine 1, looking south west
West of Turbine 2, looking east

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Plates: 9.1 and 9.2



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: South of Turbine 3, looking north
East of Turbine 4, looking west

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Plates: 9.3 and 9.4



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: West of Turbine 5, looking east
West of Turbine 7, looking east

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Plates: 9.5 and 9.6



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: General location of Turbine 9, looking west
General location of Turbine 10, looking west

Date: 12/5/2015

Scale: N.T.S.

Client: Pinewoods Wind Ltd.

Plates: 9.7 and 9.8



Project: Pinewoods Wind Farm, Counties Laois and Kilkenny

Title: North of Turbine 11, looking south
Well located south of road between Turbines 1 and 2, looking south

Date: 12/5/2015

Scale:
N.T.S.

Client: Pinewoods Wind Ltd.

Plates: 9.9 and 9.10