

13.0 CULTURAL HERITAGE

13.1 INTRODUCTION

13.1.1 Background

Irish Archaeological Consultancy Ltd has prepared this report on behalf of Greenwind Energy Ltd to assess the impact, if any, on the archaeological, architectural and cultural heritage resource of the proposed Yellow River Wind farm at Derryarkin, Derryiron, Coolcor, Coolville, Ballyburly, Greenhills, Bunsallagh, Derrygreenagh, Knockdrin, Wood, Killowen, Corbetstown, Carrick, Garr and Dunville, County Offaly (OS Sheet 3, 4 and 11, Figure 1).

This study determines, as far as reasonably possible from existing records, the nature of the cultural heritage resource in and within the vicinity of the application area using appropriate methods of study. 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 (IFA 2012). This leads to the following:

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

The study involved detailed interrogation of the archaeological, historical and architectural background of the development area. This included information from the Record of Monuments and Places of County Offaly, the County Development Plan,

the topographical files of the National Museum of Ireland and cartographic and documentary records. Aerial photographs of the study area held by the Geological Survey and Ordnance Survey of Ireland were also consulted. A field inspection was carried out on the 10th October 2012 and 4th May 2013 in an attempt to identify any known cultural heritage sites and previously unrecorded features, structures and portable finds within the proposed development area.

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

13.1.2 The Development

It is proposed to construct a wind farm, comprising of 32 turbines (excavations diameter 18m, Depth 2m), within proximity to the Yellow River in County Offaly. The proposed wind farm stretches over an area measuring 20.58 ha. The development includes for the construction of c. 18,275 m of new access tracks having a minimum finished width of approximately 5.5 m and the upgrading of c. 5,916 m of tracks by widening, strengthening and bend improvement. The scheme will also include the construction of a Substation Control Buildings and Compound on site area 1,850 m². Please refer to Chapter 2 & 3 and Figure 2.9 for further information.

13.1.3 Definitions

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

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

- the term ‘archaeological heritage’ is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places)
- the term ‘architectural heritage’ is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700

- the term 'cultural heritage', where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations. This designation can also accompany archaeological or architectural designation.

For the purposes of this report the terms 'architectural heritage' and 'built heritage' have the same intended meaning and are used interchangeably.

Impact Definitions

Imperceptible Impact

An impact capable of measurement but without noticeable consequences

Slight Impact

An impact that causes noticeable changes in the character of the environment without affecting its sensitivities.

Moderate Impact

An impact that alters the character of the environment in a manner that is consistent with existing or emerging trends.

Significant Impact

An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.

Profound Impact

An impact that obliterates sensitive characteristics.

Impacts as defined by the EPA 2002 Guidelines (pg 23).

13.1.4 Consultations

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

- Department of Arts, Heritage and the Gaeltacht – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders; Register of Historic Monuments;
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland;
- National Inventory of Architectural Heritage: County Offaly
- Offaly County Council: Planning Section;
- Trinity College Dublin, Map Library: Historical and Ordnance Survey Maps

13.2 BASELINE ENVIRONMENTAL STUDY

13.2.1 Methodology

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

13.2.2 Paper Study

This is a document search. The following sources were examined and a list of areas of archaeological, architectural and cultural heritage potential was compiled:

- Record of Monuments and Places for County Offaly;
- Sites and Monuments Record for County Offaly;
- Monuments in State Care Database;

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- Preservation Orders;
 - Register of Historic Monuments;
 - Database of current archaeological investigation licences (2010-2013);
 - Topographical files of the National Museum of Ireland;
 - Cartographic and written sources relating to the study area;
 - County Offaly Development Plan 2009–2015;
 - National Inventory of Architectural Heritage;
 - Place name analysis;
 - Aerial photographs;
 - Excavations Bulletin (1970–2009)

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as ‘un-located sites’ and cannot be afforded legal protection due to lack of locational information. As a result these are omitted from the Record of Monuments and Places. SMR sites are also listed on the recently launched website created by the DoAHG – www.archaeology.ie.

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

The Minister for the Department of Arts, Heritage and the Gaeltacht may acquire national monuments by agreement or by compulsory order. The state or local

authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not **be interfered with without the written consent of the Minister.**

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. 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.

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

Database of current archaeological investigation licences is a listed held by the National Monument Section of the DoAHG that provides details of licences issued that have yet to appear within the Excavations Bulletin (2009–2011).

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

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis

of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

William Larkin's Map of King's County (1809)

Ordnance Survey 6" maps of County Offaly (1840, 1885-6, 1908-10)

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage 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 likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth.

Place Names are an important part in understanding both the archaeology and history of an area. Place names can be used for generations and in some cases have been found to have their roots deep in the historical past.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The County Offaly Development Plan (2009–2015) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed route.

The National Inventory of Architectural Heritage is a government based organisation tasked with making a Nation wide record of significant local, regional, national and international structures, which in turn provides county councils with a guide as to which structures to list within the Record of Protected Structures. The architectural survey for County Offaly was completed during 2004. The NIAH have also carried out a nation wide desk based survey of historic gardens, including demesnes that surround large houses. This has also been completed for County Offaly and was examined in relation to the surviving demesnes within the surrounding area of the proposed development.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in

Ireland during that year up until 2009 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970–2009.

13.2.3 Field Inspections

Field inspection is necessary to determine the extent and nature of archaeological and architectural remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological and architectural field walking inspection entailed:

- Walking the proposed development area and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological, architectural or cultural heritage significance.
- Verifying the extent and condition of recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

13.3 RESULTS AND ANALYSIS – ARCHAEOLOGY

13.3.1 Archaeological and Historical Background

General

The area of proposed development is located within the townlands of Bunsallagh, Derryarkin, Derryiron, Coolville, Ballyburly, Greenhills, Wood, Killowen, Garr, Corbetstown and Carrick, in the Parishes of Croghan, Ballyburly and Castlejordan, and Baronies of Lower Philipstown and Warrenstown, County Offaly. The site mostly comprises of upland marginal terrain located along the Yellow River. The

northern-most boundary of the proposed wind farm, the Mongagh River, also forms the county boundary between Offaly, Meath and Westmeath.

The landscape surrounding the proposed wind farm is characterised by marginal bogland and dry bog islands. The Derrygreenagh complex of bogs is made up of a series of raised bogs comprising some 10,000 hectares. Portions of two peatland areas known as Ballybeg bog and Derryarkin bog from the Derrygreenagh complex are located within the proposed development lands. Proposed turbines 8–12 are located within the north-eastern edge of Ballybeg bog and proposed turbines 1, 5 and 3 are located within the south-western edge of Derryarkin peat bog. The land holdings are traversed by a multitude of small water courses and drains which are part of the industrial drainage of the bogs. The R400 runs north-west from Rhode towards Rochfortbridge, which is located *c.* 3km north. The twin industries of Rhode are turf extraction and electricity generation and the landscape reflects this.

Prehistoric Period

There is substantial evidence for activity during the prehistoric period within proximity to the proposed wind farm. The majority of the sites have been identified through intensive surveys of peatland undertaken by the Irish Archaeological Wetland Unit (IAWU) of University College Dublin (UCD) in recent years. Drumman and Derryarkin Bogs were surveyed by the IAWU in 2001 and 2002. A total of 65 sites, seven artefacts and two possible artefacts were recorded in the bogs. A small sample of sites were dated to the early Neolithic and the middle to late Bronze Age while a Bann Flake dated to the late Mesolithic. A cluster of these sites are located *c.* 200m north and north-east of proposed Turbines 1 and 3 in Bunsallagh (RMP OF003-011–25 and OF027–031) and Derrygreengagh (RMP OF003-032-34) townlands. Archaeological remains such as wooden trackways, wooden platforms, artefacts and many other site types are preserved in peat due to the anaerobic and waterlogged nature of the peat layers. Trackways (toghers) or short stretches of trackways (tertiary and secondary toghers) were constructed to traverse the peatbogs or provide a foot holding along certain stretches of wet bog. Wooden platforms most likely functioned as hides or hunting platforms in order to exploit the natural flora and fauna of the peatbogs ([O' Carroll, 2001](#)). A number of trackways, wooden platforms, occupation features, artefacts and miscellaneous wooden structures have been uncovered in the Derryarkin and Ballybeg bogs (IAWU, 2003).

Two artefacts dating to the Neolithic have been previously recovered from Derryarkin and Derrygreenagh townlands. A stone axe-head (1969:863) recovered from Derryarkin was recorded as being found in Derrygreenagh Works, on Derrygreenagh Hill to the south-east of proposed Turbine 6 (IAWU, 2003 4). A stone axe-head (1959:751) was recovered from Derrygreenagh townland in either Drumman or Derryarkin Bogs.

Evidence for further Bronze Age activity to the south of Derrygreenagh Hill is implied by the presence of five recorded fulachta fiadh (OF004-017–21), c. 440m south of proposed Turbines 24 and 25. The most common Bronze Age site within the archaeological record is the burnt mound or fulacht fiadh. Over 4500 fulachta fiadh have been recorded in the country making them the most common prehistoric monument in Ireland. Although burnt mounds of shattered stone occur as a result of various activities that have been practiced from the Mesolithic to the present day, those noted in close proximity to a trough are generally interpreted as Bronze Age cooking/industrial sites. *Fulachta fiadh* generally consist of a low mound of burnt stone, commonly in horse-shoe shape and are found in low lying marshy areas or close to streams and rivers. Often these sites have been ploughed out and survive as a spread of heat shattered stones in charcoal rich soil with no surface expression in close proximity to a trough. A possible burnt mound site was identified c. 50m east of proposed Turbine 17 in Wood townland.

A standing stone (OF011-002) is located c. 1.2km south-east of proposed Turbine 14 in Ballyburly townland on an elevated ridge with extensive views. Standing stones, usually single upright orthostats, are a common feature in the landscape. They are known by various names including *Gallán*, *dallán*, *leacht* and long stone (Power et al. 1992, 45). Although it is thought that the standing stones were erected across a wide time span and had multiple functions they are most often associated with the Bronze Age. They are generally unworked stones and often have packing stones around their base providing additional support. A large number of standing stones are orientated on a northeast–southwest axis corresponding with those of other megalithic architecture, such as stone rows or circles (Ronan, Egan and Byrne 2009, 22). A wide variety of functions have been attributed to these stones, such as burial markers and route or territorial markers; whereas more recent stones have been erected as scratching posts for cattle.

Croghan Hill, located c. 3km south-west of the proposed wind farm, was a significant sacred place during the Bronze Age and Iron Age and is one of the most prominent landmarks in the area. The mountain was known as '*Cruachán Brí Éile*' meaning mound/hill of *Brí Éile* which in turn gave a name to the surrounding bogland – '*Móin Éile*' or Bog of Allen (O' Brien, 2006). In legends Brí Éile is the daughter of the King of Tara and sister to Queen Maeve of Connaught and she is reputed to be buried at Croghan Hill. It commands extensive views of the surrounding landscape, overlooking the proposed development area. A Bronze Age burial mound (RMP OF010-004001) and a ring barrow (RMP OF010-010008) are located on the summit of the hill and several sites located within the vicinity may be associated with this. Iron Age bog body 'Oldcroghan Man' was found on the south side of the hill and it is suggested that his burial may be associated with a former royal estate (Kelly 2006a, 26). O' Brien (2006) records that the mountain had been claimed by the O' Connors of the *Uí Failghe* tribe by the 5th century. In 475 the King of Tara defeated the Laigin tribe in a battle at Croghan Hill and following the battle of Drum Derge in c. 516 a divide boundary was drawn across Croghan Hill between Leinster and Meath (*ibid.*). The hill functioned as an inauguration site for the *Uí Failghe*, after which the county Offaly is named (Kelly, 2006b).

A hilltop enclosure (RMP OF004-004) is recorded in the townland of Killowen c. 860m ESE of proposed Turbine 19. Hilltop enclosures are located at the peak of a domed hill top and can have either a ceremonial or settlement function. They can date from the prehistoric period to the late medieval period.

Early Medieval Period (AD500–1100)

Ireland underwent radical change from the 5th century AD. An upsurge in grasses and weeds is demonstrated in the pollen record, associated with increased pasture and arable farming. A combination of factors led to a revolution in the landscape. Foremost amongst these was the introduction of Christianity in the early 5th century. The new religion was readily accepted and it spread throughout the country in the 5th and 6th and later centuries presenting a catalyst for change. Population expansion was also central to the transformation that swept across Ireland around this time which resulted in a complete, if uneven, spread of settlement across the country.

This area was also of strategic importance during the early medieval period as the *Slighe Mhór*, one of the five major route ways in Ireland, is thought to have run along the ridge, to the north of the proposed wind farm, between the towns of Tyrrellspass and Rochfortbridge (O Lochlainn, 1940).

Secular habitation sites in the early medieval period include *crannógs*, cashels and ringforts. Given the marginal wetland nature of the surrounding landscape the area of proposed development would not have provided an ideal location for settlement. The islands of dry land would therefore have been sought after sites for activity. While no ringforts or *crannóga* are recorded within proximity to the proposed wind farm there are four enclosures in the local (RMP OF003-003, OF004-003, OF003-004 and OF004-008).

This period was also characterised by the foundation of a large number of ecclesiastical sites throughout Ireland during the centuries following the introduction of Christianity in the 5th century AD. Testing carried out at a site adjacent to the medieval church at Ballyburly (OF004-013) in 1997 (Mullins, 1997; 97E0321) revealed evidence of a ditch (OF004-013006) that possibly originally encircled an earlier medieval ecclesiastical site. Early medieval sites on Croghan hill include a church site and graveyard (OF010-004(02) which was reputedly founded by Bishop *Mac Caille* at *Cruchan Brí Éile* before his death around 490AD (Fitzpatrick and O'Brien, 1998) The deliberate siting of the church at this site of pagan worship and royal inauguration would have facilitated the conversion to Christianity and also forged links with the secular rulers. The continued importance of Croghan Hill as a sacred landscape is indicated in the Life of Saint Bridget where it is recorded that Brigit received her veil from Bishop MacCaille in the church at Croghan Hill (O'Brien, 2006). One account of her consecration includes the miraculous appearance of a 'straight bridge' across the marshland below the hill. O'Brien (*ibid.*) suggests this may be a reference to the Togher of Croghan which runs along the base of the mountain. A holy well and cultivation ridges are also associated with this church site (OF010-004-07 and 08). The well is known as 'Finnenashark' derived from '*Fionnabhair Na Searc*' meaning 'the well of the lovers' (*ibid.*)

Medieval Period (AD1100–1600)

The piecemeal conquest by the Anglo-Normans of Ireland had a fundamental impact on the Irish landscape. By the end of the 12th century the Anglo-Normans had succeeded in conquering much of the country. The Anglo-Norman invasion stimulated the development of towns and while some stone castles were constructed, earthen mottes or motte-and-bailey castles were more typical of the era.

Moated sites are also apparent within the manorial extents of the time. They were defined by a square or rectangular ditch or moat usually filled with water by means of diverting existing streams/streams/rivers in to them via a series of channels and leats. They are thought to have been farmsteads of Anglo-Norman manorial free tenants and used as homesteads rather than military bases (Keegan 2005, 35–37). A moated site (OF004-009) is located to the immediate east of the proposed haulage route, *c.* 200m south of proposed Turbine 17 in the townland of Wood. An associated settlement may be indicated by a network of earthworks and crop marks shown on aerial photographs of the site. Two potential enclosures (AAP 2 and 3) are located within the immediate vicinity of proposed Turbine 16; indicated on the aerial photographs of the area. The 2009 images show a potential D-shaped enclosure (AAP 2) on the southern bank of the Yellow River, adjoining the original course of the river. A large moated site was excavated at Kilree 4, Co. Kilkenny which overlooked a possible fording point on the River Nore (Whitty, Coughlan and Lynch, forthcoming). A number of kilns and other settlement activity were identified associated with the enclosure.

The site of a Franciscan Convent (OF004-011) is located *c.* 360m west of the proposed haulage route and 660m west of Turbine 13 in the townland of Coolcor. There is no evidence of masonry with the site now appearing as a grass-covered mound. This convent was dependent on the nearby Franciscan monastery at Monasteroris (OF011-011). A portion of a late medieval wayside cross (OF004-011004) originally from Coolcor is now located in front garden of the parochial house in the nearby village of Rhode. The cross shaft consists of four carvings one on each face depicting the Crucifixion, Virgin and Infant, a Bishop and a Monk with inscription below reading 'Blessed are the poor in spirit'. These buildings may be represented on a map from 1560 annotated as Kilcor (Horner 2006, 4). A number of large houses are annotated in the eastern district in 1560 at Baliburley (Watre and Playne-Warren), Kilowen and Clonmon (Clonmore). A large house is illustrated to

the north of the Yellow River within a wooded area annotated as 'Bali cove' (now Carrick) however this is not shown on later mapping.

In the 1560s map the wind farm appears to be located within two districts or 'tuatha' annotated as 'TOVO CROGHAN' and 'NETHER TOV MVY'. A togher is annotated to the south in the vicinity of Rhode village crossing the 'tuathe' boundary and a second crossing is shown between Ballyburley and Clonmore. This togher runs towards Kilclonfert, Durrow and Clonmacnoise (O' Brien, 2006). A number of battles are recorded to have been sited near this significant togher including one recorded in the Annals in 1385 between Morogh O' Conor (Lord of the Uí Failghe) and English of Meath (*ibid.*). Following three centuries of political strife the O' Connors eventually submitted to the English forces in 1549 and their lands were confiscated (*ibid.*).

Post Medieval Period (AD1600–1900)

During the 16th century the county was subject to partial plantation and as part of this was renamed King's County. Daingean town, located c. 6km south-west of the proposed wind farm, was renamed 'Philipstown' at this time. The development of this settlement was hindered by the development of nearby newly established Tullamore. The new baronial divisions appear to broadly adhere to older 'tuathe' divisions (*ibid.*, 5). This is true of the barony boundary between Lower Philipstown and Warrenstown which divides the area of proposed development.

The site of a late 17–18th century house (OF004-012001) is located to the south of Ballyburly House in Ballyburly townland. This house is thought to have been built on the site of a castle which was burnt in 1888 (www.archeology.ie). The earlier castle (OF004-012002) is surmised to have been a pre-plantation castle fortified in the 16th century. The late 17th century house was probably built by John Wakely who was MP for Kilbeggan in 1692 and died c. 1713; or by his son Thomas (*ibid.*). This later house was rebuilt to the design of James Franklin Fuller following its destruction in a fire in the late 19th century (*ibid.*).

A church was built at the Ballyburly estate in 1686 according to an inscription on an armorial plaque (OF004-013005-) over the doorway by J. Wakely (Lewis 1837, 125). It was partly destroyed in 1972 and has since been levelled (www.archaeology.ie). A

memorial slab dated 1617 with carved effigy of Capt. Wakley with his lance, sword and shield is now in the National Museum (JRSAI 1865 332-3) and a grave-slab (OF004-013004) which was in west wall said to be from Coolcor monastic site (OF004-011002) (*ibid.*). Testing was carried out at a site adjacent to the church at Ballyburly (OF004-013) in 1997 (Mullins, 1997; 97E0321) which revealed evidence of a ditch (OF004-013006) that possibly originally encircled an earlier medieval ecclesiastical site.

The arrival of the Grand Canal to the area by 1798 opened the region up for industrial development and expansion. A canal supply course is shown on Larkins map of 1809 running south of the Yellow River. In 1837 Rhode comprised of a small hamlet with “12 houses, situated in the midst of a rich grazing district, on the estate of J. Wakely, Esq., whose residence, Ballyburley, adjoins the hamlet” (Lewis, 1837). The nearby estates of “Rathmoyle, the residence of George Rait, Esq., Clonin of S. Rait, Esq.; Coolville of T. Grattan, Esq. and Greenhill, of F. L. Dames, Esq.” were associated with demesne lands shown on the first edition OS map (*ibid.*).

Coote's survey of King's County (1801) determined that 43.8% of the land could be characterised as ‘bog, mountainous and waste’ (Horner 2006, 8). In 1813 Warrenstown barony was recorded as having the second lowest population density in Offaly (*ibid.*, 9) which is not surprising given the large coverage of bog land. During the 20th century the surrounding region was primarily characterised by industrial peat cutting. A large portion of the surrounding peatland was depleted and land reclamation was undertaken in the mid-late 20th century.

13.3.2 Summary of Previous Archaeological Fieldwork

A review of the Excavations Bulletin (1970–2009) and the database of archaeological licences held by the Department of Arts, Heritage and the Gaeltacht (2010–2013) has revealed that a number of investigations have been carried out within proximity to the proposed development area. A substantial amount of investigation has been undertaken by the Irish Archaeological Wetland Unit (IAWU) of University College Dublin (UCD) within proximity to the proposed development area. The sites identified as part of these works are included within the RMP for the county and as such are detailed in **Appendix O**.

Peatland Surveys

Derryarking Bog

Derryarkin bog totals 789 hectares of peatland and has been in industrial production since the early 1960's. It is located *c.* 2.5km south of Rochfordbridge and to the west of the R400. The northern edges of the bog are fringed by industrial quarrying and agricultural land while the Yellow River flows along the southern boundary. This bog has been largely milled out and currently comprises of fen peat, ancient carr woodland inundated with modern woodland scrub and vegetation while some parts of which were partially flooded. Subsoil was also evident in areas of this peatbog.

Derryarkin Bog was surveyed as part of the Peatland Survey in 2002 (Murray, 2002; Licence Ref: 02E0942). A total of 28 sites were recorded, including the find spot of a late Mesolithic Bann Flake recovered by the IAWU in 2000. The remaining sites occurred in two principal concentrations: 23 in the south-western corner of the bog and five on the eastern fringe. The south-western concentration located in Bunsallagh townland consists primarily of small deposits of wood and the remains of three linear sites or trackways (OF-BSL 001-23). Two of these sites have been radiocarbon dated to the late and middle Bronze Age (cal. 1937-1644BC and 1686-1414BC) suggesting that the majority of the aforementioned archaeological sites are prehistoric in date. All of these were in a much degraded state owing to long-term exposure and were mostly recorded as 'destroyed' or 'being destroyed' in the survey.

To the east in Derryarkin and Derrygreenagh townlands a cluster of small wood deposits and a substantial plank trackway were recorded. The trackway which measured 68.5m in length, 3.74m in width and 0.26m in depth, was oriented north-south and extends from Derrygreenagh Hill towards Corghan Hill (OF-DYN001-2 and OF-DGH001-3). A plank from the trackway was dated to the early Neolithic (3643±9BC), making this the earliest dated trackways in Ireland. A small chert scraper was recovered from the vicinity of this site. To date no archaeological excavations of the sites discovered through the IAWU 2002 survey have been undertaken in Derryarkin peatbogs.

Ballybeg Bog

Ballybeg bog, to the south-west of the proposed wind farm, represents 808 hectares of the total Derrygreenagh works and has been in milled peat production since 1958. Lough Nashade is located in the central portion of Ballybeg Bog. It was marked on early OS maps and may have been the focus for much of the archaeological activity in this bog during the prehistoric period. The lake was drained in the early 1960s.

Ballybeg Bog was surveyed by the IAWU in 2001 and a total of 105 sites and 25 artefacts were recorded. These sites consisted of nine secondary trackways, 26 tertiary trackways, one platform, 29 pieces of worked wood *in situ*, 26 unworked wood *in-situ*, a wooden trough, a pre-historic occupation site, a barrow and an archaeological complex. The majority of the sites lay along the line of a palaeo-channel or old stream. A sample of the sites dated from the early Neolithic to the Iron Age. A total of 65 of the sites were recorded as being destroyed or destroyed at the time of the survey. A large number of artefacts were also uncovered from Ballybeg bog during the IAWU survey, including twelve pieces of flint, four stone artefacts, a wooden bow stave of yew and a beautifully carved wooden carved yoke. Subsequent excavations were carried out on 19 sites as part of the Bord na Móna project (O'Carroll, 2002) to allow resumption of peat cutting.

Excavations revealed a sub-square stone enclosure, a series of stone hearths and associated charcoal spreads, a series of trackways located within a palaeo-channel, a hurdle panel and some small wooden trackways/platforms and miscellaneous wooden structures (*ibid.*). The enclosure and associated hearths were constructed in a Neolithic pine and birch forest and the occupation activity has been dated to the early Neolithic. The function of this site is unclear and it may have simply been a hunting pen or hide for exploitation of the animals and birds which lived in and on the surrounding fen.

A series of wooden structures/ trackways and a wooden platform were identified over a length of 350m along the palaeo-channel. These have been dated to the middle and late Bronze Age. The channel would have been a natural route across a peat bog that would have been a large expanse of treacherous *Sphagnum* pools and overgrown grasses, and the platform may have been used as a hide or hunting platform to provide access to animals and plants that were not readily available on the dryland fringes.

Drumman Bog

Drumman Bog in the north of Bord na Móna's Derrygreenagh works was surveyed in 2001 (McDermott, 2002; Licence Ref.: 01E0667). Small sections in the southern and central parts of the bog are in milled peat production; the remainder has been largely milled out, and there is a block of forestry in the eastern part of the bog. A total of 23 archaeological sites were recorded during the survey. These consisted of seven toghers, traceable for 15m or less, 13 small deposits of worked and unworked wood, and three post rows of varying lengths. The largest concentration of sites, two of which are dated to the middle and late Bronze Age, are on the fringes of Derrygreenagh Hill. A barbed and tanged arrowhead, chert scraper and two fragments of animal horn were also recovered from disturbed contexts. A small *in situ* scrap of leather was found close to the main concentration of sites (*ibid.*).

Additional Archaeological Investigations

Monitoring was carried out in 2002 of mechanical peat removal before the construction of the new cement-block factory in Derryarkin Bog, Co. Offaly (Whitaker, 2002; Licence Ref.: 01E1126 ext.). This part of the site had previously been forested and there was very little peat remaining above the subsoil. The peat was mechanically removed, exposing the pre-bog marl and gravel layers. The peat closest to the bog surface was quite disturbed by tree-root systems and their removal. No archaeological features were identified.

Monitoring took place at a proposed quarry site at Derryarkin in 2006 (Corcoran, 2006; Licence Ref.: 06E1064). The depth of topsoil and peat ranged between 0.3–2m. No archaeological features or objects were identified.

Testing was carried out at a site adjacent to the late medieval church at Ballyburly (OF004-013) in 1997 (Mullins, 1997; 97E0321). Evidence of a ditch (OF004-013006-) that possibly originally encircled the ecclesiastical site and disturbed human remains on the cemetery side of this ditch were identified. Monitoring of ground works in 1998 revealed no further evidence of the ditch (Mullins, 1998; Licence Ref.: 97E0321 ext.). While no clearly identifiable archaeological features were discovered during the course of monitoring, it certainly appears that some archaeological material exists over the general area of the site, particularly on the northern and western sides.

13.3.3 Cartographic Analysis

Unknown Cartographer, Map of Eastern Laois and Offaly, 1560 (Horner, 2006)

The area of proposed development is shown as partially wooded, bound to the north by the 'Muingagh' River and traversed by the Yellow River (not named). The proposed wind farm appears to be located within two districts or 'tuatha' annotated as 'TOVO CROGHAN' (west) and 'NETHER TOV MVY' (west). Croghan Hill is shown within the western district; however the lands to the north (including Derryarkin and Bunsallagh) are shown as undeveloped bog with two patches of forestry. In the eastern district a number of large houses are annotated in Kilcor, Baliburley (Watre and Playne-Warren), Kilowen and Clonmon. The buildings shown in 'Kilcor' may represent the religious buildings (OF004-011) now recorded in Coolcor. A togher is annotated to the south in the vicinity of Rhode village crossing the 'tuathe' boundary. A second togher is illustrated crossing bog from Ballyburley to Clonmore. A large house is illustrated to the north of the Yellow River within a wooded area annotated as 'Bali cove' (?). Derrygreenagh Hill is shown as a dry island annotated as 'Drind'.

William Larkin's Map of Part of The Bogs of Allen within the King's County, 1809 (Figure 3)

The area of proposed development is largely comprised of unsettled bogland. The building illustrated on the earlier map north of the Yellow River is no longer present and the area is now annotated as Carrick. The Yellow River flows east-west along a dryland area. A single road leading north from the village of Road crosses the Yellow River before splitting to run west towards County Westmeath and east towards County Meath. Derryarkin, Derrygranagh, Knockbrin, Deragharee, Derriren, Coolcor, Crockaunrow, Carrick, Ballyburly, Shra, Greenhills, Clonan and Stonehouse are annotated in dryland spots surrounded by bog. Lands to the east of Carrick and to the west of the Mongagh River are annotated as Rockfield. No structures are shown within the landholding for the proposed wind farm.

Greenhills House (RPS 07-03, NIAH 14904008) is shown surrounded by landscaped demesne lands and the Wood of Killina are annotated to the north of this. Ballyburly house and outbuildings (NIAH 14904007) are also shown with demesne lands to the south of Greenhills. Coolville House (RPS 16-13, NIAH 14911012) and Clonin

House are also shown to the north of Road. A small farm is shown in Rockfield in the north-east of the development and Corbetstown House is illustrated to the south-east of this. 'Road' village is illustrated at a crossroads south of the proposed wind farm site. A small number of houses line both sides of the road. A structure is shown south of a quarry at the site of windmill (RPS 16-14, NIAH 14911014). A canal supply water course runs south through bogland from the Yellow River to empty into the Grand Canal c. 5km to the south.

First Edition Ordnance Survey Map, 1840, scale 1:10560 (Figures 4a–4c)

This map shows the first detailed cartographic representation of the proposed wind farm. Proposed Turbine 1 is located within an area marked as boggy in the townland of Bunsallagh (Figure 4a). The townland boundary between Bunsallagh and Derryarkin to the east passes through the bogland without physical markers. Proposed Turbines 2–7 are located within undeveloped bog in Derryarkin townland. Two farmyards are located within the landholding for the wind farm to the south the Yellow River. The river has been partially canalized by this time although it maintains some of its natural course. A number of 'foot sticks' are illustrated within the fields to the south. The haulage route passes through similar boggy peatland.

Proposed Turbines 8–12 are located to the south-east of this in the townland of Derryiron (Figure 4a). There are no structures or features of archaeological significance shown within the footprint of the turbines. The canal supply is shown running south from Yellow River and a mill race (CH 1) runs south-east from the same watercourse. The Yellow River runs through the landholding and along the northern limit to the north of the mill race. Three farmyards are shown to the east of the road (now R400). Road village has grown slightly since the earlier mapping and now comprises c. 18 buildings including a Roman Catholic Chapel. Windmill (RPS 16-14, NIAH 14911014) is shown to the south of the proposed wind farm adjacent to a lime kiln. A number of small houses are shown along the road to the east of Rhode including BH 3. The haulage route passes through the peatland crossing the mill race (CH1) three times. A short section of track leads south from the main road to the north of this area.

To the east of the road proposed Turbine 13 is located in pasture within the townland of Coolville (Figure 4c). The footprint of the turbine is located within demesne lands

associated with Coolville House, which is located *c.* 100m south of the proposed haulage route. Several small isolated houses are located along the roadway including vernacular cottage (RPS 07-07, NIAH 14904016) in Coolcor townland. Clonin House is shown as a large house with associated outbuildings and a small demesne. There are no features of archaeological significance shown within the location of RMP site OF004-011. A small cottage (BH 1) is shown fronting onto the local road immediately north of the Coolville Demesne.

Further to the east proposed Turbines 14 and 15 are located in pasture within Ballyburly townland (Figure 4b). The demesne lands associated with Ballyburly House and outbuildings (NIAH 14904007) are located *c.* 1.04km to the east. Two castle sites (RMP OF004-012001–2) and church site (RMP OF004-013) are shown adjacent to Ballyburly House. Greenhills demesne is located to the immediate north-east of proposed Turbine 15 and the proposed haulage route travels along the southern perimeter before turning north along the avenue leading to the main house. The haulage route passes *c.* 150m east of the main house and stables (RPS 07-03, NIAH 14904008). Nothing of archaeological or architectural significance is shown within the footprint of the proposed turbine sites or haulage route.

The haulage route rejoins the roadway running north to Wood townland. There are no features of archaeological or architectural significance within the footprint of the proposed Turbines 16–17 in Wood townland or proposed Turbines 18–19 in Killowen townland. There is no indication of the possible enclosure (AAP 2) near proposed Turbine 16. The surrounding landscape is characterised by irregular enclosed fields through which the Yellow River flows. Proposed Turbines 16 and 17 are located within Wood townland in fields of pasture on the southern bank of the Yellow River (Figure 4c). The moated site (RMP OF004-009) is shown as a sub-rectangular enclosure planted with trees. The field boundaries may indicate that the medieval settlement associated with the moated site extended to the east in Killowen townland.

There are no features of archaeological or architectural significance within the footprint of the proposed Turbines 22 and 23 in Garr townland. There is no indication of enclosure (RMP OF004-008) shown on the northern banks of the river in Garr townland. A number of small farmyards are dotted within proximity. Gortnatemple graveyard (RMP OF004-002) is annotated 600m to the west of the proposed haulage route. To the west of this the *fulachta fiadh* (RMP OF004-017–21) are unmarked

within an area of bog. The house recorded in the NIAH survey at Stonehouse is shown to the east (NIAH 14904003).

There are no features of archaeological or architectural significance within the footprint of the proposed Turbines 20–21 and 24–25 in Corbetstown townland. The surrounding landscape is characterised by irregular enclosed fields bordered to the west by large tracts of bog. Turbines 20, 21 and 24 are located within undeveloped fields, while Turbine 25 is located within peatland. Several small farmyards are interspersed in the area however none are located within the proposed development area.

Proposed Turbines 26–32 are located within Carrick townland within the northern boundary for County Offaly. No features of archaeological or architectural significance were identified within the footprint of the proposed Turbines or haulage route. Proposed Turbines 26-30 area located within the vicinity of a farmyard annotated as Derrygawny. Approximately nine small farmyards are located within the north-east corner of the townland to the south of Mongagh River, which also forms the townland, Parish, Barony and County boundary. The remaining two proposed turbines (31 and 32) are located on the southern bank of the Mongagh River within an area marked as 'liable to flood'. Cottage (BH 18) and hollow way are shown to the north of the haulage route with associated farm buildings located within the path of the haulage route to the north-west. Baltinoran Bridge (RPS 07-01, NIAH 14904001) is shown to the east of the proposed landholding crossing the Mongagh River. To the north of this bridge Baltinoran House is shown in ruins.

Ordnance Survey Map, 1908–10, scale 1:2500

There are no major changes shown within the footprints of the proposed Turbines. Some small changes have occurred within the surrounding landscape including the disappearance of small farmsteads and the subdivision of land parcels. A network of drains have been excavated within Bunsallagh and Derryarkin townlands dividing the large tract of bog into regular rectangular plots.

A small farmyard shown on the first edition OS map within the landholding to the south of proposed Turbine 13 has been removed. The extent of the buildings at Ballyburly House has grown with large stables (NIAH 14904007) located to the east

of the main house. A landscaped garden is located to the north of the house. The moated site (RMP OF004-009) in Wood townland is shown as a sub-rectangular enclosure, outlined with hachures.

Garr School (BH 11) is shown adjacent the proposed haulage route in Garr townland. The land surrounding proposed Turbine 23 is annotated as Killhill for the first time. The bridge previously annotated as Thomastown Bridge is now known as Corbetstown Bridge. Killowen house and farm (BH 22) is shown for the first time to the south of proposed Turbine 19.

Third Edition Ordnance Survey Map, 1908–10, scale 1:10560 (Figures 2a–2c)

As this edition was published at the same time as the 25" mapping (described above) there are no major changes shown within the area of proposed development.

13.3.4 County Development Plan

The Offaly County Development Plan (2009–2015) aims to conserve, protect and enhance Offaly's archaeological heritage where possible. A total of 86 RMP sites are located within *c.* 2km of the proposed wind turbines. There are no National Monuments located within the vicinity of the proposed wind farm.

No RMP site will be directly impacted by the current turbine layout; however the moated site and associated features (RMP OF004-009) are immediately adjacent to the proposed haulage route in Wood townland. This site comprises of a large rectangular moated site associated with a possible field system/ settlement activity to the south. A large number of wetland sites, including wooden trackways/ toghers, are located *c.* 130–200m north of the wind farm landholding in Bunsallagh townland.

Of the 86 RMPs listed, 29 are recorded as Redundant Records. The majority of these 29 sites were recorded by the Irish Archaeological Wetland Unit (UCD) Survey of Derryarkin and Drumman Bogs in 2002 as isolated wooden stakes/posts. The evidence was however not sufficient to warrant their acceptance as the remains of archaeological monuments.

RMP Ref.:	Location	Type	Distance to nearest Turbine
OF004-009	Wood	Moated site	Adjacent to haulage route
OF003-021-27	Bunsallagh	Road/togher (x2), redundant record (x4)	130m north
OF003-010	Bunsallagh	Redundant record	130m north
OF003-028-31	Bunsallagh	Redundant records	130-150m north
OF003-011-20	Bunsallagh	Road/ togher (x5) Redundant record (x6)	180-200m north
OF004-003	Stonehouse	Enclosure	440m north-east
OF003-032-34	Derrygreenagh	Road - class 1 togher, redundant record x2	460m north-east
OF004-017-21	Garr	<i>Fulachta fiadh</i>	460m south
OF004-008	Garr	Enclosure	570m west
OF004-011001-4	Coolcor	Religious House (Franciscan Nuns), Building, Redundant Record, Wayside cross	580m west
OF004-002	Garr	Burial ground	650m south
OF004-023-25	Garr	Redundant Records	780m west
OF004-004	Killowen	Hilltop enclosure	900m east
OF004-001	Garr	Redundant record	930m south
OF004-007	Srah	Earthwork	1.1km north-west
OF004-012001, 2	Ballyburly	Castles - unclassified	1.15km south-east
OF004-013001-6	Ballyburly	Church, graveyard, wall monument, Ecclesiastical enclosure, graveslab and wall monument	1.15km south-east
OF003-003	Ballyfore	Enclosure	1.24km south
OF003-002	Derrycoffey	Road - togher	1.2km west
WM034-018-21	Pass of Kilbride	Road/togher (x2), redundant record (x2)	1.3km north
OF011-002	Ballyburly	Standing stone	1.35km south-east
OF004-022	Srah	Bullaun Stone	1.4km north-west
OF003-035-050	Derrygreenagh	Toghers (x9), post-rows (x2) Redundant records (x5)	1.4km north-east
OF003-006	Garr	Motte	1.4km north-west
OF003-004	Ballyfore	Enclosure	1.5km south
OF011-003	Ballyburly	Mound	1.5km south-east
OF003-051-54	Knockdrin	Post rows (x3), redundant record (x1)	1.6km north
OF011-055	Ballymorán (Fahy)	Ring barrow	1.66km south-east
ME046-012	Kilkeeran	Church	1.75km north-east
OF004-005	Garr	Earthwork	1.75km north-west
OF011-056	Road	Cross - Wayside cross	1.8km SSW
OF011-001	Clonin	Ring-barrow	1.9km south-west
ME052-002	Castlejordan	Motte and bailey	2km east
ME052-002001	Castlejordan	Tower house	2km east

13.3.5 Aerial Photographic Analysis

Aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995, 2000 and 2005) and Google Earth (2005 and 2009) were examined as part of this assessment.

The moated site (RMP OF004-009) located within Wood townland is clearly visible on all aerial photographs of the site, but is very clear in Google Earth images from 2009. A large field system is also indicated in the fields to the south and south-east of the moated site. Possible structures are indicated to the immediate south of the moated site.

To the north-east of the moated site the original course of the Yellow River is indicated to the south of its current course and to the immediate north of proposed Turbine 16. A potential D-shaped enclosure is indicated on the 2009 image adjoining the original river course; however this is not shown on any other imagery and as such interpretation is tentative. For the purpose of this report the site has been designated as an Area of Archaeological Potential (AAP 2).

No further sites of archaeological potential were identified within the vicinity of the proposed turbines; however some of the sites comprised rough ground and forestry lands which may have hindered identification.

13.3.6 Field Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and whether any areas or sites of archaeological potential were present. During the course of the field investigation the proposed development area and its surrounding environs were inspected for known or previously unknown archaeological sites (Figures 2a–2c). The western part of the proposed wind farm was inspected on the 10th October 2012 and the eastern part of the proposed wind farm was inspected on the 4th May 2013.

Proposed Turbines 1–7

A substantial portion of the peatland in Bunsallgh and Derryarkin townlands has been milled and land reclamation was undertaken in the mid-late 20th century. The drains and cut peat faces were inspected for archaeological deposits. To the north of the

proposed development area a section of partially milled, scrubby, flooded peatland was noted. This peatland was *c.* 1–1.5m higher than the fields to the south (Plate 1). Three wooden toghers and isolated worked wood samples (RMP OF003-010–031) were recorded in this section of bog in 2002; however no remaining surface evidence of these were identified during field inspection. The IAWU survey records them as ‘being destroyed’ in 2001. The northeast–southwest running Bord na Móna drains are largely overgrown with evidence of pine tree stumps which pre-date the development of the peat. The peat noted during the site inspection and walkover was largely fen reed peat characteristic of the lower levels of peat development. Gravel subsoil was noted in places during the walkover.

Proposed Turbine 1 is located within a plot of densely planted spruce wood (Plate 2). It was not possible to identify anything of archaeological significance due to the density of the planting.

Proposed Turbines 2–6 are located within relatively flat reclaimed land to the south of the remaining peatland and east of the forested area (Plates 3–7). The ground is mostly waterlogged and all but two of the fields are in use as pasture. A narrow plot located to the south of proposed Turbine 3 and north of proposed Turbine 2 is partially wooded. A deep scarp, measuring *c.* 1.5m, revealed grey marl and gravel representing the base of the peat deposit (Plate 8). The fields are separated by wide drainage channels which are largely overgrown and waterlogged. Two trackways run NNW–SSE through the landholdings. Nothing of archaeological significance was identified within these areas.

A large gravel quarry is located within Derryarkin townland to the south of proposed Turbine 4 (Plate 10). The quarry works have been underway for a number of years and as such the lands have been subject to a substantial disturbance. A large earthen embankment has been constructed along the southern and western perimeter of the site. Derrygreenagh farm is located to the south of proposed Turbine 6. A number of large farm buildings have been constructed to the rear of the farmyard.

The lands to the south of the Yellow River are undulating pasture land surrounding a farmyard. Proposed Turbine 7 is located to the east of this farmyard and south of the river adjacent to a small area of raised scrubby peat (Plate 9). The lands to the south

and west of the turbine location appear to be reclaimed pasture bound to the south by a water course.

The line of the narrow gauge railway (CH 2) associated with the Bord na Móna works runs along the eastern perimeter of the landholding within proximity to proposed turbines 6 and 7 in Derryarkin townland. The rail track crosses the access road in Derrygreenagh townland before heading south towards Derryiron townland (Plate 10). The railway continues south-east along the western perimeter of the proposed landholding within proximity of proposed Turbines 8–10.

The proposed haulage route runs along an existing trackway, crossing railway CH 2; however it does cross pasture to reach individual turbine sites.

Proposed Turbine 8–12

The sites identified in 2001 and 2002 by the IAWU in Ballybeg Bog are located *c.* 1.5km south of the proposed development, therefore this area was not inspected at this time. Proposed Turbines 8–12 are located within the north-eastern extent of Ballybeg bog in areas of hand cut and sausage peat development associated with various turbary plots (Plates 11–16). This section of bog was inspected and all high peat faces were examined to determine if any archaeological remains were present.

The proposed turbines are located in two distinct peat zones. The high bog which is located at the south-western portion of the development area comprised sphagnum raised bog overlying fen and reed bog peat. There was over 4m of peat present in this area of high bog in places. *Calluna* (heather) was growing in abundance on the peat surface and some drainage ditches had been inserted into this peat zone in the past (Plate 12). The lower peat zone which has been in private peat production for many decades comprised mainly of fen peat characteristic of early peat development. Peat briquettes were piled high in areas throughout this zone for bagging and selling. The high peat face which divided the two peat zones was walked and although some natural wood was recorded along the interface between the fen and sphagnum peat nothing of archaeological significance was noted. The low peat zone area, which is currently under sausage peat production by numerous individuals, was also walked and inspected; however nothing of archaeological significance was recorded in this area.

Proposed Turbines 8–10 are located within a section of peatland which is currently subject to manual turf cutting. The north-facing receding peat face is aligned northwest–southeast in Derryiron townland, south of the Yellow River. The proposed location of Turbine 8 is situated within the north-west corner of the plot *c.* 80m north of the active peat face. The area has been subject to significant peat cutting (*c.* 1.5–2m in depth) and drains in the area show the grey clay marl and gravel *c.* 1m beneath the current ground surface (Plate 11). The exposed peat face revealed sterile deposits of fen peat with infrequent natural wood (Plate 13). The line of an overgrown mill race, shown on the first edition OS map, runs northwest–southeast along the lower peat bog (Plate 14).

Proposed Turbine 9 is located on cutaway peat however this area is overgrown with thick heather and is much degraded (Plate 15). Proposed Turbine 10 is located south of Turbine 9 on the surface of cut peat (Plate 16). Small towers of stacked turf sods are located across the landholding. No sites of archaeological significance were identified within the peat surface.

Proposed Turbine 11 is situated within a severely overgrown area of high ground to the north of the Yellow River (Plate 17). The ground was densely overgrown with birch and heather. It was not possible to identify anything of archaeological significance as the ground surface was heavily covered. Proposed Turbine 12 appears to be located in a field of reclaimed pasture on the southern bank of the Yellow River (Plate 18).

The proposed haulage route runs along an existing trackway however it does cross peatland and mill race (CH 1) to reach individual turbine sites.

Proposed Turbines 13–15

Proposed Turbine 13 is located within the northern limit of the Cooleville Demesne in a field of rough waterlogged pasture (Plate 19). Coolville House (RPS 16-13, NIAH 14911012) and ancillary buildings are located to the south. A deep water-filled drain divides the field to the south. Nothing of archaeological significance was identified in the flat field.

Proposed Turbine 14 is located in Ballyburly townland within a field of rough waterlogged pasture covered with dense rush growth (Plate 20). The field is bound to the west by a narrow wooded border. A small watercourse crossed the forest track to the west to run into the field drain.

Proposed Turbine 15 is located within a field of reclaimed pasture adjacent to a large area of scrub land. The site will be accessed by an existing farm/woodland trackway from the south (Plate 21). The proposed haulage route runs east from this site across a number of fields of pasture before turning north onto an existing track/road through Greenhills Demesne.

Proposed Turbines 16–19

The proposed haulage route travels north along a narrow track through Wood townland passing to the west of moated site (RMP OF004-009). As shown on the image of Google Earth from 2009 an extensive network of associated features and field system are present to the south of the moated site (Plate 22). A deep drain runs along the western side of the existing trackway.

The site of proposed Turbine 16 is located within a raised area in a field of pasture on the southern bank of the Yellow River. The line of a paleo-channel for the river is evident to the immediate north of the turbine site as a linear, slightly sunken area, with differing vegetation. The potential D-shaped enclosure (AAP 2) stretches south from this paleo-channel in the immediate vicinity of the proposed turbine (Plate 23). The south-west embankment rises *c.* 1m from the surrounding area. A second smaller raised area, also extending south from the paleo-channel, was noted in the western limit of this field which has been designated as AAP 3. While AAP 2 and AAP 3 may represent natural features associated with original river course given the proximity of moated site (RMP OF004-009) it is possible that these represent settlement activity.

Proposed Turbine 17 is located in a field of pasture to the east of Turbine 16. The site comprises of rough partially waterlogged pasture on the bank of the Yellow River (Plate 24). A small oval rise in the ground (*c.* 30m x 15m) is located to the north and east of the proposed turbine and haulage route. Given its riverside location this may represent a burnt mound or *fulacht fiadh* site and as such has been designated as AAP 4.

The proposed haulage route continues east across undeveloped pastureland to access proposed Turbine 18 (Plate 25) and Turbine 19 (Plate 26). Nothing of archaeological significance was identified in any of these areas.

The route of the Yellow River, which runs east–west north of Turbines 16–19, currently comprises of a deep canalised drainage ditch in sections (Plate 27). Riversides are an ideal location for settlement activity and as such have potential for surviving archaeological features.

Proposed Turbines 20–26

The proposed haulage route crosses the Yellow River twice to access proposed Turbines 20 and 21 and Turbines 22 and 23. Turbines 20 and 21 and associated haulage route are located in arable land in Corbetstown townland (Plates 28 and 29). A number of field boundaries have been removed in recent years which are visible as slight linear rises.

Proposed Turbines 22 and 23 and associated haulage route are located within rough pasture in Garr townland (Plates 30 and 31). The surrounding lands comprise of mixed pasture and arable land bound by mature tree and hedgerows.

Proposed Turbines 24 and 25 are located in the northern limits of Corbetstown townland. The surrounding area is characterised by managed woodland and rough scrubland. The proposed haulage route runs north from Garr townland using a short section of local road; at which point it passes in close proximity to Garr School (BH 11). The haulage route runs north and west through rough pasture (Plate 32) to access site of Turbine 24. The sites of proposed Turbines 25 and 26 are located within rough vegetation surrounded by dense tree planting. Nothing of archaeological significance was identified in this area.

Proposed Turbines 27–32

The proposed haulage route runs north to join a forestry track in Carrick townland. The site of proposed Turbine 27 is located within dense woodland and as such nothing of archaeological significance was identified in this area. The forest track runs along the southern boundary of farm lands which contains proposed Turbines 28 and 29. Both sites are located within flat, well-drained arable land to the south of a

pig farm (Plate 33 and 34). The haulage route continues north to cross a local road to access proposed Turbine 30 which is located in rough waterlogged pasture (Plate 35). Lands to the north-west comprise of milled peatland and rough scrub. The remains of a vernacular farmyard are present 100m to the west of the haulage route.

The haulage route runs east along a local access road in Carrick townland before turning north at an existing junction to access proposed Turbine 32. The haulage route passes in proximity to the ruins of a vernacular cottage and associated hollow way (BH 18) shown on the first edition OS map (Figure 4c). The plot is largely overgrown and is set back from the road. The haulage route passes through a field of pasture with a distinct south-facing slope before continuing north to access proposed Turbine 32 (Plate 37). A number of field boundaries have been removed since the third edition OS map and no evidence for the farm buildings shown in this map within the haulage route are present now. This site is located on the southern bank of the Mongagh River which forms the County, Barony and Parish boundary.

Further to the east the haulage route continues on the local road for a short distance before running north through two large fields of relatively flat pasture (Plate 36). Nothing of archaeological significance was identified in any of these areas.

13.3.7 Conclusions

The proposed wind farm is located within the north-east limits of County Offaly to the north of Rhode village and bordering the Yellow River. The landscape is characterised by partially eroded/ extracted peatland and reclaimed boggy pasture. The bog has been subject to substantial turf cutting over the last 150 years and as such the locations of some of the proposed turbines have been completely depleted of peat supply, exposing marl and gravel deposits. The landscape in which the proposed wind farm is located has been identified as an area of archaeological potential (AAP 1). Whilst the area has been significantly altered due to generations of peat cutting and land reclamation the potential for discovery of *in situ* archaeological remains still exists.

A total of 86 RMP sites were identified within 2km of the proposed turbine locations. Of these 31 are located within a c. 500m radius and 42 within a 1km radius. A large number of wetland sites, including wooden trackways/ toghers, are located c. 130–200m north of the wind farm landholding in Bunsallagh townland. Of the 86 RMPs

listed, 29 are recorded as Redundant Records; the majority of which are sites that were recorded by the IAWU in 2002 as isolated wooden stakes/posts.

No RMP site will be directly impacted by the current turbine layout; however the moated site and associated features (RMP OF004-009) are located immediately adjacent to the proposed haulage route in Wood townland. This site comprises of a large rectangular moated site associated with a possible field system/ settlement activity to the south. This site is shown on all editions of the OS maps and is very clear in the aerial photography. Upon field inspection the earthworks were clearly visible with a lot of activity noted to the south of the moated enclosure.

Wetland areas are ideal locations for the preservation of organic finds and features such as wooden track ways or wooden artefacts, both of which have been identified within proximity to the proposed wind farm in Bunsallagh and Derryarkin townlands. A substantial amount of turf cutting and land reclamation has been undertaken in the last century and as such the potential for discovery of intact archaeological sites has been reduced. There will be no impact on any archaeological sites recorded from the IAWU surveys and subsequent excavations.

Burnt mounds (*fulachta fiadh*) are commonly identified in wetland areas and are indicative of temporary prehistoric settlement in the area. They are typically located on the wetland/ dryland margin where there is a readily available water source, often in proximity to a river or stream or in places with a high water table. In wet landscapes such as this, dryland islands would have been the ideal locations for settlement and as such must be treated as areas of archaeological potential also. A possible burnt mound was identified during field inspection to the north and west of proposed Turbine 17 and haulage route, which has been designated AAP 4.

Aerial photographic analysis has identified one site of potential archaeological significance within the immediate proximity of proposed Turbine 16 in Wood townland. A potential D-shaped enclosure is indicated on a 2009 image adjoining the original river course; however this is not shown on any other imagery and as such interpretation is tentative. During field inspection a significant embankment (c. 1m in depth) was noted curving along the southern side of the feature however it was no clear if this continued to the north-east. For the purpose of this report the site has been designated as an Area of Archaeological Potential (AAP 2). To the west of this a

second smaller raised area was identified on the banks of the paleo-channel which may have archaeological potential (AAP 3). While AAP 2 and AAP 3 may represent natural features associated with original river course given the proximity of moated site (RMP OF004-009) it is possible that these represent settlement activity.

13.4 RESULTS AND ANALYSIS – ARCHITECTURE

13.4.1 Built Heritage Background

The area of proposed development comprises open bog land that has largely remained unsettled until the 19th century. The lands are marginal and water logged in most cases and do not provide a suitable setting for settlement. In 1813 Warrenstown Barony was the second least densely populated region in Offaly. The first and second edition OS maps show a sparsely settled landscape with several large houses to the south of the Yellow River and a number of small farmsteads.

The built heritage of the area was identified from a number of sources including the County Development Plan, the National Inventory of Architectural Heritage Survey and field inspection. Within this report these sites are referenced with their RPS/NIAH numbers if present or by a Built Heritage designation (i.e. BH 1) if they were identified during field inspection.

The built heritage within the wider area is typified by the vernacular cottage and associated outbuildings, much of which are shown on the first edition OS map. Vernacular architecture is defined in James Steven Curl's Encyclopaedia of Architectural Terms as 'a term used to describe the local regional traditional building forms and types using indigenous materials, and without grand architectural pretensions', i.e. the homes and workplaces of the ordinary people built by local people using local materials. This is in contrast to formal architecture, such as the grand estate houses of the gentry, churches and public buildings, which were often designed by architects or engineers. The majority of vernacular buildings are domestic dwellings. Examples of other structures that may fall into this category include shops, outbuildings, mills, lime kilns, farmsteads, forges, gates and gate piers.

Typically the single storied thatched cottage would be considered to represent the real vernacular style in Ireland. Following c. AD1700, settlement clusters were likely to have consisted primarily of single-storey thatched cottages with associated farm

buildings. Whilst there are no structures recorded within the RPS or NIAH within the proposed development area a number of vernacular structures were noted within the wider area. The thatch cottage at Coolcor (RPS 07-07, NIAH 14904016) fronts onto the R400 and comprises of a typical five-bay single store, direct entry house built c. 1800. A number of other vernacular cottages were noted within the wider landscape during field inspection in the townlands of Fahy (BH 3 and 4), Sruh (BH 7 and 8), Garr (BH 10), Corbetstown (BH 13 and 14) and Carrick (BH 15, 16 and 18).

A number of two-storey farmhouses/ houses were also noted during field inspection at Fahy (BH 6) Corbetstown (BH 12), Carrick (BH 17) and Corbetstown (BH 12). A traditional early 19th century farmhouse is recorded at Stonehouse (NIAH 14904003) a mid-19th century detached five-bay two-storey house is recorded at Dunville (RPS 16-03, NIAH 14803004).

Aalen (1997, 161) states that up until the late 19th century most rural labourers lived in one or two-roomed mud or sod dwellings that were dispersed singly on small plots of potato land, often on the edge of commons, moors and bogs. The Labourers' Act (1883) enabled local authorities to erect almost 50,000 new cottages for landless labourers by 1921. Most cottages were single or semi-detached located along roadways in 0.2ha allotments (*ibid.*). A small cottage (BH 1) is located fronting onto a local road in Coolcor townland north of Coolville Demesne. A second similar cottage (BH 21) is located in Fahy townland. This masonry cottage is in good condition and complies with a typical style developed by the Congested Districts Board. The Congested Districts Board for Ireland was established by the Chief Secretary, Arthur Balfour in 1891 to alleviate poverty and congested living conditions in the west of Ireland.

The remains of a freestanding circular wind mill (RPS 16-14, NIAH 14911014), built c. 1770, are located c. 1.8km south of the proposed Turbine 13. The wind mill is situated on an elevated position within the townland of Ballystrig. The NIAH survey concludes that while the structure is in a state of ruin it remains as a vestige to a past era when those within the community relied on the wind to grind their flour.

Three 19th century bridges are recorded within proximity to the proposed wind farm. Baltinoran Bridge at Carrick (RPS 07-01, NIAH 14904001) crosses the Mongagh

River. Sheep Bridge at Clonmore (NIAH 14904004) and Garr Bridge in Derryiron (NIAH 14904005) crosses the Yellow River.

A small village, Rhode (marked as Road on the first edition OS map) is present *c.* 750m south of the proposed wind farm landholding. In 1837 Rhode comprised of a small hamlet with “12 houses, situated in the midst of a rich grazing district, on the estate of J. Wakely, Esq., whose residence, Ballyburley, adjoins the hamlet” (Lewis, 1837). The nearby estates of “Rathmoyle, the residence of George Rait, Esq. (RPS 16-01-2, NIAH 14803001–3), Clonin of S. Rait, Esq.; Coolville of T. Grattan, Esq. (RPS 16-13, NIAH 14911012) and Greenhill, of F. L. Dames, Esq. (RPS 07-03, NIAH 14904008) were mostly environed by plantations” (*ibid.*). The first edition OS map shows the outline of six demesnes within *c.* 2km of the proposed wind farm. Five of these are associated with the houses named by Lewis while the remaining demesne associated with Grovesend House is located adjacent to Ballyburly House. Of these the original main houses at Cooleville (NIAH 14911012, RPS 16-13) and Rathmoyle (NIAH 14803001-3, RPS 16-01-2) are still extant. Ancillary buildings associated with two other demesnes survive at Greenhills (NIAH 14904008, RPS 07-03) and at Ballyburly (NIAH 14904007).

Several buildings in the village are recorded within the RPS and the NIAH survey including St. Peter's RC Church (RPS 16-05, NIAH 14803006), Rhode House (RPS 16-04, NIAH 14803005), the surgery (RPS 16-06, NIAH 14803007), house (NIAH 14803008), the Parochial Hall/ curates house (RPS 16-07, NIAH 14803010) and house (RPS 16-08, NIAH 14803011). A 19th century water pump is also recorded in Rhode village near Marian Terrace (NIAH 14803009). Two further water pumps are recorded in the NIAH survey within proximity to the proposed development at Corbetstown (NIAH 14904002) and Clonmore (NIAH 14904012).

More recent structures are also recorded by the NIAH and the RPS including two post boxes dating between the late 19th century and the early 20th century at Clonmore (RPS 07-04, NIAH 14904011) and Ballystrig (RPS 16-20, NIAH 14911024).

13.4.2 Cartographic Analysis

See section 3.3 for details

13.4.3 County Development Plan

County Offaly hosts a rich heritage of buildings and structures. The Offaly Development Plan (2009–2015) seeks the protection and conservation of buildings and structures of architectural, historical, archaeological, artistic, cultural, scientific, social and technical importance. The principal mechanism for protection of these buildings and structures is through their inclusion on the Record of Protected Structures (RPS). In all 862 structures are included within the current Development Plan.

A total of 15 RPSs are located within *c.* 2km of the proposed Yellow River Wind Farm. All of the structures listed on the RPS are also included within the NIAH Survey (see below). Details of these structures are included within **Appendix O**. No structures are impacted directly by the proposed development.

RPS Ref.:	Location	Type	Distance to nearest turbine	Report Ref.:
16-13	Cooleville	Coolville House	590m south	14911012
07-03	Greenhills	Stables	860m east	14904008
07-01	Carrick	Bridge	950m east	14904001
07-07	Coolcor	Vernacular cottage	1.04km west	14904016
16-03	Dunville	House	1.2km south	14803004
16-01, 2	Rathmoyle	Country House, Outbuildings, gate lodge	1.4km south	14803001–3
16-05	Road	Church/ Chapel	1.7–1.8km SSW	14803006
16-04	Rathmoyle	County House		14803005
16-06	Road	Surgery/clinic		14803007
07-04	Clonmore	Post box	1.7km south-east	14904011
16-07	Road	House	1.7–1.8km SSW	14803010
16-08	Road	House		14803011
16-14	Ballystrig	Wind mill	1.8km south	14911014
16-20	Ballystrig	Postbox	1.8km south	14911024

13.4.4 National Inventory of Architectural Heritage

A review of both the architectural survey and garden survey was undertaken as part of this assessment. An area up to 2km surrounding the proposed wind farm was examined in order to identify any buildings or areas of architectural significance. The results of this survey are summarised below and detailed in **Appendix O**.

13.4.5 Building Survey

A total of 24 structures are located within c. 2km of the proposed wind farm. Of these 15 are also listed on the Record of Protected Structures (see above). No structures are impacted directly by the proposed development.

NIAH Ref.:	Location	Type	Distance to nearest turbine	RPS Ref.:
14911012	Coolville	Coolville House	590m south	16-13
14904002	Corbetstown	Water pump	750m north	
14904003	Stonehouse	House	760m north-east	
14904008	Greenhills	Stables	860m east	07-03
14904001	Carrick	Bridge	950m east	07-01
14904016	Coolcor	Vernacular cottage	1.04km west	07-07
14904007	Ballyburly	Outbuilding	1.04km east	
14803004	Dunville	House	1.2km south	16-03
14803001-3	Rathmoyle	Country House, Outbuildings, gate lodge	1.4km south	16-01-2
14803008	Laurencetown	House	1.4km SSW	
14904005	Derryiron	Bridge	1.5km north-west	
14904010	Clonmore/ Kilowen	House	1.7km south-east	
14904011	Clonmore	Post box	1.7km south-east	07-04
14904012	Clonmore	Water pump	1.7km south-east	
14803005	Rathmoyle	County House	1.7-1.8km SSW	16-04
14803006	Road	Church/ Chapel		16-05
14803007	Road	Surgery/clinic		16-06
14803010	Road	House		16-07
14803009	Road	Water pump		
14803011	Road	House		16-08
14911014	Ballystrig	Wind mill		1.8km south
14911024	Ballystrig	Postbox	1.8km south	16-20

13.4.6 Garden Survey

A review of the NIAH Garden Survey, undertaken as part of this assessment, revealed six demesne landscapes of varying sizes within c. 2km of the proposed wind farm. Three of the six demesnes are partially located within the landholding for the proposed wind farm. Proposed Turbine 13 is located within the northern limit of Coolville Demesne. Proposed Turbines 14 and 15 are located on the edge of Ballyburly Demesne and Greenhills Demesne respectively.

The gardens of the former Coolville Demesne are recorded within the NIAH survey (NIAH Ref.: OF-49-N-535347). These are largely located within the landholding of the proposed development. The proposed Turbine 13 is located within the northern limit of the demesne lands. While the boundary of the demesne is retained the survey

determined that much of the peripheral landscape of this site is indistinguishable from the surrounding farmland.

The demesne lands associated with Greenhills House are also recorded by the survey (NIAH Ref.: OF-49-N-551361). The demesne is traversed by the proposed haulage route. While the survey is limited to paper research at present it concluded that few features of the designed landscape shown on the 1836–1846 OS map are visible in aerial photography.

The demesne lands associated with Ballyburly House are located to the immediate south and south-east of the proposed wind farm (NIAH Ref.: OF-49-N-552352). Again while the boundary has been retained, many of the original features are not apparent on the aerial photography and the structural woodland shown on the 1836–1846 OS map has been removed.

Clonin House and Demesne are located to the south and south-west of the proposed development, to the west of the R400 road (NIAH Ref.: OF-49-N-530342). Modern agricultural/industrial units have been constructed in the core landscape and virtually none of the original features are remaining.

Other smaller demesnes are located farther to the south surrounding Rathmoyle House (NIAH Ref.: OF-49-N-542334) and Grovesend House (NIAH Ref.: OF-49-N-560345). The survey determined that the main features at Rathmoyle were substantially present with some loss of integrity while there are no surviving features associated with Grovesend.

13.4.7 Field Inspection

The area of proposed development was inspected for evidence of built heritage. Nothing of architectural significance was identified within the footprint of the proposed turbine sites however a number of structures with built heritage merit were noted within proximity to the development (see table below and **Appendix O**). The surrounding landscape is typified by small isolated farmsteads, isolated vernacular cottages in the poorer land and a number of small demesnes and houses in the better land to the south of the proposed development.

The proposed haulage route passes through or adjacent to three demesne landscapes – Cooleville, Greenhills and Ballyburly. Coolville House (RPS 16-13, NIAH 14911012), approached via a tree-lined avenue from the west, is associated with a coach house and various ancillary buildings located around a rear courtyard. The coach house and farm buildings are in a state of partial disrepair (Plate 38). The proposed haulage route passes within *c.* 80m of the main house and outbuildings before turning north through several fields of rough pasture. No demesne features were noted in the fields to the north however some designed landscape features were noted in the garden surrounding the main house to the south. The western boundary of the demesne is delineated by an earthen bank and hedge row with several mature trees aligned along its axis.

Greenhills Demesne is located to the north-east of Cooleville and was shown as a larger area on the first edition OS map. The proposed haulage route runs along the southern boundary of the demesne lands (which also forms the northern boundary of Ballyburly Demesne) before turning north and joining an existing access road. This curving road forms the original avenue leading to the main house as shown on the first edition OS map. While the boundary of the demesne is maintained none of the original landscape features exist. The principal house no longer stands although some of the stables are present (NIAH 14904008). Several fields containing woodland are present to the north of the house site and a tree-lined trackway runs north to Wood townland (Plate 39).

The proposed haulage route runs along the northern boundary of Ballyburly Demesne. The boundary of the demesne is preserved however the main house is no longer present. Some of the outbuildings, shown on the 25" OS map, are still extant (NIAH 14904007) which are accessed by the original avenue (Plate 40). The local road which bisects the demesne lands is bound by short stone walls. None of the ornamental garden and landscape features survive and the demesne lands largely comprise of pastureland.

Rathmoyle Demesne, located further to the south by Rhode village, appears to retain much more of its original landscape features. The northern limit of the demesne is delineated by a low stone wall and a line of mature trees. Most of the main features are extant including the house, gate lodge and outbuildings (NIAH 14803001-3, RPS 1601-2).

A total of 22 buildings (or groups of buildings) of built heritage significance were identified within *c.* 2km of the proposed development during the field inspection. No structures are directly impacted by the proposed turbines although the proposed haulage route will pass in proximity to the school in Garr (BH 11) and ruined cottage in Carrick (BH 18).

BH No.	Location	Description	Distance to Development
BH 1	Coolcor 253225, 234885	CDB Cottage	720m south-east of Turbine 13, 60m north of haulage route
BH 2	Fahy 254401, 233842	Rectory, 2-storey house	1.5km south of Turbine 13
BH 3	Fahy 255288, 234064	Vernacular cottage	1.9km south-east of Turbine 13
BH 4	Fahy 255375, 234124	Vernacular cottage	1.95km south-east of Turbine 13
BH 5	Fahy 255567, 234210	Fahy Post Office	1.85km south-east of Turbine 14
BH 6	Fahy 255479, 234247	Stone faced, 2-storey house	1.85km south-east of Turbine 14
BH 7	Sruth 253209, 236500	Vernacular cottage, half structure, overgrown	1.3km north-west of Turbine 15
BH 8	Sruh 253198, 236581	Vernacular cottage and farmyard, derelict	1.3km north-west of Turbine 15
BH 9	Garr 252877, 237605	Farmyard complex and Garr House	1.9km west of Turbine 16
BH 10	Garr 253711, 238425	Vernacular cottage, derelict	700m south of Turbine 24
BH 11	Garr 254309, 238741	School house	Adjacent to haulage route, 560m south-east of Turbine 24
BH 12	Corbetstown 254563, 239047	House and farmyard	200m east of haulage route, 570m north of Turbine 23
BH 13	Corbetstown 255350, 239923	Vernacular cottage	1.1km north of Turbine 20
BH 14	Corbetstown 255221, 240263	Vernacular cottage	1.2km SSE of Turbine 31
BH 15	Carrick 255277, 240623	Vernacular cottage, renovated	920m south-east of Turbine 31
BH 16	Carrick 254067, 240071	Vernacular cottage and farmyard	780m east of Turbine 28
BH 17	Carrick 253949, 239998	2-storey farmhouse and farmyard	650m east of Turbine 28
BH 18	Carrick 254103, 241018	Vernacular cottage, ruins	Immediately south of haulage route, 400m south of Turbine 32
BH 19	Baltinoran 255348, 241049	2-storey house and vernacular farmyard	820m east of Turbine 31
BH 20	Baltinoran 255535, 241121	Baltinoran House, ruins	1km east of Turbine 31
BH 21	Fahy 255059, 234142	Cottage	1.7km south of Turbine 13

BH No.	Location	Description	Distance to Development
BH 22	Killowen 257509, 237925	Killowen House and farm	820m SSE of Turbine 19

13.4.8 Conclusions

Whilst the landscape surrounding the proposed wind farm is characterised by peatland and flat reclaimed bogland, a number of buildings of local architectural significance were identified in the area. The village of Rhode has developed since the late 18th century and a number of houses here date to the early-mid 19th century.

A total of 24 structures located within *c.* 2km of the proposed wind farm are recorded in the NIAH survey. Of these structures 15 are also listed on the Record of Protected Structures for County Westmeath. None of these structures are located within 500m of a proposed Turbine site however five are located within *c.* 1km radius. The proposed haulage route passes within close proximity to two sites – Coolville House and Greenhills stables; both of which are recorded in the NIAH and RPS.

Several small demesnes are located to the north and north-east of Rhode located along the southern limit of the proposed wind farm. No structural demesne features will be directly impacted by the proposed developments however the haulage route will traverse greenfield areas in Coolville, Greenhills and Ballyburly Demesnes.

The proposed haulage route passes within *c.* 60m of the main house at Cooleville however it passes to the rear of the property and does not directly impact on any demesne features. Only a short section of the haulage route will be visible from the roadway. Proposed Turbine 13 is located within the northern limit of the demesne and two further proposed turbines are located within the immediate vicinity of the demesne boundary.

It is not proposed to locate any turbines within the boundary of Greenhills demesne however the haulage route travels through a significant proportion of it. The route runs along the southern boundary of the demesne before running north along the original avenue for the main house. The main house no longer exists however some of the original stables are recorded (NIAH 14904008, RPS 07-03). While the boundary of the demesne is preserved many of the designed landscape features are no

longer present. The surrounding lands comprise of pastureland and a wooded area to the north, divided by deep drainage ditches.

The proposed haulage route runs along the northern boundary of Ballyburly Demesne however it does not impact directly on any significant features. The demesne lands comprise of rough pasture bound to the south by a short stone wall. While the outline of the original main house and gardens is present the only extant structures of historic interest are the outbuildings (NIAH 14904007) which are accessed from the south.

A total of 22 buildings (or groups of buildings) of built heritage significance were identified within *c.* 2km of the proposed development during the field inspection. Of these four sites are located within *c.* 200m of the proposed haulage route while only one structure (BH 18) is located within *c.* 500m of a proposed Turbine site. No built heritage structures will be directly impacted by the proposed development the haulage route will pass in close proximity to Garr School (BH 11) and a ruined vernacular cottage (BH 18).

13.5 RESULTS AND ANALYSIS – CULTURAL HERITAGE

The proposed wind farm is located within the townlands of Bunsallagh, Derryarkin, Derryiron, Coolville, Ballyburly, Greenhills, Wood, Killowen, Garr, Corbetstown and Carrick. The surrounding townlands consist of Derrygreenagh, Ballyfore, Ballybeg, Coolcor, Knockdrin, Dunville, Srah, Grovesend, Fahy, Ballymoran, Stonehouse, Tooreen, Ballyheasill, Clonmore, Kilkeeran (Meath), Baltinoran (Meath), Derryhinch (Meath), Pass of Kilbride (Westmeath), Milltown (Westmeath) and Drumman (Westmeath). These are townlands are located within the parishes of Croghan, Ballyburly and Castlejordan, within the Baronies of Lower Philipstown and Warrenstown, County Offaly. The northern limit of the proposed wind farm is located on the county border between Offaly, Westmeath and Meath. The 820m east of Turbine 31 of Upper Moyfenrath (Meath) and Fartullagh (Westmeath) are located to the immediate north-east and north-west respectively.

13.5.1 Place Name Analysis

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long forgotten site, and may indicate the possibility that the

remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830's and 1840's, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is *Irish Local Names Explained* by P.W Joyce (1870). A description and possible explanation of each townland name in the environs of the proposed route are provided in the below table.

These townland names largely refer to topographical features while Coolville and Corbetstown are more modern constructions.

Name	Derivation	Possible Meaning
Derryarkin	<i>Doire Ardcaein ?</i>	Beautiful high oak grove
Bunsallagh	<i>Bun Saileach</i>	The bottom of the willow grove
Derryiron	<i>Doire Iron</i>	Oak grove, iron oxide in the ground
Coolville	<i>Cuil or cul, Cor Ville - house</i>	Corner or back of a rounded hill (Coolcor) – Coolville is a 19th century subdivision of Coolcor townland created with the construction of Coolville House
Ballyburly	<i>Bhaile an Bhuirléigh</i>	Town of ...
Greenhills	-	Wooded area
Wood	-	Woods
Killowen	<i>Coill abhainn</i>	Woods by the river
Garr	<i>Garrdha or Garbh</i>	Garden or rough ground
Corbetstown	-	Corbet's town
Carrick	<i>Carraig</i>	Rock

13.5.2 Townlands

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. However, the term townland was not used to denote a unit of land until the Civil Survey of 1654. It bears no relation to the modern word 'town' but like the Irish word *baile* refers to a place. It is possible that the word is derived from the Old English *tun land* and meant 'the land forming an estate or manor' (Culleton 1999, 174). The proposed route passes through a total of five townlands.

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

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

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

The proposed wind farm is located within the northern limit of County Offaly and as such is bordered by Meath and Westmeath. The county boundary is formed by the Mongagh River. The wind farm is located within the Baronies of Lower Philipstown and Warrenstown. The boundary between these boundaries is partially formed by the Yellow River but the majority passes unmarked through bogland. The proposed wind farm is divided between three parishes of Croghan, Castlejordan and Ballyburly. The Yellow River forms part of the parish boundaries. The proposed haulage route crosses 11 townlands which are listed above.

13.5.3 Cultural Heritage Sites

The term 'cultural heritage' can be used as an over-arching term that can be applied to both archaeology and architectural. However, it also refers to more ephemeral aspects of the environment, which are often recorded in folk law or tradition or possibly date to a more recent period.

A mill race runs south from the Yellow River adjacent to proposed Turbines 8, 9 and 10 in Derryiron townland. This watercourse divides with one branch running south, annotated as 'canal supply' to meet the Grand Canal in Tober Daly townland. The eastern branch runs south-east to Coolcor townland – possibly supplying a mill associated with the church and monastery (RMP OF004-011). The canal supply is shown on Larkin's Map of 1809 and by the time of the first edition OS map (1840) the mill race is annotated. The mill race/canal supply has been designated as CH 1 for

the purpose of this assessment. The mill race will be crossed three times by the proposed haulage road.

The proposed wind farm is located within a landscape that is characterised by flat peatlands. The main economic industry of the area is turf cutting and the tracks of the Bord na Móna narrow gauge railway are still present in the vicinity. A branch of the trackway runs north-west to south-east to the east of Turbine 5 and 6 and to the west of Turbines 8, 9 and 10. This section of track is located in the townlands of Derryarkin, Derrygreenagh and Derryiron and crosses the Yellow River north-west of Turbine 8. Although a relatively modern addition to the landscape this track way is designated as a site of cultural heritage (CH 2) for the purpose of this assessment.

A concrete handball alley is present in Fahy townland fronting onto a local road, c. 1km south of the proposed landholding. The alley is not shown in the 1908–1910 OS maps therefore it was constructed after this. The alley has been designated as a site of cultural heritage (CH 3) for the purpose of this assessment.

13.5.4 Conclusions

A review of the townlands names within which the proposed development will be contained has revealed some common topographical terms, which were used to describe portions of the landscape. These gradually became anglicised and lost their original form, although it still is possible to investigate their original structure. Most of the townland names are descriptive of the environment and topography of the area and as such are likely to be of some age. A number of townland boundaries are located within proximity to the proposed turbines however none are directly impacted by the current layout. These comprise of rivers and small watercourses, field boundaries and unmarked arbitrary lines within peatland.

Three sites of cultural heritage, mill race (CH 1), narrow gauge railway tracks (CH 2) and a handball alley (CH 3), were identified during field inspection within proximity to the proposed development.

13.6 ASSESSMENT OF POTENTIAL IMPACTS

13.6.1 Construction Stage - Archaeology

- The proposed wind turbines will not directly impact any previously recorded archaeological remains in Derryarkin or Ballybeg peatbogs as these were largely removed following the IAWU Survey in 2002. No additional sites of archaeological potential were identified in during the field inspection within the peatland areas. However as wetland environments are ideal for preservation of archaeological remains the peatland and reclaimed peatland has been designated as an Area of Archaeological Potential (AAP 1). There may be a significant or profound impact on previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level in AAP 1. This will be caused by ground disturbances associated with the proposed development.
- The proposed haulage route passes to the immediate east of the moated enclosure and associated field system (RMP OF004-009) in Wood townland. There may be a significant or profound impact on archaeological features or deposits associated with this site. This would be caused by ground disturbances associated with widening of the haulage route.
- Two potential enclosures were identified in Wood townland (AAP 2 and AAP 3) within the immediate proximity of proposed Turbine 16 on the bank of the paleo-channel for the Yellow River. There may be a significant or profound impact on previously unrecorded archaeological features or deposits associated with AAP 2 and 3. This would be caused by ground disturbances associated with construction of Turbine 16 and haulage route.
- A possible burnt mound (AAP 4) was identified adjacent to proposed Turbine 17. Given the riverside location there may be a significant or profound impact on previously unrecorded archaeological feature or deposits that have the potential to survive beneath the current ground level which may be associated with burnt mounds. This would be caused by ground disturbances associated with construction of Turbine 17 and haulage route.

13.6.2 Construction Stage - Architecture

- The proposed haulage route passes in the immediate vicinity of BH 11 School and BH 18 cottage. Current design indicates that there will not be a direct negative impact on these structures. It is possible however that there may be an indirect negative impact on these structures caused during construction phase and use of the proposed haulage route associated with the proposed development.
- The proposed route leading east through Cooleville Demesne will have a moderate direct adverse impact on the demesne landscape. The road will run to the rear of the house and outbuildings and will have a minimal impact on the direct setting of the house and gardens.
- The proposed haulage route runs through a significant portion of the Greenhills Demesne; however a large percentage of this will use an existing road. As such there will be a moderate direct adverse impact on the demesne landscape. This will be caused by widening of the existing roadway.
- The proposed haulage route will run along the northern perimeter of Ballyburly Demesne. As the demesne has lost most of its original features and the area comprises of rough pasture the proposed development will have a slight direct adverse impact on the demesne landscape

13.6.3 Construction Stage - Cultural Heritage

- There will be a direct negative impact on mill race (CH 1) in Derryiron townland. This would be caused by construction and use of a haulage route associated with proposed Turbines 8, 9 and 10.
- There will be a direct negative impact on narrow gauge railway (CH 2) in Derrygreenagh and Derryarkin townlands. This would be caused by construction and use of a haulage route adjacent to proposed Turbine 7.

13.6.4 Operational Stage - Archaeology

- A moderate indirect adverse impact is predicted for the setting of moated site (RMP OF004-009). Three turbines are located within the immediate vicinity

of the medieval settlement which negatively impact on the visual setting of the site. The visual impact is relevant for 30 years and the life span of the wind farm. As such the visual impact is temporary.

- A slight indirect adverse impact is predicted for the settings of the following sites. Turbines are located within relative proximity and will be visible within the surrounding landscape. The relative remoteness of the monuments and views in other directions will remain intact. The turbines will not impinge upon public understanding of the monuments. The visual impact is relevant for 30 years and the life span of the wind farm. As such the visual impact is temporary.
 - Religious house, cross and building, OF004-011
 - Enclosure, OF004-008
 - Enclosure, OF004-003
 - Hilltop Enclosure, OF004-004

- An imperceptible indirect adverse impact is predicted for the settings of the following sites as the turbines are located at a sufficient distance that they will not dominate the monuments. The relative remoteness of the monuments and views in other directions will remain intact. The turbines will not impinge upon public understanding of the monuments. The visual impact is relevant for 30 years and the life span of the wind farm. As such the visual impact is temporary.
 - Enclosures, OF003-003 and OF003-004
 - Bullaun Stone, OF004-022
 - Earthworks, OF004-007 and OF004-005
 - Castle/ motte, OF004-006
 - Castles, OF004-012
 - Church, wall and ecclesiastical enclosure, OF004-013

- Standing Stone, OF011-002
- Mound, OF011-003
- Ring barrows, OF011-055 and OF 011-001
- Wayside cross, OF011-056
- Burial Ground, OF004-002
- *Fulachtaí Fiadh*, OF004-017–021
- Church, ME046-012
- Motte and Bailey, Tower House, ME052-002001
- No impact on the settings of wetland sites (RMP OF003-002, 010–054 and WM034-018–021) as these have largely been excavated or removed through milling of peatland.
- No impact on the settings of redundant records (RMP OF004-023–025 and OF004-001) is anticipated as they are no longer deemed to be of archaeological significance.

13.6.5 Operational Stage - Architecture

- A slight indirect adverse impact on the settings of the following structures is predicted as they are located within the immediate receiving environment of the proposed wind farm. The turbines are located within proximity and will be visible to the north-east and north-west of the structures. However, views in other directions will remain intact. The turbines will not impinge upon public understanding of the structures or affect their immediate landscape context. The visual impact is relevant for 30 years and the life span of the wind farm. As such the visual impact is temporary.
 - Cooleville House, NIAH 14911012/ RPS 16-13
 - House, NIAH 14904016/ RPS 07-07
 - Greenhills Stables, NIAH 1494008/ RPS 07-03

- An imperceptible indirect adverse impact on the settings of the following structures is predicted as they are located within the wider receiving environment of the proposed wind farm. The turbines are located at a sufficient distance that they will not dominate the setting of the structures. Views in other directions will remain intact. The turbines will not impinge upon public understanding of the structures or affect their immediate landscape context. The visual impact is relevant for 30 years and the life span of the wind farm. As such the visual impact is temporary.
 - Outbuildings, NIAH 14904007
 - House, NIAH 14803004/ RPS 16-03
 - Windmill, NIAH 14911014/ RPS 16-14
 - Post-boxes, NIAH 14911024/RPS 16-20, NIAH 14904011/RPS 07-04
 - House, gate lodge, NIAH 14803001-3/ RPS 16-01,02
 - Buildings in Rhode, NIAH 14803005-11/ RPS 16-04–8
 - Bridges, NIAH 14904005 and NIAH14904001/ RPS 07-01
 - Houses, NIAH 14904010, 14904003 and 14803008
 - Water pumps, NIAH 14904002, 14904012
 - Cottages, school and farmyards, BH 1–22

13.6.6 Operational Stage - Cultural Heritage

- There is no anticipated impact to the cultural heritage resource during the operational phase of the proposed development.

13.7 RECOMMENDATIONS AND MITIGATION MEASURES

13.7.1 *Construction Phase - Archaeology*

- It is recommended that all ground disturbances, such as topsoil stripping or site investigations, associated with the proposed development in existing peatland or greenfield areas (including AAP 1) be monitored by a suitably qualified archaeologist. This includes the three crossings of the now canalised Yellow River. Full provision should be made for the resolution of any archaeological features/deposits that may be discovered, should that be deemed the appropriate way to proceed.
- Any impact on Recorded Monument (OF004-009) by the proposed development should be avoided. Should the access track require widening to function as a haulage route it is recommended that widening occur on the western side of the road. If widening on the eastern side is unavoidable, it is recommended that archaeological testing be undertaken within the zone of archaeological potential for the RMP site. Testing should be carried out prior to any ground disturbance to assess the impact on any features associated with the moated site and field system. This work should be undertaken by a licence eligible archaeological in consultation with the National Monuments Service of the DoAHG. Full provision should be made for the resolution of any archaeological features/deposits that may be discovered, should that be deemed the appropriate way to proceed.
- It is recommended that a program of archaeological testing be carried out within the footprint of the proposed development (Turbine 16 and 17 and haulage route) in the two fields containing potential enclosures (AAP 2 and AAP 3) and possible burnt mound (AAP 4) in Wood townland. This work should be undertaken by a licence eligible archaeological in consultation with the National Monuments Service of the DoAHG. Full provision should be made for the resolution of any archaeological features/deposits that may be discovered, should that be deemed the appropriate way to proceed.

13.7.2 Construction Phase - Architecture

- It is recommended that any impact on the built heritage resource, especially Garr school (BH 11) and vernacular cottage (BH 18), be avoided during the construction phase of the proposed development.
- It is recommended that a full written and photographic record of the setting of Coolville Demesne and House be undertaken prior to any construction works being undertaken. This should pay particular attention to the western boundary which will be partially removed to allow access to the haulage route.
- It is recommended that a full written and photographic record of the setting of Greenhills Demesne be undertaken prior to any construction works being undertaken. This should pay particular attention to the southern boundary and access avenue along which the haulage route will run.
- It is recommended that a full written and photographic record of the setting of Ballyburly Demesne be undertaken prior to any construction works being undertaken. This should be undertaken in conjunction with the record of Greenhills Demesne which abuts the northern limit of this estate.

13.7.3 Construction Phase - Cultural Heritage

- It is recommended that any impact on mill race (CH 1) and narrow gauge railway (CH 2) be avoided during the construction phase of the proposed development. Should this not be possible it is recommended that any ground disturbance be monitored and recorded by a qualified archaeologist.

13.7.4 Operational Phase - Archaeology

- The predicted indirect moderate impact upon the landscape setting of moated site OF004-009 cannot be adequately addressed with mitigation measures. Measures such as screening of the site are not appropriate as it would have a greater impact on the landscape setting of the site when compared to the nature of the slight temporary visual impact of the proposed wind farm.

- The predicted indirect slight impacts upon the landscape setting of monuments OF004-011, OF004-008, OF004-003 and OF004-004 cannot be mitigated. Screening each site is not appropriate as it would have a greater impact on the landscape setting of the sites when compared to the minor nature of the temporary visual impact of the proposed wind farm.
- The predicted indirect imperceptible impacts upon the landscape setting of monuments OF003-003, OF003-004, OF004-022, OF004-007, OF004-005, OF004-006, OF004-012, OF004-013, OF011-002, OF011-003, OF011-055, OF 011-001, OF011-056, OF004-002, OF004-017–021, ME046-012, ME052-002001 cannot be adequately addressed with mitigation measures. Screening each site is not appropriate as it would have a greater impact on the landscape setting of the sites when compared to the minor nature of the temporary visual impact of the proposed wind farm.

13.7.5 Operational Phase - Architecture

- The predicted slight adverse impact upon the setting of Cooleville House (NIAH 14911012/ RPS 16-13), House (NIAH 14904016/ RPS 07-07) and Greenhills Stables (NIAH 1494008/ RPS 07-03) could be mitigated against with screening. However, erecting screening around these structures would impact on the immediate setting of the structures, and be out of context with their landscape setting. This would result in a greater impact on the setting than the temporary indirect impact of the proposed wind farm.
- The predicted indirect imperceptible impacts on the landscape setting of the following structures cannot be mitigated. Screening each site is not appropriate as it would have a greater impact on the landscape setting of the structures when compared to the minor nature of the temporary visual impact of the proposed wind farm.
 - Outbuildings, NIAH 14904007
 - House, NIAH 14803004/ RPS 16-03
 - Windmill, NIAH 14911014/ RPS 16-14
 - Post-boxes, NIAH 14911024/RPS 16-20, NIAH 14904011/RPS 07-04

- House, gate lodge, NIAH 14803001-3/ RPS 16-01,02
- Buildings in Rhode, NIAH 14803005-11/ RPS 16-04–8
- Bridges, NIAH 14904005 and NIAH14904001/ RPS 07-01
- Houses, NIAH 14904010, 14904003 and 14803008
- Water pumps, NIAH 14904002, 14904012
- Cottages, school and farmyards, BH 1–22

13.7.6 Operational Phase - Cultural Heritage

- None required.

13.7.7 Monitoring

Due to the nature of the proposed development (i.e. the narrow corridor of required land and small footprint of the turbines) along with the relatively low potential for discovery of archaeological remains within the lands to be made available, it is appropriate that a recommendation of archaeological testing be made (in those specified areas) to be undertaken as a condition of planning. Should archaeological material be discovered in the areas of archaeological potential, any impact is predicted to be minimal (due to footprint size) and as such it would be possible to provide further mitigation (in discussion with the Department of Arts, Heritage and the Gaeltacht).

13.7.8 Residual Impacts

There will be no residual adverse impacts upon the archaeological and architectural resource due to the construction of the proposed wind farm.

As there is little in the way of mitigation measures that can be utilised, the residual magnitude of the impacts on the settings of the sites and structures will not change.

Please note that all recommendations are subject to approval by the National Monument Section of the Heritage and Planning Division, Department of Arts, Heritage and the Gaeltacht.

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