

TOBIN

BUILT ON KNOWLEDGE

Bord na Móna

Derryadd, Derryaroge and Lough Bannow Bogs –
Application for Substitute Consent

Remedial Environmental Impact Assessment Report

Chapter 13 – Cultural Heritage

March 2025



TOBIN

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13.0 CULTURAL HERITAGE

13.1 INTRODUCTION

The cultural heritage chapter was prepared by Through Time Ltd. It presents the results of a cultural heritage impact assessment of the historical peat extraction and ancillary works at Derryaroge, Derryadd and Lough Bannow bogs (hereafter the 'Application Site') carried out by Bord na Móna. Section 4.21.5 of Chapter 1 (Introduction) provides a description of the Application Site.

The assessments in this chapter will determine the significant effects that have occurred (or are likely to occur) on the archaeological, architectural and cultural heritage environment during three differing timeframes termed 'phases' (as described in Chapter 4):

- 'Peat Extraction Phase': peat extraction activities and all ancillary activities at the Application Site from 1988 to the cessation of peat extraction in July of 2019 (July 1988 – July 2019). The Peat Extraction Phase is described in detail in Chapter 4 Section 4.7.
- 'Current Phase': the management of the Application Site since July 2019 (July 2019 to present). The Current Phase is described in detail in Chapter 4 Section 4.8.
- 'Remedial Phase': the activities intended to be carried out at the Application Site into the future. The Remedial Phase is described in detail in Chapter 4 Section 4.9.

13.1.1 Statement of Authority

The cultural heritage chapter was prepared by Through Time Ltd. an archaeological consultancy company that has traded for almost thirty years. Based in Athenry, County Galway, the company is directed by licensed archaeologists Martin Fitzpatrick M.A. and Fiona Rooney B.A., members of Institute of Archaeologists of Ireland (IAI). Both have been involved in all stages of development projects from initial design, compilation of EIAs, archaeological monitoring and resolution during construction. The archaeological field survey was undertaken by Fiona Rooney and Ronan Jones, B.A. Ronan Jones is an experienced wetland archaeologist who previously worked on the archaeological excavations within the proposed wind farm site. Maria Fitzpatrick B.A. MIAI is a research assistant working over the last 2 years compiling the baseline information for cultural heritage impact assessment reports. This report has been compiled by both Fiona Rooney and Martin Fitzpatrick. Both have an in-depth knowledge of the planning systems and heritage legislation, specializing in the preparation of cultural heritage chapters for EIAR of large-scale developments and schemes, along with of expert witness services at Oral Hearing. They are competent experts for the purposes of the preparation of this EIAR.

13.1.2 Limitations

Drainage works for peat extraction commenced at the Application Site in 1949 in Derryaroge Bog. The retrospective impact assessment has been carried out based on the reasonable availability of information relating to the peat extraction operations and the environment. In addition to references within this rEIAR, the assessment have been limited by the following:

- While every effort has been made to source historical baseline environmental data within the timeframe of the Substitute Consent process, this rEIAR has been limited by the availability, completeness, accuracy, age and accessibility of data.

13.1.3 Location

The Application Site is located approximately 1 km east of Lanesborough in County Longford and comprises an area of approximately 2,244ha. The Application Site is made up of three distinct bog units, Derryadd Bog, Derryaroge Bog and Lough Bannow Bog. The current main access points to the Application Site are located off the N63, which provides access to Derryaroge and Derryadd bogs, and via the R398 which provides access to Derryadd and Lough Bannow bogs. The landcover and uses surrounding the Application Site comprises a mixture of forestry, agricultural land, cutover and cutaway peatland, one-off rural housing and small rural settlements. Cutaway peatlands are those areas where all commercially viable volumes of peat have been extracted. Cutover peatlands are those areas where peat extraction has occurred, and commercially viable peat volumes remain. Lough Ree SAC and pNHA [IE0000440], Lough Ree SPA [IE0004064], Lough Bawn pNHA [0001819], Royal Canal pNHA [0002103], and Lough Bannow pNHA [0000449] are all located within 2km from the Application Site.

13.1.4 Legislation

13.1.4.1 Current Legislation

Archaeological monuments are protected through national and international policy designed to secure the protection of the cultural heritage resource. This is facilitated in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention), which was ratified by Ireland in 1997. The National Monuments Acts 1930 to 2014 and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes.

The *Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023* ("the Act") was enacted on 13th October 2023 however the act has not entered into force. Pending the commencement of the provisions of the Act which will repeal *the National Monuments Acts 1930 to 2014* and related legislation, those Acts and related legislation remain fully in force as they stood on 13th October 2023.

A National Monument is described as:

"a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto" (National Monuments Act 1930 Section 2).

A number of mechanisms under the National Monuments Acts are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites. The minister of the Department of Housing, Local Government and Heritage (DHLGH) may acquire National Monuments by agreement or by compulsory order. The State or the Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments may also appoint the Minister or the Local Authority as guardians of that monument, if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.

Section 5 of the National Monuments (Amendment) Act 1987 requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas

present on the Register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the Register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a Registered Monument. The Register also includes sites under preservation orders and temporary preservation orders with the written consent, and at the discretion of the Minister.

Section 12(1) of the National Monuments (Amendment) Act 1994 requires the Minister to establish and maintain a Record of Monuments and Places where the Minister believes that such monuments exist. The Record comprises a list of monuments and relevant places and a map showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994. Section 12(3) of the National Monuments (Amendment) Act 1994 provides that:

"Where the owner or occupier (other than the Minister) of a monument or place included in the Record, or any other person, proposed to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice to the Minister to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the works until two months after the giving of notice".

13.1.4.2 Relevant Legislation

The study was informed by relevant legislation, guidelines, policy, and advice notes, as listed below.

- Turf Development Acts 1946-1998
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999;
- Code of Practice for Archaeology agreed between the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs and Transport Infrastructure Ireland, 2017;
- Council of Europe (1985). Convention for the Protection of the Architectural Heritage of Europe (ratified by Ireland 1997), 'Granada Convention';
- Council of Europe (1992). European Convention on the Protection of the Archaeological Heritage (ratified by Ireland 1992), 'Valetta Convention';
- Council of Europe (2005). Framework Convention on the Value of Cultural Heritage for Society, 'Faro Convention';
- Department of Arts, Heritage, Gaeltacht and the Islands (DAHGI) (1999). Framework and Principles for the Protection of the Archaeological Heritage;
- Environmental Protection Agency (EPA) (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports, May 2022;
- Heritage Act, 1995 (as amended);
- ICOMOS (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage
- National Monuments Act, 1930 to 2014;
- The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023;
- National Roads Authority (NRA) (2005). Guidelines for the Assessment of Archaeological Heritage;
- Planning and Development Act 2000 (as amended);
- The Heritage Council (2013). Historic Landscape Characterisation in Ireland: Best Practice
- The UNESCO World Heritage Convention, 1972.

Turf Development Acts 1998

The Turf Development Act 1998 (Section 56) introduced provisions to ensure that: *“The Company and each subsidiary shall ensure that its activities are so conducted as to afford appropriate protection for the environment and the archaeological heritage.”* The introduction of the 1998 Act was concurrent with the development of an Agreed Set of Principles between the Minister, the NMI and BnM. The same year saw the beginning of BnM archaeological mitigation. Prior to this BnM had facilitated state-funded survey of BnM peatlands and had a long-term history of co-operation with the NMI in relation to objects and structures discovered in BnM bogs. Other legislation applicable to BNM activities apart from peat extraction that may have an archaeological impact include the Environmental Impact Assessment (EIA) Directive (85/337/EEC, amended 2003) and the Strategic Environmental Assessment (SEA) Directive (2001/42/EC).

Agreed Principles for the Protection of Wetlands Archaeology in Bord na Móna Bogs (1998)

Ten principles which provided the framework within which the archaeology of BNM peatlands was managed were agreed between the Minister and BNM in 1998. The principles recognized the separate legislative responsibilities of the Minister, the NMI and BNM and established a basis for communication and co-operation between the Minister, the NMI and BNM with regard to archaeological issues arising as a result of peat extraction.

Code of Practice (2012)

In 2012, a specific Code of Practice was agreed between the DAHG (now DHLGH), the NMI and BnM to provide a framework within existing legislation, policy and practice that enabled Bord na Móna to progress with its programme of peat extraction within the framework of Government strategy, whilst carrying out archaeological mitigation having regard to a set of principles and actions agreed by all parties¹. Legislative frameworks are reiterated and include reference to the Valletta Convention (The Convention on the Protection of the Archaeological Heritage (Revised), 1992). The Code draws from *Agreed Principles for the Protection of Wetlands Archaeology in Bord na Móna Bogs* and refers exclusively to the extraction of peat from peatlands where this extraction lies outside the scope of the Planning and Development Acts. This application is within the Planning and Development Acts however the details of code of practice are included here to highlight how archaeology and cultural heritage forms part of the current working environment.

The Code is guided by the following agreed principles:

1. The Minister for Arts, Heritage and the Gaeltacht has a responsibility to protect the archaeological heritage and to exercise powers of preservation, under the National Monuments Acts 1930-2004, taking account of the European Convention on the Protection of the Archaeological Heritage (Valletta).
2. The Minister’s statutory responsibilities include the maintenance of the Record of Monuments and Places, with the aim of providing protection to all known archaeological monuments including those uncovered in Bord na Móna bogs.
3. The Director of the National Museum of Ireland has a responsibility to enforce state ownership of all archaeological objects and to safeguard the treatment

¹ <https://www.archaeology.ie/sites/default/files/media/publications/cop-bord-na-mona-en.pdf>

of all archaeological objects before their accession into the State's repository, under National Monuments Acts 1930-2004 and the National Cultural Institutions Act 1997, taking account of the European Convention on the Protection of the Archaeological Heritage (Valletta).

Consultations

Several bodies were consulted as part of the assessment and included:

- The National Monuments Service, Department of Housing, Local Government and Heritage (DHLGH.) were contacted by Tobin's and a response was received, however this related to the proposed windfarm development.
- The Bord na Móna consultant archaeologist, Dr. Charles Mount.

13.1.4.3 Granada Convention

The Council of Europe, in Article 2 of the 1985 Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), states that *'for the purpose of precise identification of the monuments, groups of structures and sites to be protected, each member State will undertake to maintain inventories of that architectural heritage'*. The Granada Convention emphasises the importance of inventories in underpinning conservation policies.

The National Inventory of Architectural Heritage ("NIAH") as established in 1990 to fulfil Ireland's obligations under the Granada Convention, through the maintenance of a central record, documenting and evaluating the architectural heritage of Ireland. Article 1 of the Granada Convention establishes the parameters of this work by defining 'architectural heritage' under three broad categories of Monument, Groups of Buildings, and Sites:

- Monument: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings;
- Group of buildings: homogeneous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units;
- Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable, and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.

13.1.4.4 County Development Plans

The Planning and Development Act of 2000 (amendment 2023) requires Local Authorities to establish a Record of Protected Structures to be included in the County Development Plan ("CDP"). Buildings recorded in the RPS can include Recorded Monuments, structures listed in the NIAH or buildings deemed to of architectural, archaeological or artistic importance by the Minister. Damage to or demolition of a site registered in the RPS is an offence. The detail of the list varies from County to County. If the Local Authority considers a building to need a repair, it can order conservation and/or restoration works.

Fieldwork for the National Inventory of Architectural Heritage ("NIAH") for County Longford was undertaken in 2006. Where an NIAH survey has been carried out, those structures which have been attributed a rating value of international, national or regional importance in the inventory are recommended by the Minister of Housing, Local Government and Heritage (HLGH) to the relevant planning authority for inclusion on the RPS. In accordance with Section 53 of the Planning and Development Act 2000, if a planning authority, after considering a

recommendation made to it under this section, decides not to comply with the recommendation, it shall inform the Minister in writing of the reason for its decision.

Longford County Development Plan 1990, 2003-2009, 2021-2027

Longford County Council has written policies on the preservation of archaeological, architectural and cultural heritage remains in relation to permitted development in the Longford County Development Plan 1990, 2003-2009, 2021-2027 ("the CDP"). The principal aim is to conserve, protect and enhance Longford's archaeological and cultural heritage. These policies relate to archaeological features and objects, built structures, views and scenic routes.

Longford County Heritage Plan 2004-2009, 2019-2024

The Longford County Heritage Plan has written policies on the conservation and management of heritage. A subsequent strategic plan for the protection and enhancement of the heritage of County Longford was prepared by the County Longford Heritage Forum (2020). The aim is to 'protect, enhance and promote the rich tapestry of Count Longford's Heritage for the benefit of all and to safeguard it for future generations.

13.1.5 Project Description

This chapter reports the findings of an assessment of any likely significant effects on Cultural Heritage which may have occurred or are occurring as a result of peat extraction and ancillary activities at the Application Site during the Project phases since 1988. The three differing timeframes termed 'phases' (as described in Chapter 4):

- 'Peat Extraction Phase': peat extraction activities and all ancillary activities at the Application Site from July 1988 to the cessation of peat extraction in the 'Current Phase': the management of the Application Site since July 2019 (July 2019 to present). The Current Phase is described in detail in Section 4.8.
- 'Remedial Phase': the activities intended to be carried out at the Application Site into the future. The Remedial Phase is described in detail in Section 4.9.

Peat extraction and all ancillary works undertaken at the Application Site, which comprise the Project for which Substitute Consent is being sought and for which this rEIAR is prepared, consists of the following:

- Installation of surface water drainage infrastructure at Mountdillion Bog Group, specifically at Derryadd, Derryaroge and Lough Bannow Bogs to facilitate peat extraction activities from 1988 to present day;
- Vegetation clearance to facilitate peat extraction activity from 1988 to July 2019;
- Industrial scale peat extraction (milled peat);
- Use and maintenance of pre-existing ancillary supporting infrastructure and services to facilitate peat extraction (e.g., railway infrastructure, fixed fuel tanks, drainage (drains, silt ponds, pumps), machine passes etc.), from 1988 to July 2019;
- Control Measures associated with the above, inclusive of the IPC Licence measures (Ref. P0504-01) which commenced from 2000 onwards to the present day; and,
- All associated site development and ancillary works.

13.2 METHODOLOGY

This assessment methodology has involved the following elements, further details of which are provided in the following sections:

- Desk study, including review of cartographic sources, including historic mapping, aerial photography, baseline records and published information;
- Evaluation of likely significant effects and
- Control measures implemented to avoid and mitigate the effects.

The methodology used in this assessment is based on the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports² (2022) on Cultural Heritage, including folklore/tradition, architecture/settlements and monuments/features, following a baseline study of the existing cultural heritage features in the area of the Application Site, as well as per the Institute of Archaeologists (IAI) Good Practice Guidelines³(IAI,2006).

13.2.1 Desk Based Assessment

This is a desk-based archaeological assessment that includes a collation of the following archaeological, historical and cartographic sources:

- Record of Monuments and Places (“RMP”) for County Longford;
- Sites and Monuments Record (“SMR”) for County Longford;
- The Archaeological Inventory for County Longford;
- Topographical files of the National Museum of Ireland;
- Longford County Development Plan 1990, 1997, 2003-2009, 2004-2010, 2009-2015, 2015-2021, 2019-2027;
- County Longford Heritage Plan 2004-2009, 2019-2024;
- National Inventory of Architectural Heritage;
- Co. Longford Industrial Heritage Survey;
- Cartographic sources;
- Aerial photography;
- Excavation bulletins;
- Previous Archaeological Impact Assessment Reports;
- Townland names;
- And The schools collection.

13.2.1.1 Record of Monuments & Places, Sites and Monuments Record and National Monuments

The Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Service of the Department of Housing, Local Government and Heritage (DHLGH) with accompanying RMP maps, based on the first and second editions of the OSi 6” Sheets, which indicate the location of each recorded site. The list is based on the Sites and Monuments Record (SMR) files which are kept in the National Monuments Service and are updated on a regular basis. The Sites and Monuments Records (SMR) are lists with accompanying maps and files of all known archaeological sites and monuments mainly dating to before 1700. These lists were initially compiled from cartographic, documentary and aerial photographic sources.

The “zone of notification” (highlighted on the map in a light pink-coloured wash delimited by a thin black line) does not define the exact extent of the monuments but rather are intended to

²https://www.epa.ie/publications/monitoringassessment/assessment/EIAR_Guidelines_2022_Web.pdf

³<http://www.iai.ie/wp-content/uploads/2016/03/IAI-Code-of-Conduct-for-Archaeological-Assessment-Excavation.pdf>

identify them for the purposes of notification under Section 12 of the National Monuments Act (1930-2014).

13.2.1.2 Topographical Files – National Museum of Ireland

This is the archive of all known finds recorded by the National Museum. The archive primarily relates to artefacts but also includes references to monuments and previous excavations. The find spots of artefacts are important contributors to the knowledge of the archaeological landscape. Location information relating to finds is an important indicator of human activity. Topographical files examined for the townlands within the area of the Application Site, revealed numerous finds recovered from the area (Appendix 13.2).

13.2.1.3 Cartographic Sources and Aerial Photography

Consultation of the Ordnance Survey Maps from 1838 to the present day, Lewis map 1837 and Taylor and Skinner maps facilitated a further assessment of the archaeological and architectural heritage.

The Ordnance Survey of Ireland (OSi) aerial photographs (www.tailteoireann.ie) were consulted to identify any archaeological features in the landscape which may not have been previously recorded.

13.2.1.4 Longford County Development Plan and County Longford Heritage Plan

The Longford County Development Plans (1990, 1997, 2003-2009, 2004-2010, 2009-2015, 2015-2021, 2019-2027) and the County Longford Heritage Plan (2004-2009, 2019-2024) were consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest within the area of the Application Site.

13.2.1.5 National Monuments in State Care

The Department of Environment, Heritage and Local Government maintains a database on a county basis of National Monuments in State Care. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as a monument or the remains of a monument:

“The preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto”.

13.2.1.6 National Inventory of Architectural Heritage (NIAH)

The NIAH maintains a non-statutory register of buildings and structures and historic gardens and designed landscapes recorded on a county basis.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for Housing, Local Government and Heritage to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS). The published surveys are a source of information on the selected structures for relevant planning authorities. They are also a research and educational resource. It is hoped that the work of the NIAH will increase public awareness and appreciation of Ireland's architectural heritage.

13.2.1.7 Excavation Bulletins

The 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 2013 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 (<https://excavations.ie/>) from 1970 to 2025.

13.2.1.8 Longford Industrial Heritage Survey (2008)

The Longford Industrial Heritage Survey (LIHS) was compiled in 2008 and contains an inventory of some 701 features. Industrial Archaeology is a 'period study embracing the tangible evidence of social, economic and technological development in the period since industrialisation' (Palmer 1990, 281). The LIHS incorporates the 'place of work' in the inventory and of particular interest is the Bord na Mona infrastructure dating to the mid-late 20th century. Some of these features have been included in the NIAH inventory.

13.2.1.9 School Collection

The Schools Collection forms part of the National Folklore Collection, created in the late 1930s it is comprised of folklore and local traditions compiled by school children throughout Ireland. Documents relating to the area of the development were examined in the schools of Lanesborough, Cloontagh, Killashee and Keenagh, relating to details of community, placenames and folklore. The meaning of placenames has been included in Section 13.3.9.

13.2.2 Assessment of Significant Effects on Cultural Heritage

The effects of the Project can be assessed based on the detailed information of the Project, the nature of the area affected, and the range of resources potentially affected. The terminology used to describe the effects is from the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports EPA (May, 2022).

Developments can potentially affect the architectural, archaeological and cultural heritage landscape in a number of ways, as follows. The quality of the effects can be described as follows:

- **Positive Effects:** Positive effects from development includes an increase in the level and understanding of an archaeological or historical landscape as a result of archaeological assessments and subsequent fieldwork.
- **Neutral Effects:** Examples of no effect or effects that are imperceptible, include recorded monuments that are listed however no surface trace survives due to clearance and/or excavation.
- **Negative/adverse Effects:** Cultural heritage can be adversely affected both directly and indirectly.

13.2.2.1 Types of Effect

Direct Effects

- Permanent and temporary land-take, landscaping, mounding and general excavations associated with development may result in the loss or damage of archaeological remains or physical loss to the setting of historic landscapes and to the physical coherence of the landscape.
- Excavation work can alter the hydrological system resulting in changes to groundwater levels. This may have an adverse effect on archaeological sites and features.
- Landscaping associated with developments can damage or destroy sub-surface archaeological features. Root action of trees for example can have an adverse effect on archaeological layers.
- The weight of permanent embankments can cause damage to sub-surface archaeological layers and features.

Indirect effects

- Visual effects on the archaeological, architectural and cultural heritage landscape, outside the footprint of the development. The construction of structures, landscaping, mounding and planting as well as boundary fences, perimeter walls and associated works can impinge on historic and archaeological landscape as well as their visual amenity value.

Cumulative effects arise when the addition of many effects, including the effects of other projects, create larger, more significant effects.

Residual effects are the degree of environmental change that will occur after the proposed mitigation measures have taken effect.

13.2.2.2 Magnitude of Effects (Significance)

- Profound: Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological site is completely and irreversibly destroyed.
- Very Significant: An effect which by its character, magnitude, duration or intensity significantly alters most of the sensitive aspect of the environment.
- Significant: An effect which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. An effect like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about an archaeological site.
- Moderate: A moderate effect arises where a change to an archaeological site is proposed which though noticeable, is not such that the integrity of the site is compromised, and which is reversible. This arises where an archaeological site can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.
- Slight: An effect which causes changes in the character of the environment which are not high or very high and do not directly impact or affect an archaeological site.
- Not Significant: An effect which causes noticeable changes in the character of the environment but without significant consequences.
- Imperceptible: An effect on an archaeological site capable of measurement but without noticeable consequences.

13.2.2.3 Level of Effects

The level of effect on an archaeological, historical or architectural landscape depends on a number of factors which include the existing environment and the type of monument affected. The level or severity of effect was assessed by taking the following into consideration:

- The proportion of the feature effected and the potential loss of characteristics essential to the understanding of the monument, feature or site.
- Consideration of the type, condition, vulnerability and potential amenity value of the landscape, feature, site or monument affected.
- Consideration of the likely effects of visual, noise and hydrological alterations which were informed by other specialist reports or observations.

13.2.2.4 Methodology for the Assessment of Effects on Visual Setting (Indirect Effects)

A standardised approach is utilised for the assessment of effects of visual setting (indirect effects) according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. This assessment takes into consideration peat extraction activities and all ancillary works within the Application Site, which would not have had an effect on the visual setting of monuments. Only direct effects were likely and therefore considered in the assessment. Since peat extraction activities (clearance of vegetation, drainage, peat extraction activities and all ancillary works) were confined to the surface of the peat and sub-surface, this activity type is not considered to be capable of having wider landscape negative effects on setting on cultural heritage (i.e. indirect effects).

13.3 ESTABLISHING THE 1988 BASELINE

As described in Chapter 1 and Section 4.1, the application for Substitute Consent, and therefore this rEIAR, covers the period from July 1988, the timeframe for when the EIA Directive was required to be transposed into Irish Law, to present day. As such, the baseline against which the environmental effects of the development required to be assessed has therefore been identified as being the position as of July 1988 (being the earlier of the transposition dates of the relevant Directives). The activities carried out as of July 1988, combined with the activities from July 1988 onwards, form the Project.

By 1988, the land use at the Application Site was well established as industrial peat extraction. All bogs were fully drained and milled peat extraction was the only form of peat extraction taking place across the Application Site in 1988. The main entrance points to the Application Site were located at the Mountdillon Works off the N63 in the north of Derryadd bog, in the south of Derryaroge bog on the N63, north of Lough Bannow on the R392. Mountdillon Works, which comprised a peat processing plant, canteen, storage sheds and maintenance buildings is still in situ at present day. The following ancillary infrastructure was established at the site by July 1988:

- Railway infrastructure (all bogs within the Application Site);
- Internal machine passes/tracks (all bogs within the Application Site);
- Silt ponds and drains (all bogs within the Application Site); and
- Pumping stations (all bogs within the Application Site).

13.3.1 Derryaroge Bog

13.3.1.1 1988 Baseline

In 1988 milled peat extraction was continuing in northern and western sections of Derryaroge Bog. As previously discussed, Derryaroge Bog was the only bog unit within the Application Site which was subject to sod peat extraction. Sod peat extraction ceased in 1984, and works to convert the drainage infrastructure from sod peat drainage (as described in Section 4.4.3.1) to milled peat drainage (as described in Section 4.4.3.2) commenced. It is not clear from records or aerial imagery when milled peat extraction commenced in the former sod peat extraction areas of Derryaroge, but aerial imagery indicates that by 1995, milled peat drainage had replaced sod peat drainage in Derryaroge, with milled peat extraction underway by that time.

For the purposes of this rEIAR, it is assumed that areas of sod peat drainage in Derryaroge Bog had been fully converted to milled peat drainage, with milled peat extraction underway in those areas by 1988.

13.3.1.2 Current Environment

By 2004, only the northern and western side of Derryaroge remained subject to peat extraction. At the point of the cessation of peat extraction 2019, only a part of the southern extent of the bog was subject to peat extraction. By the end of the Peat Extraction Phase in 2019, 12 no. pumps (with 4 no. decommissioned), 9 no. silt ponds and 10 no. surface water emission points were in place, all of which remain in situ today.

13.3.2 Derryadd Bog

13.3.2.1 1988 Baseline

Drainage was fully inserted in Derryadd Bog by 1988, with the full extent of the drained area subject to milled peat extraction. There are 6 no. pumps located in Derryadd Bog; at least 3 no. of which were installed and operational pre- 1988, with the installation of the remaining 3 no. pumps unknown. There are 5 no. silt ponds, 2 no. of which were installed pre-1988, with the remaining 3 no. installed between 1988 and 1995. There are 5 no. surface water emission points, all of which were in place pre-1988.

13.3.2.2 Current Environment

Existing Bord na Móna rail infrastructure connects Derryadd Bog to both Derryaroge Bog to the north and Lough Bannow Bog to the south. Derryadd Bog contains six surface water drainage pumps, which are currently in use to prevent the bog from flooding.

13.3.3 Lough Bannow Bog

13.3.3.1 1988 Baseline

Drainage was fully inserted in Lough Bannow bog by 1988, with the full extent of the drained area subject to milled peat extraction. By 1995, peat extraction had ceased on the western side of the bog, and by 2004, extraction had also ceased on the eastern side of the bog. The areas subject to peat extraction gradually reduced in Lough Bannow bog between 2004 and 2019, and at the point of the cessation of peat extraction in 2019, only areas on the northeastern southern boundaries were subject to peat extraction.

13.3.3.2 Current Environment

A rail line traverses the southern part of Lough Bannow bog in an east-west direction. Lough Bannow Bog contains three existing surface water pumps, which are currently in use to prevent the bog from flooding.

13.3.4 Archaeological Heritage and Historical Background of the Application Site

Peatlands cover one-sixth of the total landmass of Ireland extending over an approximate area of 1.34 million hectares. They can be divided into two major types, raised bogs and blanket bogs, although both appear similar in character the mode of formation differs greatly. The vast majority of Ireland's raised bogs occur in the central lowlands of the country unlike blanket bogs that are predominately confined to mountainous areas and some occasional lowland areas along the western seaboard. The peatlands of County Longford form part of a regional pattern of bogs in the north midlands flanking the eastern and western sides of the Shannon. It is a landscape of rolling hills around which extensive tracts of bog developed over the last 10,000 years.

The anaerobic environment of bogs and wetlands helps create unique circumstances for the preservation of remains and have long been known for their rich abundance of archaeological deposits, which can range from the prehistoric to the 17th century. Perishable archaeological remains such as wood, leather, fabric and butter survive and have been recorded in the archive of the topographical files of the National Museum of Ireland. The earliest trackways recorded date from the beginning of the Neolithic period, around 3500 BC, when farming commenced. Dates have also been recorded from the Bronze Age through to the early historic period (AD500-1100). In County Longford these remains include a number of remarkable wooden

trackways dating from the Iron Age, the most famous of which is the Corlea Trackway located to the south of the Application Site. The trackway may have formed part of the Slighe Assail, one of the five major early routeways of Ireland, although according to Doran the numerous toghers gave access within the bog itself (Doran, 2004). The Slighe Assail connected the east with the early ritual site of Cruachain or Rathcroaghan, beginning either from Dublin or Tara and crossing the Shannon at Athlone and on to Ballyleague/Lanesborough, on to Tulsk and Rathcroghan.

A variety of site types were constructed in bogs, according to the needs of the communities that built them. These include platforms for a range of activities, rows of posts, trackways and other wooden structures. Trackways (toghers) or short stretches of trackways (tertiary and secondary toghers) were constructed to traverse the peat 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 bogs (O' Carroll, 2001). A number of trackways, wooden platforms, occupation features artefacts and miscellaneous wooden structures have been uncovered in the Derryaroge, Derryadd and Lough Bannow bogs (IAWU, 2003). The majority of these sites did not cross bogs but rather facilitated access to or movement within a bog. This has been recorded in different areas within the Application Site, such as between the dryland area of Derryaroge and Mount Davys, Annaghbeg and Cloonfiugh and between Derrynaskea and Derroghil.

Further evidence for the Bronze Age have been recorded in the remains of a burnt mound in the townland of Cloontamore (LF018-085---- Fulacht Fia) recorded in the N of Derryadd Bog. The burnt mound or fulacht fiadh is the most common Bronze Age site within the archaeological record. Over 4500 fulachta fiadh have been recorded in the country. 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.

13.3.4.1 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 spread throughout the country from the 5th century 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. Secular habitation sites in the early medieval period include *crannógs*, cashels and ringforts. Given the marginal wetland nature of the landscape, the area of the Application Site would not have provided an ideal location for settlement. The islands of dry land would therefore have been sought after sites for activity. Two crannogs (LF017-005 and 006) were recorded in the townland of Leherly in the middle of Lough Bannow Lake 1km to the south of Derryaroge Bog. No evidence of these structures survive today. These are located 2km to the W of the Application Site boundary.

The construction of ringforts in Ireland dates from the early Christian/medieval period (c. 500 AD to 1170 AD) and possibly continued up to the seventeenth century. The most recent study of ringforts has suggested that there are a total of 45,119 potential ringforts or enclosure sites

throughout Ireland (Stout, 1997). Rath is the term applied to those ringforts of earthen construction, while cashel refers to those constructed from stone. A ringfort generally consists of a circular, sub circular, oval or D-shaped area, enclosed by one or more banks of earth or stone, or a combination of both. Earthen ringforts usually have an external fosse surrounding the bank, and a causewayed entrance giving access to the interior. The bank is generally built by piling up inside the fosse, the material obtained by digging the latter. The function of ringforts was generally as enclosed homesteads, with the defences protecting the houses and outbuildings in the interior, but they may also have been used for social gatherings. There are a number of ringforts recorded outside the boundary of the Application Site, in the townland of Annaghmore (LF018-035), Derryoghil (LF018-037), Derraghan More (LF022-003, LF022-013), Rapareehill (LF018-001, LF018-015001), Cloonfore (LF017-007), Cloonfiugh (LF018-018) Derrygeel (LF018-055) and Cloontabeg (LF018-056).

Ringforts are often accompanied by underground passages known as souterrains, which are believed to have been used for the storage of goods and foodstuffs and possibly for refuge in the case of attack. Souterrains are often recorded in ringforts and one is recorded in the townland of Rapareehill at recorded monument (LF018-015002), outside the boundary of the Application Site.

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. The remains of Ballynakill church and ecclesiastical enclosure (LF013-045001-45013) are located to the E of Derryaroge Bog, outside the boundary of the Application Site.

13.3.4.2 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 continued in use. Tower houses developed from the 15th century onwards and were defended stone settlements that originated from the early stone castles but were smaller in size accommodating extended families and their staff. A Castle/Tower House, with a circular bawn wall and ringfort (LF018-060001-3, Ballyknock) is located 1.2km to the east of the Lough Bannow Bog, outside the boundary of the Application Site.

13.3.4.3 Post Medieval Period

The wider area surrounding the Application Site has a number of large landed estates and houses that provide an interesting insight into the social, architectural and agricultural environment from the 17th century. A further insight into the industrial and cultural heritage of the area is provided by the Royal Canal, which was originally opened through Keenagh in 1817. Canal bridges, overflows, locks and lock keeper's houses are dotted along the canal and provide a link to the 19th century activity in the area. The canal is now navigable from Spencer Dock in Dublin and along with the canal towpaths provides a recreational route for boats/barges, walkers and cyclists.

13.3.5 Record of Monuments and Places

The archaeological record indicates four hundred and forty eight sites within the Application Site boundary. See Figure 13-1 and Appendix 13.1 for description of the recorded monuments.

13.3.5.1 Derryaroge Bog

In the north of the Application Site, there are 12 sites listed in the Sites and Monuments Record within Derryaroge Bog (LF012- 005001, 005002, LF017-001, LF017-002001-002006, LF017-027, 028 & 029). The sites comprise of a Road-Class 1 Togher (LF017-028), a Road-Class 2 Togher (LF017-002002), five Road-Class 3 Toghers (LF017-005001, 005002, 002004, 002005 & 002006), two separate sections of a Road-gravel/stone trackway (LF017-001 & 002001), a structure (LF017-027) and a now 'redundant' record (LF017-029). The Road-Class 1 Togher was excavated in 1988 (Rafferty 1990) and dated to the early Bronze Age, while the gravel/stone trackway (LF017-001 / LF017-002001) was excavated in 1958 by the National Museum of Ireland. A Burnt Pit (LI017-031----) is located within the townland of Aghamore and was discovered during the monitoring of excavations at the ESB power station in 2003.

SMR's located in the vicinity of Derryaroge Bog, outside the Application Site boundary

In Rappareehill townland to the south of Derryaroge bog there are two ringforts (LF018-001 and LF018-015002). The latter has an associated souterrain (LF018-015002). To the northeast in Ballynakill is an ecclesiastical complex consisting of an enclosure (LF013- 045001), a church (LF013-045002), graveyard (LF013-045009), a small rectangular enclosure (LF013-045007) that may be the remains of a domestic structure, two bullaun stones (LF013-045005 & 045006) and five cross slabs (LF013-045004, 045010, 045011, 045012 & 045013).

13.3.5.2 Derryadd Bog

There are 122 sites recorded in the SMR within Derryadd Bog. In Cloonfore townland there are records of 22 sites, five of which were recorded by the IAWU in 1991 with the remaining 17 recorded by ADS Ltd in 1999. The sites consist of two Road Class 1 Toghers (LF018-117 & 118), five Road-Class 2 Toghers (LF018-076002, 003 & 004, LF018-115 and LF018-119), six Road-Class 3 Toghers (LF018-076001, 005 & 006, LF018-107, 120 & 121) and nine Platforms (LF018-106, 109, 111-114, 116-118).

In Annaghbeg townland there are records of 79 sites in a concentrated zone immediately north of Annaghbeg dryland island. The sites were recorded by the IAWU in 1991 and consist of two Road-Class 2 Toghers (LF018-077009 & 010), 57 Road-Class 3 toghers with the remaining 20 listed as 'redundant' records. None of these sites remain extant.

There are two Road-Class 3 Toghers in Cloonfiugh townland in the northern part of Derryadd Bog (LF018-090 & 091) and a single Road-Class 3 Togher in Derryad townland to the east (LF018-078).

To the west of Annaghbeg dryland island is a record of a single Road-Class 1 Togher (LF018-080).

SMR's located in the vicinity of Derryadd Bog, outside the Application Site boundary

There are several sites in the dryland surrounding Derryadd Bog. To the north of the N63 in Rappareehill townland is a ringfort (LF018-015001) and associated souterrain (LF018-015002). To the northeast in Grillagh townland are two ringforts (LF018-016 & 17) while there's another ringfort (LF018-071) and a fulacht fia (LF018-085) in Cloontamore to the southeast. The western extent of the bog has a further three ringforts; LF018-056 in Cloontabeg townland and LF017-007 and LF018-034 in Clonfore townland. There is also a ringfort on the dryland island in the centre of the bog in Annaghmore townland (LF018-035).

13.3.5.3 Lough Bannow Bog

There is a total of 300 sites recorded within Lough Bannow Bog in the Sites and Monuments Record. The sites are concentrated in five main archaeological zones and are summarised below in those zones.

In the southeast, in Corlea townland (formerly 'Lough Bannow 2'), there are 66 sites listed in the Sites and Monuments Record (LF022-056026, LF022-057001 to LF022- 057042, LF022-058006, LF022-067, LF022-073 to LF022-090, LF022-092 to LF022- 096). These consist of three Road-Class 1 Toghers, nine Road-Class 2 Toghers, 40 Road-Class 3 Toghers and six unclassified Toghers.

In the southwest in Derryglogher and Derraghan More townlands (formerly Lough Bannow 3) there are 31 sites (LF022-056001 to LF022-056022, LF022-101, 102, 104, 125 to 131). These consist of two Road-Class 2 Toghers, 21 Road Class 3 Toghers, a post row, five unclassified toghers and two sightings of archaeological wood that are now redundant records.

In the central northern extent in Cloontamore and Derrynaskea townlands there are 93 sites (LF018-081013, LF018-082001, LF018-084001 to 084090, LF018-093, LF022- 070 and LF022071). These consist of 19 Road-Class 2 Toghers, 69 Road-Class 3 Toghers, a burnt spread (LF018-084071) and four now redundant records.

In the northern extent there are 102 sites in Derryoghil and Ards townlands (LF018- 081002 to 081052, LF018-082002 to 08017 and LF018-122 to LF018-0156). The sites consist of three Road-Class 1 Toghers, 17 Road-Class 2 Toghers, 58 Road-Class 3 Toghers, 19 Platforms, four unclassified toghers and a structure-peatland.

In the eastern extent there are 8 sites in Coolnahinch (LF022-066001 to 066008) townland consisting of a Road-Class 2 Togher (LF022-06601), five Road-Class 3

Toghers (LF022-066002 to 066006) and two smaller brushwood sites that are now redundant records (LF022-066007 & 066008).

SMR's located in the vicinity of Lough Bannow Bog, outside the Application Site boundary

There are several dryland sites in close proximity to Lough Bannow Bog. To the north between Lough Bannow and Derryadd Bog is a ringfort (LF018-071) and fulacht fia (LF018-085) in Cloontamore and a ringfort (LF018-056) in Cloontabeg townland. To the east in Ards townland is a ringfort (LF018-057) with another ringfort (LF022-013) located in Derraghan More townland to the west.

There are 19 records of sites to the south of the Application Site in Corlea Bog in the SMR. These consist of an Iron Age Road-Class 1 Togher (LF022-058001), known as 'the Corlea trackway' (Mon No. 677); five Road- Class 2 Toghers (LF022-058002, 003, 004, 005 & 010); 11 Road-Class 3 Toghers (LF022-058007, 008, 009, 011, 012, 013, 014, 015, 016 & 017 and LF022-057040) and two platforms (LF022-091 & 097). However, it should be noted that these structures were confirmed to no longer be extant by the most recent archaeological survey carried out in 2013 (Whitaker 2014).

There are four dryland monuments to the west of Corlea Bog. In the northwest in Corlea townland are two ringforts (LF022-016 & LF022-017), while to the southwest in Derrylough townland there are two further ringforts (LF022-029 and LF022-030). One of these (LF022-

030) contains a rectangular raised area that has been attributed as being the remains of a house structure of indeterminate date.

13.3.6 Archaeological Assessments, Surveys and Excavations

The bogs of Derryaroge, Derryadd and Lough Bannow have undergone previous surveys, excavations and re-assessments (Appendix 13.4). Since Bord na Móna works commenced in the area in the 1950's, there has been an increase in the number of artefacts and sites identified during the peat-cutting and harvesting. The first archaeological excavations in these bogs were carried out in the 1950's by Etienne Rynne on behalf of the National Museum of Ireland. Following this an extensive European Community (EC) sponsored training and research programme on the archaeology of Irish wetlands was carried out in the late 1980s led by Dr. Barry Raftery. In 1991 the Archaeological Survey of Ireland's Peatland was carried out by the Irish Archaeological Wetland Unit (IAWU), and since then three re-assessment surveys have been carried out by Archaeological Development Services (ADS) and Irish Archaeological Consultancy Ltd (IAC) on behalf of Bord na Móna. There were undertaken in 1999, 2013 and again in 2018.

After the peatland surveys, monuments were selected for archaeological mitigation, prioritising those that were threatened by extraction and closest to the surface and/or in the exposed drain faces (National Monuments Service 2013, 26). This allowed archaeology to be identified and excavated several years in advance of extraction. The primary role of the survey was initially to provide data to the NMS and the NMI, with a rapid walkover survey. This changed in 1991 as it was recognised that the 'survey was out-paced by the rate and scale of peat extractions and, as a consequence the destruction of archaeological sites for which only a limited record had been made'. (NMS 2013)

In 2001 a report was commissioned by the NMS 'An Evaluation of Current Peatland Survey and Excavation Strategy' and carried out in 2001 by Professor John Coles which informed the development of management strategies. Subsequently, a report entitled Collation and Evaluation of Archaeological Data from Bord na Móna Bogs was carried out in 2002 to evaluate the archaeological data gathered since 1991. In 2011 and 2013 the NMS commissioned these reviews, *Review of Archaeological Survey and mitigation policy relating to Bord na Móna peatlands since 1990* (NMS, 2013).

Between 2017 and 2024 archaeological field walkover surveys were undertaken as part of the EIAR for the proposed Derryadd wind farm development. The walkover survey was only in the area of the proposed windfarm infrastructure. Archaeological monitoring of site investigations carried out under Licence 18E0177 (2018, Rooney) were also included in the assessment. The assessments recorded that some areas of the bogs were overgrown, preventing a visual inspection and that archaeological features and/or artefact may survive in these overgrown areas. The EIAR concluded that there was a moderate potential for archaeological features to be uncovered during the course of any future development works in areas with significant peat depths.

In 2021, archaeological monitoring was undertaken by IAC Ltd. of the geotechnical site investigations within the Application Site (Licence 21E0110, Whitaker, 2021, unpublished). A total of 335 test pits were excavated across the 3 bogs. Two areas of archaeological potential were identified during the course of the works. The first located in the NE of Derryaroge Bog, in the townland of Ballynakill. In an area with peat depths of 2.2m, it contained an east-west orientated wooden structure and secondly. The second located in Lough Bannow Bog, in the Derryadd, Derryaroge and Lough Bannow SC – rEIAR townland of Kilmakinlan was comprised of two wooden stakes with worked ends and may represent stray or disturbed elements.

In 2023 an Archaeological Impact Assessment of proposed bog decommission and Rehabilitation at Derryaroge Bog, Co. Longford was undertaken by the Bord na Móna Project Archaeologist, Dr. Charles Mount. The report concluded that 1no. Recorded Monument – LF017-028 is recorded in Derryaroge Bog and should be preserved with a 20m buffer zone. It recommended the following ‘Should any previously unknown archaeological material be uncovered during the rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.’ (2023)

In 2023 Bord na Móna’s project archaeologist presented the results of the various assessment surveys and excavations commissioned by Bord na Móna from the 1990’s to 2020’s in *Preserving Ireland’s peatland archaeology: a summary of the Bord na Móna excavations* (Mount, 2023). The report concluded that Bord na Móna’s ‘excavations have contributed to our understanding of Irish peatlands through the investigation and analysis of hundreds of monuments across a wide area’, with the highest concentration of wooden trackways excavated in Europe. Mount stated ‘that more fieldwork could have been done, more sites excavated with larger samples, and more palaeoenvironmental data sampled and analysed.’ In 2023 most of the reports remain unpublished and Mount recommends funding is required to ensure that ‘this invaluable archaeological resource is available for future generations’. The approach in the past was preservation by record however the archaeological approach is now long-term preservation *in-situ*. (Mount, 2023)

13.3.6.1 Derryaroge Bog

Peat extraction in the Derryaroge bog in the late 1950’s revealed the remains of a number of archaeological features. These were recorded and excavated by Etienne Rynne on behalf of the National Museum of Ireland and consisted of roads – gravel/stone trackways, wooden toghers and structures (NMI I.A. 32/57; 4/58-,Rynne).

In 1988 the remains of a togher was excavated by Barry Raftery in the townland of Mount Davys (LF017:028) and dated to the early Bronze Age (Raftery 1990). In 1991 Derryaroge Bog was surveyed by the IAWU during the Archaeological Survey of Ireland Peatland Survey (Maloney 1993). The western portion of Derryaroge Bog has been the subject of an Environmental Impact Assessment Report carried out by Irish Archaeological Consultancy LTD in 2018 for Bord na Móna Energy Limited in relation to IPC Licence P0500-03. The assessment noted that there was a moderate potential for archaeological features to be uncovered during the course of any future development works in Derryaroge Bog.

13.3.6.2 Derryadd Bog

In 1991 Derryadd Bog was surveyed by the IAWU during the Archaeological Survey of Ireland Peatland Survey (Maloney 1993) recording hundreds of archaeological features, predominantly roadways and peatland structures. In 1999 the reassessment carried out by ADS on behalf of Bord na Móna found that many of these had been cleared by the peat milling and harvesting operations undertaken at the site. The survey recorded that ‘in general the overall pattern of site distribution was maintained; with most sites occurring in areas where archaeology had been previously recognised. There were also instances where previously recorded sites appeared to have been destroyed’ (Dunne 1999). The results contrasted significantly with a desk-based assessment (1998) in which it had been suggested that c. 250 sites in Mountdillon were likely to have survived since 1991.

In the townland of Cloonfore, at the rear of the Bord na Móna Mountdillon Works, a number of toghers were excavated (Licence Nos. 00E514-523), by Noel Dunne in 2000. In the townland of Annaghbeg the 1991 survey carried out by the IAWU recorded 79 features (LF018-076001-

076079), three of which were excavated recording bronze age dates. The survey in 1999, could not trace any of the 79, but did record eight previously unrecorded toghers in the area of the concentration. The sites were comprised primarily of roads – class 2 and class 3 toghers. A reassessment survey carried out by ADS on behalf of BnM (Whitaker 2014) recorded one Road-Class 3 Togher site, immediately south of the BnM Mountdillon workshop and offices. None of the previously recorded sites were found to be extant.

Between 2017 and 2024 archaeological field walkover surveys as part of the EIAR the proposed Derryadd Windfarm development and associated archaeological monitoring of site investigations has been undertaken by Through Time Ltd. The assessment recorded no new sites however noted that there was a moderate potential for archaeological features to be uncovered during the course of any future development works in areas with significant peat depths in Derryadd Bog.

13.3.6.3 Lough Bannow Bog

Lough Bannow Bog is a large area of production bog within the Bord na Móna Mountdillon Group of bogs previously referred to by Bord na Móna as Lough Bannow 1, 2, 3 and 4. The numerical divisions are no longer in use by Bord na Móna but are included here to aid the descriptions of the several seasons of archaeological works undertaken.

The southern extent of the bog (located immediately south of the Application Site boundary), Lough Bannow 1, also known as Corlea South, was the focus of the preliminary excavations carried out by Raftery in 1989. At that time five sites were excavated including the substantial Iron Age transverse plank trackway known as Corlea 1 (Raftery 1996). By the time of the 2013 re-assessment survey no sites remained extant in Lough Bannow 1.

Lough Bannow 2 and 3 are north of the unclassified road that runs north eastwards towards Keenagh village. Forty-nine sites were identified in Lough Bannow 2 in 1991 (IAWU 1993). Thirty-four sites were identified in 1999 (Dunne 1999) eight of which were subsequently excavated as part of the 2000 Mitigation project (Dunne 2000). The zone was 1km north northwest of the Corlea visitor centre and intensive investigations of nine toghers within the area had previously been carried out by Barry Raftery between 1988 and 1990. The majority of the sites were dated to the Neolithic, with some however ranged in dates to the early historic period. No sites were recorded in Lough Bannow 2 during the 2013 re-assessment survey (Whitaker 2014).

Lough Bannow 3, the eastern part of the centre of the bog, had eighteen sites during the preliminary survey in 1991 with eleven sites recorded in 1999. Two of these were excavated during the 2001 mitigation project (Whitaker 2009). In the townland of Derryglogher, approximately 2km to the west of Lough Bannow 2, a cluster of eleven archaeological sites were recorded. In 1991 IAWU excavated a single cutting through this site, incorporating two toghers. A large expanse of bogland located north of Lough Bannow 2 and 3, surrounds Derrynaskea island and Derryoghil peninsula. Dense concentrations of archaeological sites from the west through north to east indicate evidence of human activity. One togher to the west of the island excavated by IAWU in 1991 gave a dendrochronological date of 974BC.

Lough Bannow 4 is the northern extent of the bog and is bounded by the R398 that runs south-west towards Derraghan. The narrow north-east extent of Lough Bannow 4 or Derryoghil was the location of thirty nine excavations carried out by Raftery (1996). Eleven sites were excavated in Derryoghil 'South' with the remaining twenty eight excavated in Derryoghil 'North', which is within the same area that the 2015 excavations took place. Twenty-five new sites were recorded in Derryoghil North (IAWU 1993) while the 1999 Bord na Móna re-

assessment Survey (Dunne 1999) identified seventy eight sites. The most recent survey carried out in 2013 (Whitaker 2014) identified fifteen sites, nine of which were selected for excavation with samples from two additional sites. The location of multiple sites, spanning several centuries, in the same area and along the same orientation suggests that this was an important routeway or area within the bog. In 2015 excavations were carried out by Jane Whitaker of Irish Archaeological Consultancy Ltd. for Bord na Móna under licences 15E0205–15E0213. The sites selected for excavation included four Road-Class 3 Toghers, two platforms and three Road-Class 2 Toghers. The features dated from the Neolithic period to the Bronze Age.

13.3.7 National Monuments in State Care

The Department of Environment, Heritage and Local Government maintains a database on a county basis of National Monuments in State Care. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as a monument or the remains of a monument:

“The preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto”.

A National Monument in State Care is located 700m to the south of the Application Site, listed as the Bog Trackway in Corlea, Mon No. 677. It was fully excavated and preserved and is now housed in a visitor centre. The national monument Inchcleraun (No. 91), an early Medieval Ecclesiastical Site is located to the south-west of the Application Site, however has not been directly impacted.

13.3.8 Longford County Development Plan & County Longford Heritage Plan

The Longford County Development Plans (“the CDPs”) and County Longford Heritage Plan were consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest that may be impacted by the Application Site. There are 14 Protected Structures located within 2km from the Application Site (Table 13.2, Appendix 13.3). These are described in Section 13.3.12 and none of these structures have been directly impacted by the Application Site.

13.3.9 Townlands

Townlands are the smallest land divisions in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translation of townland names often refer to natural topographical features, but name elements may also give an indication of the presence of past human activities within the townland. The Schools Collection records the meaning of the placenames in the area of the Application Site. The following table provides the possible translation of the Irish origin of the townland names within or adjacent to the Application Site.

Table 13-1: Townlands within the boundary of the Application Site and their translations

Name	Derivation	Possible Meaning	Barony	Civil Parish
Annaghbeg	An tEanach Beag	Small marsh	Moydow	Killashee
Annaghmore	An tEanach Mor	Big marsh	Moydow	Killashee

Name	Derivation	Possible Meaning	Barony	Civil Parish
Ards	Na hArda	High, a height	Moydow	Kilcommock
Ballynakill	Bhaile na Cille	The town of the church or wood	Moydow	Killashee
Barnacor	Barr na Cora	Top of weir, stone-fence, ford	Rathcline	Rathcline
Cloonbearla	Cluain Bearla	English meadow, pasture	Moydow	Killashee
Cloonbony	Cluain Buinneach	Lawn of the stream	Rathcline	Rathcline
Cloonbrock	Chluain Broc	Pasture of (the) badgers	Moydow	Killashee
Cloonfinfy	Chluain Fuinche	Meadow/pasture of the Ash	Moydow	Killashee
Cloonfiugh	Cluain Fiúch	Pasture of the boil	Moydow	Killashee
Cloonfore	Cluain Fobhair	Meadow, pasture 'Meadow of the spring'	Rathcline	Rathcline
Cloonkeel	Cluain Caoil	Narrow meadow / marshy stream	Moydow	Killashee
Cloontabeg	Cluainte Beaga	Small pastures	Rathcline	Rathcline
Cloontamore	Cluainte Mór	Big pastures	Moydow	Killashee
Coolnahinch	Cúil na hInse	Corner, nook, island; river meadow	Moydow	Kilcommock
Corlea	An Chorr Liath	Grey round hill	Rathcline	Kilcommock
Corralough	Corr an Locha	Round/Pointed hill, lake inlet	Rathcline	Rathcline
Derraghan Beg	An Doireachán Beag	Little Oak Wood	Rathcline	Cashel
Derraghan Mor	An Doireachán Mór	Great Oak Wood	Rathcline	Cashel
Derryadd	Doire Fhada	Wood of the Yew Wood	Moydow	Killashee
Derryaroge	Doire an Ghroig	Wood, grove, thicket	Moydow	Killashee
Derryart	Doire Airt	Wood of the Yew Wood	Moydow	Killashee
Derrygeel	Doire Gaill	Wood of the foreigner / standing stone	Rathcline	Rathcline
Derryglogher	Doire gClochair	Oak, wood stony place	Moydow	Kilcommock
Derrynaskea	Doire na Sciath	Wood of the Yew Wood	Moydow	Kilcommock
Derryoghil	Doire Eochaille	Wood of the Yew Wood	Moydow	Kilcommock

Name	Derivation	Possible Meaning	Barony	Civil Parish
Derryshannoge	Doire Sean Bhog	Old soft Wood, grove, thicket	Rathcline	Cashel
Kilmakinlan	Cill Mhic Caoinleain	Church of the son of Caoinleain	Moydow	Kilcommock
Mosstown	Caonach Mór	Big moss	Rathcline/Moydow	Kilcommock
Mount Davys	Cluain Creamha	Meadow, lawn of wild garlic	Rathcline	Rathcline
Rapareehill	Cnoc an Ropaire	The robbers hill	Moydow	Killashee

13.3.10 Topographical Museum Files

Topographical files examined for the townlands within the Application Site revealed numerous finds recovered from the area (Appendix 13.2). The majority of artefacts were retrieved during the extraction of peat and include finds of quern stone, a bell, a grave slab, an iron knife, a furnace bottom, a billhook, a bronze spearhead, a wooden vessel made of hazel with bog butter, a copper axe head, a copper alloy cross, a leather container for wrapping bog butter, a tub shaped piece of bog butter, a wood platter and a wooden goblet roughout, a variety of wooden bowls, a copper alloy basin and a flint stone.

13.3.11 Cartographic Evidence

Consultation of the Ordnance Survey Maps from 1838 to the present day provided further information to aid the Cultural Heritage Assessment.

Lewis topographical map of 1837 depicts the area in general with the main route from Mullingar to Roscommon/Strokestown indicated running through the town of Lanesborough. The route of the Royal Canal is also depicted as are the towns of Mosstown and Kenagh. No details of the area where the Application Site are featured. The first edition map represents the first detailed cartographic evidence of the Application Site, the areas marked as *boggy* or *rough pasture*. There are numerous townland boundaries and barony boundaries. According to Kelly (2006) the modern-day boundaries and in particular barony boundaries 'coincide with ancient tribal boundaries'. Numerous bog bodies and metal finds have been discovered over the years along barony boundaries.

Examination of the Ordnance Survey of Ireland maps indicate a change in the layout of the townland boundaries from the 1st edition (1829-46) to the 3rd edition (1900-1921) (Figure 13-2).

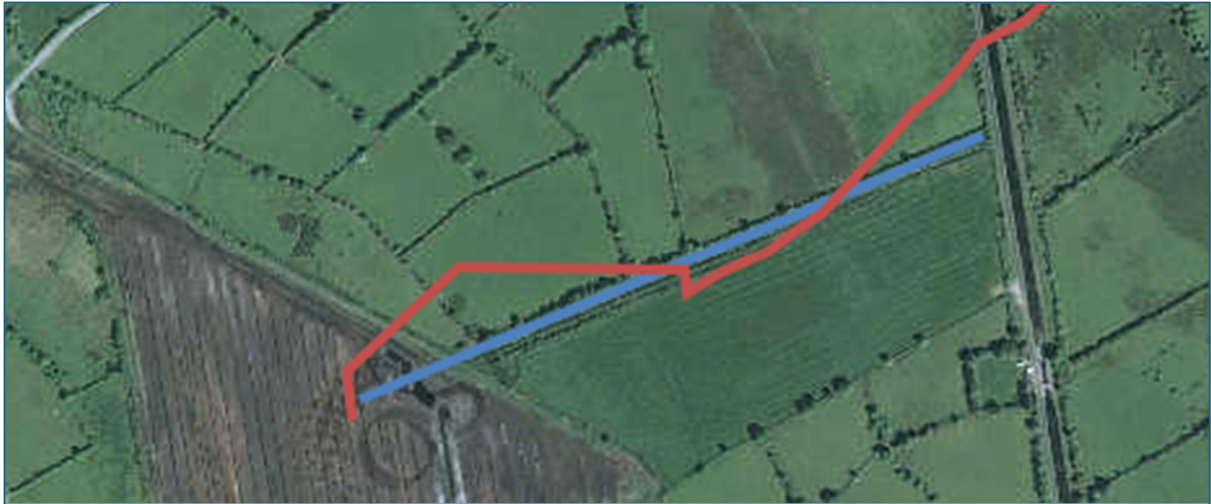
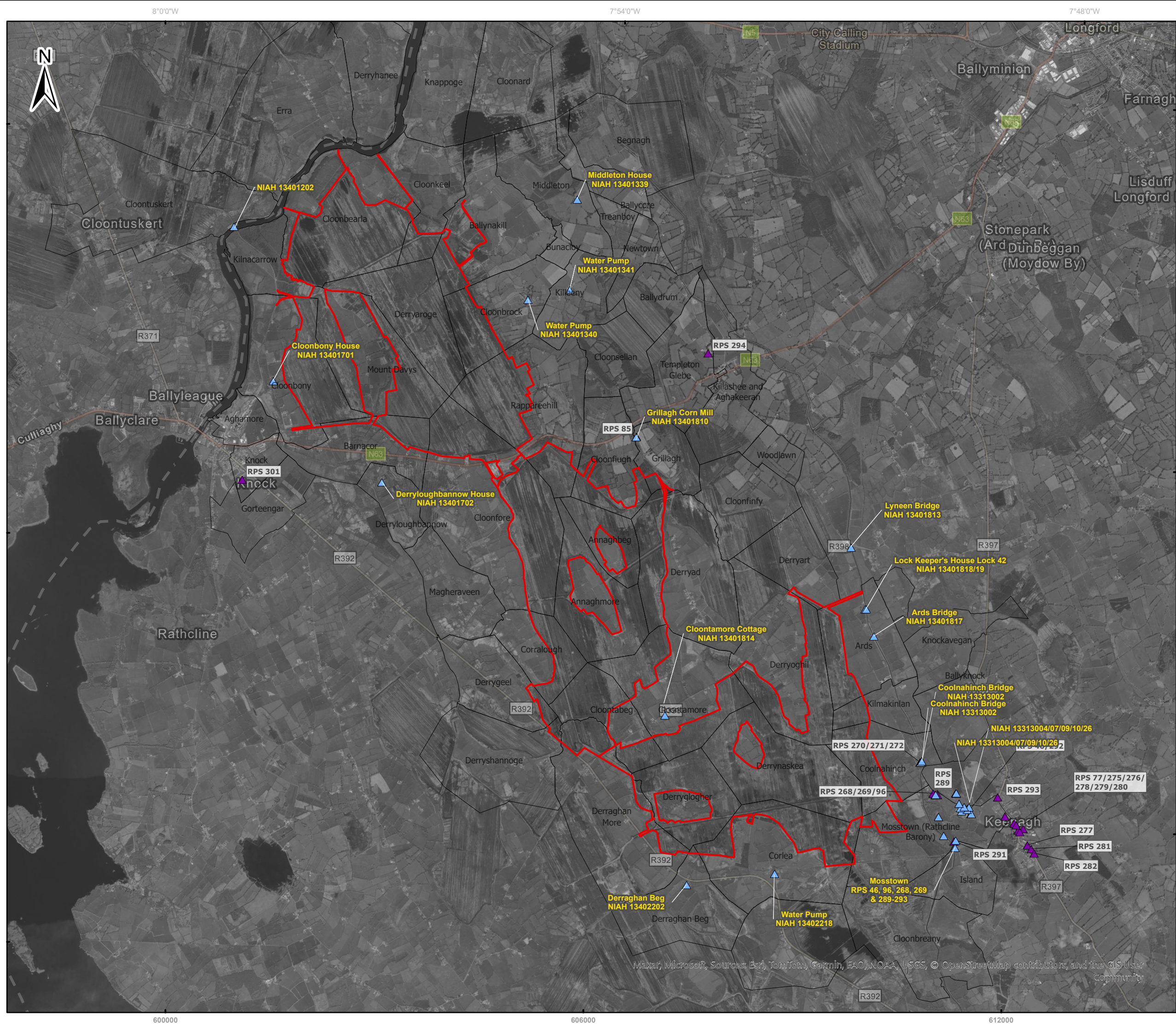


Figure 13-2 – Plan indicating townland boundary from 1st edition (in red) and the 3rd edition (in blue) Bog (Táillte Éireann)

13.3.11.1 1st and 3rd Edition OSi Maps

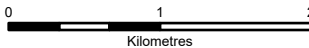
A comparison of the first and third edition ordnance survey maps indicate no major changes in the landscape effected by the Application Site. Some small farmsteads in the surrounds have disappeared while subdivision of land parcels is also evident, this being a product of early/mid nineteenth century land reform and reorganisation. The first and third edition ordnance survey maps show a general sparsely settled landscape with the landed estates of Mount Davy's House, Middleton House, Glebe House, Cloontamore House, and Cloonbony House within 2km of the Application Site.

Examination of the ordnance survey maps show a dryland island in the townland of Derryaroge with a roadway running west to Mount Davys. The area is divided into small fields, with two houses and internal roads. These houses may not be of particular architectural significance however their presence is testimony of the former distribution of the population in this landscape.



Legend

- ▭ Application Site
- ▲ Record of Protected Structures (RPS)
- ▲ National Inventory of Architectural Heritage (NIAH)
- ▭ Townland boundaries



NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

A	28/02/2025	First Issue	S.P	C.N
Rev	Date	Description	By	Chkd.

Client:

Bord na Móna

Project:

**Derradd, Derryaroge and
Lough Bannow Bogs -
Application for Substitute Consent**

Title:

**Figure 13.3
Location NIAH and RPS
at the Application Site**

Scale @ A3: 1:50,000

Prepared by: S.Pezzetta
Checked by: C. Naughton
Date: February 2025

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Map Ref:
11400-018-SMRs-NIAH-TOB-A

Draft:
A

13.3.12 Protected Structures & the National Inventory of Architectural Heritage

The NIAH maintains a non-statutory register of buildings and structures recorded on a county basis. The register indicates that no structures have been directly impacted by the Application Site. Some of the structures recorded in the NIAH are part of the infrastructure of the peat development works located outside the Application Site boundary. These consisted Lough Ree Power Station and buildings (NIAH Reg. Nos. 13310014-15 & 13310021) and the bridge (NIAH Reg. No. 13401202) associated with the Bord na Móna works.

The NIAH also maintains a non-statutory register of historic gardens and designed landscapes also recorded on a county basis. The Mosstown House walled garden complex (NIAH Reg. No. 13313026) was built in c. 1760 and extended c. 1860. It is located c. 1.5km from the Application Site. In the late seventeenth century Mosstown House was the seat of Viscount Newcomen and was subsequently the home of the Kingston and Murray families before its demolition c. 1962. The house and demesne are located adjacent to the estate village of Keenagh. The gateway to Mosstown House, known as 'The White Gates' (NIAH Reg. No. 13313008), has ashlar limestone piers and carved sandstone eagle finials. It was apparently built after the first World War by Belgian refugees, replacing (and possibly incorporating the fabric of) an earlier gateway to the site. Also part of the estate is the dovecote (NIAH Reg. No. 13313010) built in c. 1810. There is also a gate lodge, (NIAH Reg. No. 13313006) probably serving as a secondary entrance to Mosstown House, and a single-bay lime kiln (NIAH Reg. No. 13313007) within the grounds. The estate walls (NIAH Reg. No. 13313009), are still evident at irregular intervals. Built c. 1750 they are now partially collapsed and overgrown. The Mosstown House walled garden complex (NIAH Reg. No. 13313026) was built in c. 1760 and extended c. 1860. A substantial complex of walled gardens, with well-built boundary walls, cut stone detailing, a gardener's shed and a Tudor Revival style entrance doors make up the boundary structure. To the south of this walled garden is a linear feature which may have been an ornamental canal - a feature sometimes found on the larger country estates in Ireland dating from the late-seventeenth and early-eighteenth centuries. To the south is a Tudor-Revival style former gate-lodge, built c. 1830 (NIAH Reg. No. 13313020). It still retains its distinctive features including original timber framed leaded glass windows, decorative timber bargeboards and carved limestone detailing to the interior of the porch.

Situated close to the Derryaroge Bog area is Cloonbony House (NIAH Reg. No. 13401701), built circa 1800 it stands as a detached three-bay two-storey house. It has a long approach avenue to the south and formerly had a gate lodge at the entrance close to village of Lanesborough, now no longer extant. Cloonbony House lies 0.2km to the west of the Application Site. Middleton House (NIAH Reg. No. 13401339), built circa 1760 is a detached four-bay two-storey house. It is set back from the road in extensive mature grounds to the south of Cloondara. It was the residence of Montford Esq. c 1777-83 (Taylor & Skinner map) the Montford family later bought the estate of Middleton c.1750. The house lies 1.5km north-east of the Application Site. Derryloughbannow House (NIAH 13401702) is located 0.6km to the west of the Application Site. Built circa 1820 it is comprised of a detached four-bay single storey vernacular house, now disused. The Round House (RPS 54, NIAH Reg. No. 133100120) is located in Lanesborough town 0.2km to the west of the Application site. Designed by Frank Gibney, it was built in the 1950's as part of a complex of sixty-one houses in a complex of Bord na Mona workers houses at Lanesborough.

Several 19th century water pumps are also recorded in the vicinity of the Application Site. Cloonbrock water pump, (NIAH Reg. No. 13401340), is located 0.6km to the east of the Application Site. Kileeny water pump (NIAH Reg. No. 13401341), lying 1km east of Cloonbrock water pump is a typical late nineteenth-century water pump. A water pump and Corlea House (NIAH Reg. No. 13402218) is located 0.75km to the west of the southern end of the Application

boundary. A house dating to the late 19th century (NIAH Reg. No. 13402202) is located in the townland of Derraghan Beg and is 0.5km to the south. Bord na Móna narrow gauge railways and ancillary structures are a principal element of the twentieth century industrial and economic heritage and played a vital role in the utilisation of peat as a natural resource during the mid-to-late twentieth-century. The simple steel and concrete level gates were part of the railway system originally used by Bord na Móna to transport sod peat to the sidings at Lanesborough Power Station (Lanesborough Power Station Unit 1).

The Royal Canal, which was originally opened through Keenagh in 1817, then closed to boat traffic in 1962, was reopened in September 2010. The canal is now navigable from Spencer Dock in Dublin through to Clondra in Co. Longford passing through Keenagh en route. Mosstown harbour (NIAH Reg. No. 13313021) was built c. 1817 and functioned as a harbour/dock/port. This area is particularly busy during the summer months while the canal towpaths provide a recreational route for both walking and cycling. Canal bridges, overflows, locks and lock keepers' houses are dotted along the canal and provide a bridge to our industrial and cultural heritage. The Lock Keepers House (NIAH Reg. No. 13313001), a detached three-bay single-storey structure, built c. 1815, is located adjacent to Lock 41 (NIAH Reg. No. 13313003) and Coolnahinch Bridge (NIAH Reg. No. 13313002). They are all located to the north west of Keenagh and east of the Application Site on Lough Bannow Bog. Adjacent to the proposed amenity road in the townland of Ards is the remains of a Lock Keepers House (NIAH Reg. No. 13401819) and Lock 42 (NIAH Reg. No. 13401818). To the south of this is Ards Bridge (NIAH Reg. No. 13401817) built in 1810-1820.

In the Derryadd Bog area, Grillagh Corn Mill (NIAH Reg. No. 13401810) is situated 0.8km north-east of the Application Site. It was built c. 1800 and was extended c. 1860 and comprises of a multiple-bay two-storey former corn mill while to the west is a former corn drying kiln. It is located on the roadside with former millrace running parallel to the road. This vernacular corn mill provided a basic service to local farmers and was also an important source of employment for the local community. The remaining structures still in situ on the site, particularly the early machinery, represent an important part of the social, technical and architectural heritage of the Killashee area. The thatched cottage at Cloontamore (NIAH Reg. No. 13401814) is a detached three-bay single-storey house, built c. 1800 and lies to the 0.3km to the north of the Application boundary.

Bord na Móna narrow gauge railways and ancillary structures are an important element of the twentieth century industrial and economic heritage of Ireland. They are a common feature of the landscapes of County Longford and are almost a type that is unique to the midlands of Ireland. The railway line and associated level crossing gates were originally used by Bord na Móna to transport sod peat to the sidings at Lanesborough Power Station to the east. Located to the north of Lanesborough Power station, is the multiple-span BnM railway bridge (NIAH Reg. No. 13401202) carrying narrow gauge railway line over the River Shannon. This large-scale bridge forms part of an interesting collection of structures associated with Lanesborough Power Station (NIAH Reg. No. 13310014). It is a notable example of mid-to-late twentieth century engineering and forms a part of the cultural heritage of the region.

The historic town of Lanesborough (LF017:003) located on the eastern side of the River Shannon and Lough Ree, is accessed via a 6-arch road bridge originally built c. 1835-1843 (NIAH Reg. No. 13310001). The structure has been considerably altered since the 1970's. It is situated at the site of a ford (RO37:009, LF17:3003) and replaced an earlier medieval nine-arch stone bridge (RO37:005, LF17:3001) which was described in 1682 as 'in length and breadth the largest in the kingdom'. According to the Urban Archaeological Survey (Bradley et al., 1985) the extent of the 13th century Anglo-Norman borough at Lanesborough is unknown and it may be that the 17th century plantation settlement overlies it. The Down Survey (1655-6) map and

notes by Nicholas Dowdall in 1682 indicate that the 17th century borough was quite small, consisting of one main street with property plots extending off on both sides. No traces of any 17th century buildings survive today, with the castle and the fort having been levelled. Numerous NIAH features are located in the town- many of which are associated with the Bord na Móna works.

Table 13-2: Details of the Protected Structures and the distance to the boundary

NIAH No.	Reg. No.	Record of Protected Structure No.	Description	Townland	Distance to Application Boundary
13310012	303		The Round House, Bord na Móna's workers house	Lanesborough	0.2km
13401810	85		Corn mill	Grillagh	0.7km
13313002	271		Bridge	Coolnahinch	0.6km
13313001	270		Former Lock Keepers House	Coolnahinch	0.6km
13313003	272		Lock	Coolnahinch	0.6km
13313005	268		Mosstown (Mill) House	Keenagh	0.6km
13313004	96		Corn mill	Mosstown	0.6km
13313006	269		Former Gate Lodge	Keenagh	0.7km
13313007	289		Kiln	Mosstown	0.9km
13313009	290		Demesne Boundary Wall	Mosstown	0.9km
13313020	291		Former Gate Lodge	Mosstown	0.8km
13313010	46		Aviary/Dovecote/ Pigeon House Demesne	Mosstown	1km
13313026	292		Walled Garden Complex	Mosstown	0.9km
13313008	293		Gateway	Mosstown	1.4km

Table 13-3: Details of houses within 2km of the Application Site boundary that are recorded in the NIAH

Name	NIAH Reg. No.	Distance to Application Site Boundary	Description of visual aspect from the buildings
Cloonbony House	13401701	0.2km	Located W. Screening to the E.
Middleton House	13401339	1.5km	Planted forestry to SW and W
Cloontamore Cottage	13401814	0.3km	No screening.
Derraghan Beg	13402202	0.5km	Located to the S of the boundary. Screening to the N and E.
Derryloughbannow	13401702	0.6km	Located to the S and W of the boundary. Screening to NE.

13.4 LIKELY SIGNIFICANT EFFECTS AND ASSOCIATED CONTROL MEASURES

13.4.1 Do-Nothing Scenario

Given that the baseline assessment year for this rEIAR is taken as 1988 (year of the required transposition of EIA Directive) the Do-Nothing Scenario in this instance would involve no further peat extraction or related activities at the Application Site from 1988 onwards. As previously discussed in Chapter 4, the Application Site initially began peat extraction in the 1950s and 1960s, and by 1988 the entirety of the Application Site was subject to peat extraction and consisted largely of cutaway habitat. The Application Site ceased all peat extraction in the summer of 2019, and some areas have since gradually begun to revegetate naturally. Under the Do-Nothing Scenario whereby peat extraction activities did not continue beyond 1988 it is envisaged that much, or all of the Application Site would have since revegetated with predominantly birch woodland and wetland habitats.

Subsequently other land-use practices may also have taken place on the Application Site such as agricultural or commercial forestry, or other commercial or non-commercial uses. Alternative land uses are discussed in Chapter 3 – Alternatives. Under this ‘Do-Nothing’ option, the IPC licence and associated ongoing decommissioning and planned rehabilitation would not have occurred.

For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not subject to peat extraction itself, it is assumed in the ‘do-nothing’ scenario that drainage would have remained *in situ*. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the ‘do-nothing’ scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. Minor third party turbary activities likely would have occurred along the intact bog edges as was common practise at sites such as the Application Site.

Peat extraction was underway at the Application Site prior to the required date for the transposition of the EIA Directive in 1988. If peat extraction and related activities ceased from 1988 onwards, then the various residual effects, described throughout this rEIAR, would not have occurred.

However, consideration must be given to the following:

- The legislative mandate given to Bord na Móna in the form of the Turf Development Act 1946, as amended) to acquire and develop peatlands; and
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this ‘Do-Nothing’ option was not the chosen option. Peat extraction and all ancillary works have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2019 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland. These are described in the individual chapters of the rEIAR.

In the event that Substitute Consent is not granted in effect, the “do nothing” option represents the current situation as at the date of the application for Substitute Consent. As part of Bord na Móna’s statutory obligations under IPC licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of the plans is included in the impact assessment below.

The role of cutaway/cutover peatlands such as the Application Site as a significant potential resource for amenity, tourism, biodiversity enhancement and conservation, improvement in air quality, climate mitigation, renewable energy development and education are part of Bord na Móna’s vision for the Application Site. The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

13.4.2 Peat Extraction Phase: 1988 – July 2019

13.4.2.1 Indirect Effects on Visual Setting

Indirect effects, in terms of cultural heritage are considered to be those effects which happen away from the Application Site. This includes effects on visual setting of any cultural heritage asset in the wider landscape. No indirect visual effects were identified which would have occurred during past peat extraction activities and all ancillary works. Sub-surface works such as drainage of peat and excavation of peat is not considered to cause a negative effect on the setting of monuments which are located away from the Application Site.

13.4.2.2 Direct Effects

Direct effect refers to a ‘physical impact’ on a monument or site. In the past and up to the present day Bord na Móna has a statutory duty under the Turf Development Act 1998 (Section 56) to afford appropriate protection for the environment and archaeological heritage. Peat extraction had no effect on any previously recorded monuments within the Application site.

13.4.2.3 Unrecorded Potential Sub-surface Archaeology

Bog landscape features were often utilised throughout all periods of history and the anaerobic conditions preserve organic matter, such as wood and leather, which does not often survive in

more usual terrestrial archaeological conditions. Objects can be preserved in peatlands because of the acidity of peat and the anaerobic environment which exists within peatland deposits.

The first peatland surveys commenced in 1988 in the bogs of Derryaroge, Derryadd and Lough Bannow, led by Dr. Barry Raftery. In 1991 the Archaeological Survey of Ireland's Peatland was carried out by the Irish Archaeological Wetland Unit (IAWU), with three re-assessment surveys been carried out by Archaeological Development Services (ADS) and Irish Archaeological Consultancy Ltd (IAC) on behalf of Bord na Móna. There were undertaken in 1999, 2013 and again in 2018.

The peatland surveys allowed for the identification of monuments, which were selected for archaeological mitigation, prioritising those that were threatened by extraction and closest to the surface and/or in the exposed drain faces (National Monuments Service 2013, 26). This allowed archaeology to be identified and excavated in advance of peat extraction.

The programmes of archaeological surveys within the Application Site, recorded hundreds of sites which were subsequently included in the Sites and Monuments Record. Numerous artefacts of archaeological significance were recorded and conserved.

Peat extraction activities and all ancillary works, including drains, milling, and extraction had a profound, direct permanent negative effect on the cultural heritage within the Application site. This negative effect was mitigated by the various peatland surveys, assessments and reassessments. There has been an increase in the level and understanding of the archaeological and historical landscape as a result of archaeological assessments, subsequent excavations and preservation works. Therefore, the likely that potential effects on sub-surface finds and features from 1988 to 2019 were positive permanent significant.

Control Measures

The 1980s saw a dramatic expansion in peat extraction which led to National Monuments Service's licensing of excavations within bogs initially conducted by UCD's Irish Archaeological Wetland Unit (IAWU) and subsequently by archaeological contractors funded by the Applicant. The first survey was carried out by Rafferty in 1988 (1990).

In 1991 the Archaeological Survey of Ireland's Peatland was carried out by the Irish Archaeological Wetland Unit (IAWU), and since then three re-assessment surveys have been carried out by Archaeological Development Services (ADS) and Irish Archaeological Consultancy Ltd (IAC) on behalf of Bord na Móna. There were undertaken in 1999, 2013 and again in 2018.

After the peatland surveys, monuments were selected for archaeological mitigation, prioritising those that were threatened by extraction and closest to the surface and/or in the exposed drain faces (National Monuments Service 2013, 26). This allowed archaeology to be identified and excavated in advance of extraction. The primary role of the survey was initially to provide data to the NMS and the NMI, with a rapid walkover survey. This changed in 1991 as it was recognised that the 'survey was out-paced by the rate and scale of peat extraction and, as a consequence the destruction of archaeological sites for which only a limited record had been made' (NMS, 2013).

In 2001 a report was commissioned by the NMS 'An Evaluation of Current Peatland Survey and Excavation Strategy' and carried out in 2001 by Professor John Coles which informed the development of management strategies. Subsequently, a report entitled Collation and Evaluation of Archaeological Data from Bord na Móna Bogs was carried out in 2002 to evaluate

the archaeological data gathered since 1991. In 2011 and 2013 the NMS commissioned the *Review of Archaeological Survey and mitigation policy relating to Bord na Móna peatlands since 1990* (NMS, 2013).

Since 1998, the Applicant has had a statutory duty under the Turf Development Act 1998 ('1998 Act') (Section 56) to afford appropriate protection for the environment and the archaeological heritage (Section 56). The Company and each subsidiary shall ensure that its activities are so conducted as to afford appropriate protection for the environment and the archaeological heritage.

The Applicant's peat extraction activities and all ancillary works and impact on archaeology is also governed under the 2012 Code of Practice agreed between the then Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna (Appendix 13-5). The code includes a commitment by the Applicant to finance a balanced and cost-effective approach to archaeological investigation, excavation, post excavation and mitigation, and details the procedure to be followed if a suspected object is discovered. The Code of Practice has been implemented on all bogs operated by Bord na Móna and its contents are integrated into staff induction training.

All peatland surveys, assessment surveys and re-assessment surveys as well as any archaeological excavations within the Application Site were undertaken on all bogs operated by the Applicant.

13.4.2.4 Record of Protected Structures and NIAH

The NIAH maintains a non-statutory register of buildings and structures recorded on a county basis. The register indicates that no structures have been directly impacted by the Application Site. Some of the structures recorded in the NIAH are part of the infrastructure of the peat development works located outside the Application Site boundary. These consist of Lough Ree Power Station and buildings (Reg. Nos. 13310014-15 & 13310021) and the bridge (Reg. No. 13401202), associated with the Bord na Móna works.

Control Measures

Past peat extraction activities and all ancillary works have not impacted on any RPS or NIAH. No control measures are proposed in this regard.

13.4.3 Current Phase – July 2019 to Present Day

Decommissioning

In January 2021, Bord na Móna formally announced that peat extraction across all bogs within its landholding had ceased, although peat extraction at the Application Site had ceased prior to this in July 2019. The Application Site still operates under the requirements of IPC Licence P0504-01, and any decommissioning works (Chapter 4, 4.8.2) undertaken with respect to peat extraction activities and all ancillary works are in accordance with Condition 10 of the IPC Licence, which states that that:

"10.1: Following termination of use or involvement of all or part of the site in the licensed activity, the licensee shall:

10.1.1: Decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution."

In compliance with Condition 10.1 of the IPC Licence, it is a requirement of the licensee to decommission the Application Site by removing/disposing/recovering buildings, equipment, waste etc. from the Application Site.

In terms of cultural heritage, any impacts as a result of groundworks as part of the decommissioning programme fall under the current Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage. Potential indirect effects (visual effects) of the Current Phase are scoped out as the Current Phase activities are not considered to have a wider landscape negative effect on the Cultural Heritage Environment. Archaeological monuments and features of architectural heritage merit which are located away from the Application Site are not capable of having their settings affected by localised / transient works within the Application Site.

Potential Pre-Mitigation Effects

Decommissioning activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect.

Control Measures

As per the recommendation in the Archaeological Impact Assessment (AIA) prepared to accompany the 2023 Cutaway Bog Decommissioning and Rehabilitation Plan for Derryaroge Bog (hereafter the 'Derryaroge AIA'), a 20m buffer zone to be established around the recorded monument LF017-028. It recommended 'should any previously unknown archaeological material be uncovered during the rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.' (2023)

Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction activities and all ancillary works, through the implementation of mitigation measures detailed in the 2012 Code of Practice.

13.4.3.1 Cumulative and In Combination Effects

In terms of direct cumulative effects, remedial works within the Application Site which require any ground works or drain blocking activities could potentially result in cumulative effects when considering other projects, including the proposed windfarm construction phases. Any increase to groundworks / excavation works within the peat could arise in direct cumulative effects to any potential sub-surface archaeological finds or features.

There are a number of mitigating factors however which include the implementation of the current 2012 Code of Practice which falls under the IPC licence. The Code of Practice is presented in Appendix 13-5 of the rEIAR and will mitigate against the potential for significant effects during the Remedial Phase and thus reducing potential cumulative and in combination effects.

13.4.4 Remedial Effects

13.4.4.1 Effects of Remedial Phase

The rehabilitation programme falls under the IPC licence in the same way as past peat extraction activities and all ancillary works, and in this regard any impacts as a result of drain blocking or trekking over peat as part of the restoration programme fall under the current Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage. The Applicant has produced a Cutaway Bog Decommissioning and Rehabilitation Plans for each of the bogs within the Application Site. It is the intention of Bord na Móna to rehabilitate the bogs in a phased approach.

In accordance with the EPA (2020) Guidance on the process of preparing and implementing a bog rehabilitation plan, the licensee should characterise the bog prior to embarking on detailed planning and implementation. In 2023 an Archaeological Impact Assessment of proposed bog decommission and Rehabilitation at Derryaroge Bog, Co. Longford was undertaken by the Bord na Móna, project archaeologist, Dr. Charles Mount. The report concluded that 1no. Recorded Monument – LF017-028 is recorded in Derryaroge Bog and should be preserved with a 20m buffer zone. It recommended the following ‘Should any previously unknown archaeological material be uncovered during the rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.’ (2023)

The Code of Practice is presented in Appendix 13-5 of the rEIAR and will mitigate against the potential for significant effects during the Remedial Phase.

Potential Pre Mitigation Effects

Remedial activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect.

Mitigation Measures

As per the recommendation in the Derryaroge AIA, a 20m buffer zone to be established around the recorded monument LF017-028. It recommended ‘should any previously unknown archaeological material be uncovered during the rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.’ (2023).

Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction activities and all ancillary works, through the implementation of mitigation measures detailed in the 2012 Code of Practice.

13.4.5 Cumulative and In Combination Effects

In terms of direct cumulative effects, remedial works within the Application Site which require any ground works or drain blocking activities could potentially result in cumulative effects when considering other projects, including the proposed windfarm construction phases. Any increase to groundworks / excavation works within the peat could arise in direct cumulative effects to any potential sub-surface archaeological finds or features.

There are a number of mitigating factors however which include the implementation of the current 2012 Code of Practice which falls under the IPC licence. The Code of Practice is presented in Appendix 13-5 of the rEIAR and will mitigate against the potential for significant effects during the Remedial Phase and thus reducing potential cumulative and in combination effects.

13.5 RESIDUAL EFFECTS

13.5.1 Peat Extraction Phase 1988 – July 2019

Overall, it is possible that significant negative effects could have taken place to sub-surface finds and features. This negative effect would have been mitigated by Peatland Surveys from 1988 onwards as well as the introduction of the 2012 Code of Practice. In this regard it is considered that that residual effects on sub-surface finds and features from 1988 to 2019 were permanent, positive, slight to moderate.

13.5.2 Current Phase July 2019 to Present Day

In terms of cultural heritage, since peat extraction has ceased, it is considered that no direct effects would occur during the Current Phase. No direct effects as a result of removal of stockpiled peat, EPA monitoring activities, etc are identified. Since no effects were identified without the need for control measures, no residual effects will occur.

13.5.3 Remedial Phase

Remedial activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction activities and all ancillary works. In this regard the potential residual effect on sub-surface archaeology, if present, may be positive permanent, slight to moderate.

13.6 SIGNIFICANCE OF EFFECTS

13.6.1 Peat Extraction Phase 1988 – July 2019

Peat extraction activities and all ancillary works, including drains, milling, and extraction could have resulted in a significant, direct negative effect on the cultural heritage. However with the mitigation measures implemented the works have had a direct positive effect on the cultural heritage. There has been an increase in the level and understanding of the archaeological and historical landscape as a result of archaeological assessments, subsequent excavations and preservation works.

13.6.2 Current Phase July 2019 to Present Day

The overall significance of effects on subsurface archaeology, if present, as a result of the Current Phase is considered to be positive permanent, slight to moderate.

13.6.3 Remedial Phase

The overall significance of effects on subsurface archaeology, if present, as a result of the Remedial Phase is considered to be positive permanent, slight to moderate.

13.7 CUMULATIVE AND IN COMBINATION EFFECTS

Cumulative effect is defined as ‘the addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects’ (EPA 2022). Cumulative effects encompass the combined effects of multiple developments or activities on a range of receptors. In this case, the receptors are the archaeological monuments and architectural/cultural heritage sites in the Application Site. Direct effects to sub-surface archaeological features/sites can occur as a result of peat removal and groundworks during the Peat Extraction Phase (1988-2019), as part of the Current Phase (July 2019 – present day) and Remedial Phase, as well as the potential future development of Derryadd wind farm. When all of these activities are combined, they have the potential to have cumulative effects.

The archaeological impact assessment undertaken above in this chapter outlines those significant effects that have occurred within the Application Site as a result of the peat extraction activities and all ancillary works.

Due to peat extraction activities and all ancillary works within the Application Site boundary in particular, when archaeological investigations and surveys had not been undertaken, the potential for significant cumulative effects with other local developments (located outside the Application Site, including forestry, agricultural development) on the cultural heritage environment may have occurred. Peat extraction activities and all ancillary works could have had cumulative (direct) effects with other off-site projects. Similarly, when considering the Peat Extraction Phase 1988-July 2019 with peat extraction activities and all ancillary works on the Application Site from 1948-1988, cumulative effects are also possible. Given the nature of the peat extraction activities and all ancillary works during both the 1988-2019 period and the 1948-1988 period, those effects are largely concerned with sub-surface archaeological finds, features and deposits.

As outlined in Chapter 4, the primary and greatest land-use change associated with peat extraction activities and all ancillary works on the Application Site occurred during the initial drainage and vegetation removal of the bogs in advance of peat extraction. This impact would have predominantly occurred in advance of 1988 at the Application Site. When considered cumulatively with activities which took place between 1948 and 1987, there is potential for increased cumulative direct negative effects to sub-surface archaeology if present within the Application Site. It is intended to utilise the Application Site for both peatland remediation (rehabilitation) and wind energy infrastructure and to facilitate environmental stabilisation of the Application Site and the optimisation of climate action benefits.

As such, Cutaway Bog Decommissioning and Rehabilitation Plans are assessed as part of the planning application for this Project.

The environmental impact assessment for the proposed Derryadd Wind Farm application includes an assessment of the implementation of the rehabilitation plans in conjunction with the construction, operation and decommissioning of the wind farm. The overall footprint of the proposed Derryadd wind farm will be less than 4% of the total area of the Application Site, and therefore will not impact or change the overall goals and outcomes of the proposed rehabilitation plans. As such, it is the intention of the Applicant to integrate the peatland remedial measures with the proposed future wind farm. The key objectives of environmental

stabilisation and re-wetting of the cutaway areas will occur between and surrounding the proposed wind farm infrastructure. The proposed Derryadd Wind Farm is assessed in a separate EIAR in terms of direct and indirect effects on the Cultural heritage resource with a specific suite of mitigation measures so as to avoid any negative effects to the sub-surface archaeology that may exist within the site. When the proposed Derryadd wind farm is considered with the past peat extraction activities and all ancillary works, current works and future rehabilitation works, potential direct effects will not increase due to the implementation of archaeological mitigation prior to and during construction. Mitigation measures for the proposed Derryadd Wind Farm include avoidance of cultural heritage features, monitoring and testing at the post-consent advance stage works and archaeological monitoring during construction. The mitigation measures will allow for any potential archaeological features to be dealt with appropriately under licence from the National Monuments Service. Overall cumulative effects when considering past peat extraction activities and all ancillary works and the proposed Derryadd Wind Farm will not occur.

The proposed Derryadd Wind Farm will have moderate effects on the setting of National Monuments in State Care such as Corlea Trackway. In the context of past peat extraction activities and all ancillary works, and rehabilitation works, the latter are not capable of resulting in any negative effects on setting of monuments in the wider landscape setting (monuments away from the Application Site) as the peat activities are localised and transient works.

When considered together cumulative effects on setting will not occur since no effects on setting were identified as a result of the Peat Extraction Phase, all ancillary works in the Current Phase (i.e decommissioning works as described in Chapter 4) or the Remedial Phase (i.e proposed rehabilitation works). Due to the localised nature of the past peat extraction activities and all ancillary works which were limited to within the Application Site boundary, there is no potential for significant cumulative effects in-combination with other local developments on cultural heritage.

13.8 CONCLUSION

This cultural heritage chapter was prepared by Through Time Ltd. It presents the results of a cultural heritage impact assessment for a remedial EIAR at the Application Site.

Peat Extraction Phase

Over the course of the extraction/operational phase (1988-2019) a total of four hundred and forty-eight SMRs and numerous archaeological artefacts have been recorded in the Application Site. Peat extraction activities and all ancillary works, including drains, milling, and extraction could have resulted in a significant, direct negative effect on the cultural heritage. However, with the mitigation measures implemented the works have had a direct positive effect on the cultural heritage. There has been an increase in the level and understanding of the archaeological and historical landscape as a result of archaeological assessments, subsequent excavations and preservation works.

The various acts (National Monuments Acts, Turf Development Acts 1946 - 1998 (section 56) and the 2012 Code of Practice) have afforded appropriate protection for the environment and archaeological heritage.

Sub-Surface Archaeology

Bog landscape features were often utilised throughout all periods of history and the anaerobic conditions preserve organic matter, such as wood and leather, which does not often survive in

more usual terrestrial archaeological conditions. Objects can be preserved in peatlands because of the acidity of peat and the anaerobic environment which exists within peatland deposits. The Peatland Surveys, within the Application Site, allowed for the identification of any finds, features or deposits on either the peat fields, or along drain sections which led to mitigatory investigations and excavations in selected areas within the Application Site. A summary of the available results of such surveys and/or any reassessment surveys is presented above in Section 13.3.5 & 13.3.6).

It is possible that the proposed Bog Rehabilitation works activities such as drain blocking, re-wetting, bull dozing of any remaining stock piles etc will also effect potential archaeological finds, features and deposits. These activities fall under the Code of Practice 2012 in the same way as peat extraction activities and all ancillary works are dealt with. All such activities are being undertaken under the IPC licence and in this regard, therefore, any mitigation measures implemented are under the remit of the Applicant and the now Department of Housing, Local Government and Heritage and will mitigate the potential for significant effects.

Built Heritage (Protected Structures)

As afore mentioned, The NIAH maintains a non-statutory register of buildings and structures recorded on a county basis. The register indicates that no structures have been directly impacted by the Application Site. Some of the structures recorded in the NIAH are part of the infrastructure of the peat development works located outside the Application Site boundary. These consisted Lough Ree Power Station and buildings– Reg. Nos. 13310014-15; 13310021) and the bridge Reg. No. 13401202.

Current Phase and Remedial Phase

Current activities include decommissioning and rehabilitation, both of which fall under the IPC licence in the same way as past peat extraction activities and all ancillary works and in this regard any effects as a result of drain blocking or trekking over peat as part of the restoration programme fall under the current Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage.

As per the recommendation in the Derryaroge AIA, a 20m buffer zone to be established around the recorded monument LF017-028. It recommended ‘should any previously unknown archaeological material be uncovered during the rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.’ (2023)

The Applicant has produced a Cutaway Bog Decommissioning and Rehabilitation Plan for all bogs of the Application Site, and it is the intention of the Applicant to rehabilitate the bogs in a phased approach under IPC licence. Mitigation measures to be implemented as part of the Cutaway Bog Decommissioning and Rehabilitation Plan programme are under the remit of the aforementioned bodies, therefore the Archaeology Code of Practice (presented in Appendix 13-5 of the rEIAR) will mitigate against the potential for significant effects during this phase. Remedial activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction activities and all ancillary works and in this regard the overall significance of effects will be positive permanent significant.

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