

15 CULTURAL HERITAGE

15.1 INTRODUCTION

This Chapter assesses the impacts of the Proposed Development (**Figure 1.2**) on Cultural Heritage which encompasses assets relevant to both the tangible resources (archaeology and architectural heritage); and non-tangible resources (history, folklore, tradition, language, placenames etc.). The recorded and potential Cultural Heritage resource within Study Areas (described in **Section 15.2.1**) encompassing the various elements of the Proposed Development, Site and surrounding environs was assessed in order to compile a comprehensive Cultural Heritage baseline and context.

The Proposed Development refers to all elements of the application for the construction of Kellystown Wind Farm (see **Chapter 2: Description of the Proposed Development**) and has been assessed as a whole with regard to Cultural Heritage in this Chapter. Where negative effects are predicted, the chapter identifies appropriate mitigation strategies therein. The assessment will consider the potential effects during the following phases of the Proposed Development:

- Construction of the Proposed Development
- Operation of the Proposed Development
- Decommissioning of the Proposed Development

Common acronyms used throughout this EIAR can be found in **Appendix 1.3**. This chapter of the EIAR is supported by **Figures 15.1 – 15.15** provided in **Volume III** and by the following Appendix document provided in **Volume IV** of this EIAR:

- **Appendix 15.1 Photographic Record**

A Construction and Environmental Management Plan (CEMP) is appended to the EIAR in **Appendix 2.1**. This document will be developed, in accordance with the parameters in the CEMP, into a Site-Specific CEMP post consent/pre-construction once a contractor has been appointed and will cover construction of the Proposed Development. It will include all the mitigation measures prescribed within the EIAR. For the purpose of this application, a summary of the mitigation measures is included in **Appendix 20.1**.

15.1.1 Statement of Authority

This chapter was prepared by Kate Robb of John Cronin and Associates. Ms. Robb holds B.A. and M.A. degrees in archaeology (University College Galway (UCC) 1999/2001) and a Post Graduate Diploma in EIA/SEA Management (University College Dublin, 2005). She has 16 years' industry experience and has prepared a wide range of archaeological, architectural and Cultural Heritage assessments for renewable energy projects.

Contributions have also been made by Camilla Brännström and Joseph Miller of John Cronin & Associates, with regard to field walkover surveys, site inspections and any associated reporting and photography.

Camilla Brännström is a qualified and licence-eligible archaeologist with over 19 years' commercial archaeology experience in Ireland. Camilla Brännström has worked as Project Archaeologist on numerous archaeological schemes, excavations and heritage projects, including, but not limited to, archaeological impact assessments, cultural heritage assessments for EIARs and archaeological works on large infrastructure projects.

Joseph Miller is a qualified archaeologist with a Postgraduate Certificate in Landscape Management and Environmental Archaeology and over seven years industry experience. He has been a Licensed Archaeologist in NI since 2021 and has worked on a wide variety of archaeological and cultural heritage projects in both supervisory and managerial capacities and has extensive experience in archaeological excavation and post-excavation analysis.

15.1.2 Assessment Structure

In line with the revised EIA Directive and current EPA guidelines (2022) consideration of Cultural Heritage effects in this chapter are as follows:

- Details of methodologies utilised for both desk and field studies, in the context of legal and planning frameworks
- Baseline Descriptions (including a review of recorded cultural heritage assets, historical cartographic sources, aerial imagery, and walkover field survey findings)
- Assessment of Potential Effects (construction, operational and decommissioning stages)
- Detailed Mitigation Measures
- Assessment of Residual Impacts
- Assessment of Cumulative Impacts
- Assessment of Decommissioning Impacts
- Assessment of a Do-Nothing Scenario
- Summary of Significant Effects and Statement of Significance

15.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

15.2.1 Definition of Study Area

There are no professional guidelines which define the extent of Study Areas required to assess the effects of wind farm developments on the Cultural Heritage resource. The extent

of the Study Areas used for this assessment are, therefore, informed by the years of experience and professional judgement of the specialist and are considered suitable for the assessment of potential effects. An assessment of the design iterations throughout the Proposed Development project phase has also been undertaken to facilitate assessment of alternatives with regard to all Turbine locations (and micro-siting), TDR options and GCR options.

The Study Area reviewed for the assessment comprised the area within the Site and the surrounding lands extending for 1km in all directions beyond the Wind Farm Redline Boundary, the '1km Study Area' (see **Volume III, Figure 15.7**).

A 100m wide corridor area centred on the Grid Connection Route (GCR) (see **Volume III; Figure 15.13**) and any work areas required to facilitate the Turbine Delivery Route (TDR) was also assessed, the 'GCR 100m Study Area' and the 'TDR 100m Study Area'.

The extent of the 1km Study Area radius of the Wind Farm boundary has suitably facilitated the compilation of a robust baseline context for the known and potential Cultural Heritage resource within the Site and surrounding area. This has informed the assessment of potential direct and indirect impacts of likely significant effect on the location and setting of known Cultural Heritage assets within this area.

The extent of the 100m Study Area centred on the Grid Connection Route and the Turbine Delivery Route has suitably facilitated the compilation of a robust baseline context for the known and potential Cultural Heritage resource within the vicinity of their localised footprints. This has informed an appraisal of the potential presence of any sub-surface elements which may be susceptible to direct or indirect effects.

In addition, the wider landscape extending for 10km in all directions from the Site, the '10km Study Area', was reviewed to determine the presence of any nationally significant Cultural Heritage assets with heightened setting sensitivities, such as National Monuments in State Care and World Heritage sites (including tentative sites).

This also included a review of other Cultural Heritage assets within the 10km Study Area that possess visual attributes that extend beyond their immediate settings, such as archaeological monuments with ritual visual alignments across the wider landscape (e.g., stone circles, stone rows and megalithic tombs). The extent of this 10km Study Area is based on professional judgement and suitably facilitates an appraisal of the wider landscape and identification of individual monuments or groupings that may be susceptible

to potential indirect impacts of likely significant effect on their wider landscape settings or alignments.

It is noted that the assessment of the significance of visual effects on publicly accessible Cultural Heritage receptors within 20km of the Site is presented in the Landscape and Visual Amenity Assessment chapter which was reviewed as part of this assessment (see **Chapter 12**).

15.2.2 Assessment Methodology

The methodology used for this assessment is based on Environmental Protection Agency *Guidelines for Information to be Contained in EIAR* (2022). The chapter complies with the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU, and the Planning and Development Act, 2000 (as amended) and Planning and Development Regulations, 2001 (as amended). The assessment has also been informed by guidelines for the assessment of impacts on the Cultural Heritage resource as published by the International Council on Monuments and Sites (ICOMOS 2011).

Overall the assessment methodology was based on a programme of desk-based research combined with a site inspection and these studies were undertaken to identify any features of Cultural Heritage significance likely to be affected by the Development.

15.2.3 Relevant Legislation and Guidance

The tangible elements of the Cultural Heritage resource can be loosely divided into the archaeological resource comprising sites and monuments dating from the prehistoric period to the post-medieval period (1700 AD) and the architectural heritage resource, encompassing standing structures and sites of cultural importance often dating to the post-medieval and modern periods. In addition, assets such as local placenames, folklore and traditions are considered part of the intangible Cultural Heritage resource.

The management and protection of the Cultural Heritage resource in Ireland is achieved through a framework of international conventions and national laws and policies. This framework was established in accordance with the provisions of the 'European Convention on the Protection of the Archaeological Heritage' (the Valletta Convention) and the 'European Convention on the Protection of Architectural Heritage' (Grenada Convention). Both of these conventions were ratified by the Republic of Ireland in 1997.

In addition, the UNESCO 'Convention Concerning the Protection of the World Cultural and Natural Heritage', 1972 (World Heritage Convention) was ratified by Ireland in 1991. While

there is no current national legislation providing legal protection for the Irish intangible heritage resource it is noted that the UNESCO *Convention for the Safeguarding of the Intangible Cultural Heritage*, 2003, which seeks to safeguard and promote awareness of this element of cultural heritage, was ratified by Ireland in 2015.

The assessment has been carried out in accordance with the relevant legislation and best practice guidelines set out below:

- Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (as amended)
- National Monuments Act 1930 (as amended)
- Heritage Act 1995 (as amended)
- National Cultural Institutions Act 1997 (as amended)
- Planning and Development Act 2000 (as amended)
- Department of Arts, Heritage, and Gaeltacht (2011) *Architectural Heritage Protection: Guidelines for Planning Authorities*
- Department of Arts, Heritage, Gaeltacht, and the Islands (1999) *Framework and Principles for the Protection of Archaeological Heritage*
- International Council on Monuments and Sites (2011) *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*
- Office of the Public Regulator (2022) *A Guide to Architectural Heritage*
- Office of the Public Regulator (2021) *Archaeology in the Planning Process*
- Environment Protection Agency (2022) *Guidelines on the information to be contained in EIARs*
- Department of Housing, Planning and Local Government (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*
- European Union (2017) *Environmental Impact Assessment of Projects: Guidance on the Preparation on the Environmental Impact Assessment Report*
- Department of Environment, Heritage and Local Government (2006) *Wind Energy Development Guidelines*
- Department of Housing, Planning and Local Government (2019) *Wind Energy Development Guidelines (Draft Revised)*

15.2.3.1 Archaeological Heritage

The National Monuments Service (NMS) is currently based in the Department of Housing, Local Government and Heritage (DHLGH) and is responsible for the preservation, protection, and promotion of Ireland's archaeological heritage. The Historic and

Archaeological Heritage and Miscellaneous Provisions Act 2023 was enacted on October 13th, 2023, with a Commencement Order of some of its effective from 31st May 2024.

NMS published an online guidance note¹ in relation to the Act in November 2023 which provides an overview of its current status, and this is summarised hereafter.

While the Act is now law most of its provisions will not enter into force until the Minister of Housing, Local Government and Heritage has made one or more “Commencement Orders”. This means that section 7 of the Act (which provides for the repeal of the National Monuments Acts 1930 to 2014 and related legislation) has not entered into force. Accordingly, the National Monuments Acts 1930 to 2014 and other legislation which section 7 of the Act will, when it comes into force, repeal, remain fully in force as they stood on 13th October and will continue to do so for the time being. The Act contains transitional provisions which will, if necessary, enable certain aspects of the existing National Monuments Acts 1930 to 2014 to continue in operation notwithstanding their repeal post-commencement of the Act while successor provisions are being brought fully into operation. This includes provisions enabling the Record of Monuments and Places to continue to have effect pending the establishment of a new Register of Monuments.

The first Commencement Order of the new 2023 Act came into effect on 31st May 2024.² This includes for the repeal of the Architectural Heritage (National Inventory) and National Monuments (Misc. Provisions) Act 1999, new enforcement measures including fines and prison sentences, strengthening of legal protections in private/company collections, developing guidance and codes of best practice and promotion, and strengthening of the implementation of the World Heritage Convention (1972).

The National Monuments Acts 1930 (as amended), the Heritage Act 1995 (as amended) and relevant provisions of the National Cultural Institutions Act 1997, therefore, remain the primary means of ensuring the satisfactory protection of archaeological remains. There are a number of mechanisms under the National Monuments Acts that are applied to secure the protection of archaeological monuments. These include the designation of National Monument status, the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR) as well as the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

¹ National Monuments Service. Available At: <https://www.archaeology.ie/news/enactment-of-historic-and-archaeological-heritage-and-miscellaneous-provisions-act-2023-and> [Accessed 30.08.2024]

² National Monuments Service. Commencement of Certain Provisions of the Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023. Available at: <https://www.archaeology.ie/news/commencement-of-certain-provisions-of-historic-and-archaeological-heritage-and-miscellaneous> [Accessed 30.08.2024]

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' (Section 2, National Monument Act, 1930). The Record of Monuments and Places was established under Section 12(1) of the National Monuments (Amendment) Act, 1994 and was based on the earlier Sites and Monuments Record and Register of Historic Monuments. These records comprise lists and maps of all known archaeological monuments and places for each county in the state. The National Monuments Service maintains an online Historic Environment Viewer which comprises an interactive map/search facility that provide access to current records stored on its national database of sites and monuments. The Viewer includes designated areas around recorded monuments known as 'zones of notification' which do not comprise buffer zones but are intended to indicate areas of archaeological potential within their environs³. All archaeological sites listed in the Record of Monuments and Places receive statutory protection under the National Monuments (Amendment) Act, 1994 and no works can be undertaken at their locations without providing two months advance notice to the National Monuments Service.

The known archaeological sites located within the Study Area are detailed in **Section 15.3** of this chapter. The potential for the presence of hitherto unrecorded, sub-surface archaeological features within proposed construction areas is also considered.

15.2.3.2 Architectural Heritage

Protection of the architectural heritage resource is provided for through a range of legal instruments that include the Heritage Act 1995 and the Planning and Development Act 2000 (as amended). Section 2.1 of the Heritage Act 1995 (as amended), describes architectural heritage as including:

All structures, buildings, traditional and designed, and groups of buildings including streetscapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents, and, without prejudice to the generality of the foregoing, includes railways and related buildings and structures and any place comprising the remains or traces of any such railway, building or structure.

³ Archaeology and the Planning Process. Available at: <https://www.archaeology.ie/sites/default/files/media/publications/archaeology-planning-process-pl13.pdf> [Accessed 22.04.2024]

The National Inventory of Architectural Heritage (NIAH) was established under the *Architectural Heritage Act (1999)* (now repealed by the *Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023*), to record architectural heritage structures within the State and to advise local authorities in relation to structures of architectural heritage significance within their administrative areas. The conservation principles of care and protection of architectural heritage and the facilitation of the listing of significant buildings of architectural merit are set out in Part IV of the *Planning and Development Act (2000)* (as amended). This requires Local Authorities to maintain a Record of Protected Structures (RPS) of structures with special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest, to be included in City/County Development Plans.

The current RPS for County Louth is published in the *Louth County Development Plan 2021-2027*. The *Planning and Development Act 2000* (as amended) also provides for the inclusion of objectives for preserving the character of places, areas, groups of structures or townscapes of special interest designated as Architectural Conservation Areas (ACAs).

The National Inventory of Architectural Heritage (NIAH) has also compiled survey records of Historic Gardens and Designed Landscapes within the State.

The designated architectural heritage structures within the Study Area reviewed as part of this assessment are detailed in **Section 15.3** of this chapter.

15.2.3.3 Louth County Development Plan 2021-2027

The *Louth County Development Plan 2021-2027* includes the following relevant objectives in relation to the protection of the archaeological and architectural heritage resource within the county:

Policy Objective BHC 1

To protect and enhance archaeological sites and monuments, underwater archaeology, and archaeological objects listed in the Record of Monuments and Places (RMP), and/or the Register of Historic Monuments and seek their preservation (i.e. presumption in favour of preservation in situ or in exceptional cases, at a minimum, preservation by record) through the planning process and having regard to the advice and recommendations of the National Monuments Service of the Department of Housing, Local Government and Heritage and the principles as set out in the 'Framework and Principles for the Protection of the Archaeological Heritage' (Department of Arts, Heritage, Gaeltacht and the Islands 1999).

Policy Objective BHC 2

To protect the built heritage assets of the county and ensure they are managed and preserved in a manner that does not adversely impact on the intrinsic value of these assets whilst supporting economic renewal and sustainable development.

Policy Objective BHC 3

To protect known and unknown archaeological areas, sites, monuments, structures and objects, having regard to the advice of the National Monuments Services of the Department of Housing, Local Government and Heritage.

Policy Objective BHC 4

To promote awareness and knowledge of the archaeological resources of the County and support initiatives where appropriate that provide better access to the historic built environment.

Policy Objective BHC 5

To protect all sites and features of archaeological interest discovered subsequent to the publication of the Record of Monuments and Places (i.e. preservation in situ or in exceptional circumstances, at a minimum preservation by record) having regard to the advice and recommendations of the National Monuments Section of the Department of Housing, Local Government and Heritage.

Policy Objective BHC 6

To ensure any development, either above or below ground, adjacent to or in the immediate vicinity of a recorded monument or a Zone of Archaeological Potential (including formerly walled towns) shall not be detrimental to or detract from the character of the archaeological site or its setting and be sited and designed to protect the monument and its setting. Where upstanding remains exist, a visual impact assessment may be required.

Policy Objective BHC 7

To require applicants seeking permission for development within Zones of Archaeological Potential and other sites as listed in the Record of Monuments and Places to include an assessment of the likely archaeological potential as part of the planning application and the Council may require that an on-site archaeological assessment is carried out by trial work, prior to a decision on a planning application being taken.

Policy Objective BHC 10

To require, as part of the development management process, archaeological impact assessments, geophysical surveys, test excavations and monitoring, as appropriate, where development proposals involve ground clearance of more than half a hectare or for linear developments over one kilometre in length or for developments in

proximity to areas with a density of known archaeological monuments and history of discovery, as identified by a licensed archaeologist.

Policy Objective BHC 11

To work in partnership with Meath County Council, relevant agencies and the public to promote, understand, conserve and sustainably manage the Battlefield site of the Battle of the Boyne whilst protecting and enhancing its cultural landscape.

Policy Objective BHC 12

To propose a variation of the Louth County Development Plan 2021-2027, if required, to make appropriate amendments to the Plan, as a result of any recommendations arising from the publication of 'The Irish Battlefields Project'. Policy Objective BHC 13 To seek to protect historic and archaeological landscapes including battlefields, from inappropriate development.

Policy Objective BHC 14

To work in partnership with Meath County Council, relevant agencies and the public to promote, understand, conserve and sustainably manage the UNESCO World Heritage Site of Brú na Bóinne to maintain its Outstanding Universal Value (OUV).

Policy Objective BHC 15

To ensure no development which might have significant deleterious impacts upon the character of the World Heritage Site is permitted.

Policy Objective BHC 16

To protect the northern ridgeline (Chapter 13, Map 13.1) which frames the views within and from the World Heritage Site of Brú na Bóinne from visually intrusive and inappropriate development, subject to the Development Management Assessment Criteria detailed in Chapter 13 [of the CDP] and using view-shed analysis as a tool to guide and inform development management.

Policy Objective BHC 17

To encourage the retention, appropriate re-use and conservation of vernacular buildings in Rural Policy Zone One in preference to their replacement or the construction of new buildings on green-field sites and require all development herein to be subject to the Development Management Assessment Criteria as detailed in Chapter 13 [of the CDP].

Policy Objective BHC 18

To prepare a Framework Plan for the protection, development and promotion of lands subject to Rural Policy Zone One (as applicable to the lands including the UNESCO World Heritage Site of Brú na Bóinne, the Tentative World Heritage Site of Monasterboice, and the Battle of the Boyne Battlefield site).

Policy Objective BHC 19

To maintain the Outstanding Universal Value (OUV) of the Tentative World Heritage Site of Monasterboice and support its nomination as a UNESCO World Heritage Site.

Policy Objective BHC 21

The form and structural integrity of the protected structure and its setting shall be retained and the relationship between the protected structure, its curtilage and any complex of adjoining buildings, designed landscape features, designed views or vistas from or to the structure shall be protected.

Policy Objective BHC 22

To prohibit inappropriate development within the curtilage and/or attendant grounds of a protected structure. Any proposed development within the curtilage and/or attendant grounds must demonstrate that it is part of an overall strategy for the future conservation of the entire complex including the structures, demesne and/or attendant grounds.

Policy Objective BHC 29

To review and update the Record of Protected Structures on an ongoing basis and to make additions and deletions as appropriate.

Policy Objective BHC 31

To require that all development proposals within or affecting an Architectural Conservation Area preserve or enhance the character and appearance of that area, protect architectural features of special interest and ensure that the design respects the character of the historic architecture in terms of height, scale, layout, and materials. All development proposals shall have regard to the Architectural Conservation Area objectives in Appendix 11, Volume 3 [of the CDP] and objectives contained in applicable Character Appraisals where available.

Policy Objective BHC 33

To ensure any new service infrastructure (installed by the Local Authority or Public/Private Sector Utility Companies) shall not be located where it will be detrimental to the character of the Architectural Conservation Area.

Policy Objective BHC 35

To require that any development on the periphery of an Architectural Conservation Area does not detract from the existing character of the designated Architectural Conservation Area.

Policy Objective BHC 36

To ensure that new trading bays and all associated signage shall not be located where it will be detrimental to the character of the Architectural Conservation Area or any important building or vista in the Architectural Conservation Area

Policy Objective BHC 38

To ensure new development will not adversely affect the site, setting or views to and from historic gardens and designed landscapes of heritage significance.

Policy Objective BHC 39

To require proposals for new development in designed landscapes and demesnes include an appraisal of the landscape, designed views and vistas, and an assessment of significant trees or groups of trees, where appropriate, in order to inform site appropriate design proposals.

Policy Objective BHC 40

To require that proposals for large scale developments within Designed Landscapes and Demesnes to utilise 3D Digital Survey Modelling tools or such other processes/tools acceptable to the Planning Authority, to demonstrate that the proposed development does not adversely affect the site or its setting.

Policy Objective BHC 42

To promote, where feasible, the protection, retention, sympathetic maintenance and appropriate revitalisation and use of the vernacular built heritage, including thatched cottages and other structures in both urban and rural areas, which contribute to the streetscape and landscape character and deter the demolition of these structures.

15.2.4 Desktop Study

The assessment presents the results of a desktop study of relevant published sources and datasets undertaken to identify all recorded and potential archaeological, architectural, and other Cultural Heritage sites/features/areas within the Study Areas including Grid Connection route and Turbine Delivery Route work areas.

The principal sources reviewed for the assessment of the recorded archaeological resource were the Sites and Monuments Record and the Record of Monuments and Places. The Record of Protected Structures and the National Inventory of Architectural Heritage for Co. Louth were consulted for assessing the locations of designated elements of the architectural heritage resource.

Other sources consulted as part of the desktop study included the following:

*National Monuments Service's Historic Environment Viewer*⁴: The Historic Environment Viewer (HEV) presents summary descriptions of recorded archaeological sites within Co. Louth (and nationwide), and these entries are included within **Section 15.3**.

⁴ Historic Environment Viewer, National Monuments Service. Available at: <https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=0c9eb9575b544081b0d296436d8f60f8> [Accessed 06 Sep 2024]

*Heritage Council of Ireland Map Viewer*⁵: This online mapping resource collates various Cultural Heritage datasets provided by, among others, the National Monuments Service, the National Museum of Ireland, Local Authorities, and the Office of Public Works.

Topographical Files of the National Museum of Ireland: These files comprise paper and digital records of known information on Irish artefacts, including their discovery locations. The file archive is stored in the museum premises in Kildare Street, Dublin and was inspected as part of the assessment on 31st July 2023.

Database of Irish Excavation Reports: This online database contains summary accounts of archaeological site investigations carried out in Ireland (North and South) from 1970 to present⁶.

Literary Sources: Various published sources were consulted to assess the archaeological, historical, architectural heritage and folklore record of the Study Area (see section **15.12**).

Cartographic Sources: A general review of available historic cartographic sources was undertaken of the 1km Study Area, and more specifically the Proposed Development area footprint, and these included various map editions published by the Ordnance Survey from the mid-19th century onward. These sources can indicate the presence of past settlement patterns, including features of archaeological and architectural heritage significance that no longer have any surface expression. Relevant extracts from the reviewed cartographic sources are provided in **Volume III**.

Aerial and Satellite imagery: A review of available imagery of the Study Area was undertaken to review the extent of modern interventions and to ascertain if any traces of unrecorded archaeological sites were visible within the Proposed Development area footprint.

Irish National Folklore Collection: A review was undertaken of transcribed material from the National Folklore Collection archive which has been digitised and published online at www.duchas.ie.

Louth Field Names Project (2015): A review of relevant fields within the Site that are recorded in the Louth Field Names Project⁷ collated in 2013/2014 was undertaken per available datasets.

⁵ The Heritage Council, Heritage Maps. Available at: www.heritagemaps.ie [Accessed 22 April 2024]

⁶ Excavations of Ireland Database. Available at: <https://excavations.ie/> [Accessed 6 Sep 2024]

⁷ Louth Field Names Project. Available at: <https://www.louthcoco.ie/en/services/library/louth-field-names-project/> [Accessed 07.05.2024]

Placenames Database of Ireland: A review of relevant townland name entries relevant to the Site was undertaken per the publicly available recorded entries⁸ in the Placenames Database of Ireland.

UNESCO World Heritage Sites and Tentative List (2022): There are currently two designated World Heritage sites in Ireland (Brú na Bóinne, Co. Meath and Sceilig Mhichíl, Co. Kerry). It is noted that Brú na Bóinne, Co. Meath is located southwest of the Study Area with Newgrange passage tomb a distance of circa 12.6 km to the Proposed Development site. A number of other significant examples have been included in the latest Tentative List (2022) to be nominated by Ireland for consideration as World Heritage Sites.⁹ None of these Tentative List sites are located in Co. Louth or are within the environs of its county boundary.

15.2.5 Field Survey

Proposed construction locations within the Proposed Development area were subjected to field walking surveys and inspections of the Grid Connection route and work areas along the Turbine Delivery Route where ground works are required were also undertaken. These surveys were carried out in January 2022, December 2022, February 2024, and March 2024.

There are no relevant guidelines in relation to specific methodological approaches to Cultural Heritage field surveys for wind farm developments. In the professional judgement of the specialist, the duration, frequency, and method of the field surveys carried out as part of this assessment were suitable to the existing environment at the location of the Proposed Development. The surveyed lands were assessed in terms of historic landscape, existing land use, vegetation cover and the potential for the presence and survival of unrecorded archaeological and undesignated architectural heritage sites or features. The results of the field surveys are described within the chapter (**Section 15.3.13**) while annotated extracts from the photographic record are provided in **Appendix 15.1**.

The Cultural Heritage receptors located within portions of the Study Area outside the Redline Boundary are within private property portfolios and were not accessible during field surveys. These receptors were assessed based on a combined review of their type of classification and condition (per available published inventory descriptions) as well as a review of their respective topographic setting per the consulted historic OS mapping and modern aerial/satellite imagery. It is not considered that this affected the robustness of the assessment.

⁸ Placenames Database of Ireland. Available at: <https://www.logainm.ie/en/> [Accessed 07.05.2024]

⁹ World Heritage in Ireland. Available at: [Ministers announce new World Heritage Tentative List for Ireland | Tentative List | World Heritage | World Heritage Ireland](#) Accessed [22.01.2024]

15.2.6 Consultation

A scoping request for the Proposed Development was issued to relevant stakeholders on 28/07/2023 (see **Chapter 1: Introduction**) with a response in relation to the Cultural Heritage resource received on 22/02/2024 from National Monuments Service. Recommendations included the need to carry out an archaeological impact assessment (documentary research, site inspection, define development buffer areas as required), and to include findings from on-site archaeological geophysical surveys and test trenching investigations.

Table 15.1 Consultation responses in relation to Cultural Heritage

Cultural Heritage Consultation Response: National Monuments Service (22/02/2024)	
<i>Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.</i>	
See EIA R Chpt 15, Cultural Heritage	The applicant is required to engage the services of a suitably qualified archaeologist to carry out an archaeological impact assessment (AIA) of the development site, in relation any Recorded Monument. No subsurface work should be undertaken until an archaeological assessment has been completed and commented on by this office.
See Sections 15.2.4 15.2.5 15.3	The archaeologist should carry out any relevant documentary research and inspect the development site. This assessment shall also define a buffer area or area contiguous with the any recorded monuments which will preserve the setting and visual amenity of the site. No sub-surface work should be undertaken in the absence of the archaeologist without his/her express consent including ground investigations works.
See Section 15.5	A geophysical survey and a programme of test excavations should be carried out at locations chosen by the archaeologist (licensed under the National Monuments Acts 1930-2004), having consulted the site drawings and the National Monuments Service of this Department. The results of which should be included within the archaeological impact assessment (AIA).
See Section 15.5	Having completed the work, the archaeologist should submit a written report stating their recommendations to the National Monuments Service. Where archaeological material/features are shown to be present, preservation in situ, preservation by record (excavation) or monitoring may be required.

This chapter details an impact assessment of the Cultural Heritage resource (including archaeology) with regards to the Proposed Development and per EPA guidelines (see **section 15.2.2** and **section 15.4**). Assessment has been conducted on the basis of desk and walkover survey assessment only (see **15.2.4** and section **15.2.5**). It is deemed that sufficient information exists in recorded datasets to determine likely significant effects on the Cultural Heritage resource, and to determine appropriate mitigation measures therein.

Archaeological site investigations (geophysical survey and test-trenching) was not carried out at this time. However, any potential impact on the unknown Cultural Heritage resource

has been addressed in the mitigation measures to be carried out post-planning and in advance of construction (see **section 15.5**).

15.2.7 Predicted Impacts on Cultural Heritage

The following summarises the criteria applied to determine the nature of effects in order to outline the methodology applied to the cultural heritage resource. Assessment was achieved by a consideration of the duration, quality, type, magnitude, and value/sensitivity of effect(s) on the cultural heritage resource.

Duration of Effect

The duration of effects is assessed based on the following criteria:

- Momentary (seconds to minutes)
- Brief < 1 day
- Temporary <1 year
- Short-term 1-7 years
- Medium Term 7-15 years
- Long-term 15-60 years
- Permanent > 60 years
- Reversible: Effects that can be undone, for example through remediation or restoration

Quality of Effect

The quality of an effect on the Cultural Heritage resource can be positive, neutral, or negative:

- Positive Effect – a change which improves the quality of the Cultural Heritage environment (e.g. increasing amenity value of a site in terms of managed access, signage, presentation etc. or high-quality conservation/restoration and re-use of an otherwise vulnerable derelict structure).
- Neutral Effect – no change or effects that are imperceptible, within the normal bounds of variation for the Cultural Heritage environment.
- Negative Effect – a change which reduces the quality of the Cultural Heritage resource (e.g. visual intrusion on the setting of an asset, physical intrusion on features/setting of a site etc.)

Type of Effect

The type of effect on the Cultural Heritage resource can be direct, indirect, or no predicted impact.

- Direct Effect – where a Cultural Heritage site is physically located within the footprint of the Proposed Development, which will result in its complete or partial removal.
- Indirect Effect – where a Cultural Heritage site or its setting in the landscape is located within the environs of the Proposed Development.
- No predicted effect – where the Proposed Development will not adversely or positively affect a Cultural Heritage site.

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In addition, both cumulative and residual effects on the Cultural Heritage resource are considered:

- Cumulative – The addition of many minor or significant effects, including effects of other projects, to create larger more significant effects.
- Residual – Degree of environmental change that will occur after the proposed mitigation measures have taken effect.

Magnitude of Effect

Determination of the Magnitude of Impact is based on a consideration of character, duration, probability, and consequences of the likely impact on the cultural heritage receptor. Magnitude of Impact (degree of change) can be negative or positive and should be ranked without regard to the value of the asset according to the following scale: High; Medium; Low and Negligible. Ranking levels have been informed by criteria published in the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011) (**Table 15.2**).

Table 15.2: Magnitude of Impact Assessment Indicators of the Cultural Heritage Asset

Indicative factors for assessing the Magnitude of Impact on the Cultural Heritage Asset (after ICOMOS Guidelines 2011)	
High	<ul style="list-style-type: none"> - Most or all key archaeological or architectural materials affected such that the resource is totally altered - Comprehensive changes to setting - Changes to most or all key historic landscape elements, parcels, or components; extreme visual effects; fundamental changes to use or access; resulting in total change to historic landscape character unit - Major changes to area that affect Intangible Cultural Heritage activities or associations or visual links and cultural appreciation
Medium	<ul style="list-style-type: none"> - Changes to many key archaeological or historic building materials/elements such that the resource is clearly/significantly modified. - Considerable changes to setting that affect the character of the archaeological asset. - Changes to the setting of a historic building, such that it is significantly modified.

Indicative factors for assessing the Magnitude of Impact on the Cultural Heritage Asset (after ICOMOS Guidelines 2011)	
	<ul style="list-style-type: none"> - Change to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, considerable changes to use or access, resulting in moderate changes to historic landscape character. - Considerable changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.
Low	<ul style="list-style-type: none"> - Changes to key archaeological materials/historic building elements, such that the resource is slightly altered/slightly different. - Slight changes to setting of an archaeological monument. - Change to setting of a historic building, such that it is noticeably changed. - Change to few key historic landscape elements, parcels, or components; slight visual changes to few key aspects of historic landscape; slight changes to use or access; resulting in limited change to historic landscape character. - Changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.
Negligible	<ul style="list-style-type: none"> - Very minor changes to key archaeological materials or setting. - Slight changes to historic building elements or setting that hardly affect it. - Very minor changes to key historic landscape elements, parcels, or components; virtually unchanged visual effects; very slight changes to use or access; resulting in very small change to historic landscape character. - Very minor changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.

Note: This table is indicative only and to be used together with a consideration of the location, type, siting, design, and layout of the Proposed Development.

Value assessment criteria

The evaluation of the Value/Sensitivity of a heritage asset is largely based on its significance criteria, and is not to be considered definitive, but rather an indicator which contributes to a wider judgment based on the individual circumstances of each feature. Generally, the more criteria that are evident for a given asset, the higher in scale its respective value shall be. Criteria to be considered in addition to any legal designations include a consideration of the condition/preservation, documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability, and amenity value.

The Value/Sensitivity of all known or potential assets that may be affected by the Proposed Development are ranked according to the following scale: Very High, High, Medium, Low and Negligible. The indicative criteria outlined in **Table 15.3** below has been informed by

the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*.¹⁰

Table 15.3: Value/Sensitivity Assessment Indicators of the Cultural Heritage Asset

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Indicative factors for assessing the Value of the Cultural Heritage Asset (after ICOMOS Guidelines 2011)	
Very High	<ul style="list-style-type: none"> - World Heritage Sites (including Tentative List properties) - Assets of acknowledged international importance, including buildings - Assets that can contribute significantly to acknowledged international research objectives
High	<ul style="list-style-type: none"> - Designated <i>National Monuments</i> (archaeological) - Assets of significant quality and importance, including designated RMP sites - Assets that can contribute significantly to acknowledged national research objectives - Protected Structures/National NIAH Grade Buildings - Conservation Areas containing significant buildings of importance, including group value - Archaeological Landscapes with significant inter-group value
Medium	<ul style="list-style-type: none"> - Assets of good quality and importance, including designated RMP sites - Assets that can contribute significantly to acknowledged regional research objectives - Regional Grade NIAH Buildings - Other undesignated buildings that can be shown to have exceptional qualities in their fabric or historical associations - Undesignated structures of potential national importance (archaeological, potential 'new sites') - Conservation Areas containing buildings that contribute significantly to its historic character - Historic townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Low	<ul style="list-style-type: none"> - Designated and undesignated assets of local importance, including buildings - Assets compromised by poor preservation and/or poor survival of contextual associations - Assets of limited value, but with potential to contribute to local research objectives - Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Negligible	<ul style="list-style-type: none"> - Assets with very little or no surviving archaeological interest - Buildings of no architectural or historical note; buildings of an intrusive character

Note: This table is indicative only and to be used together with a consideration of the condition/preservation; documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability, and amenity value of the Cultural Heritage Asset itself on a case-by-case basis.

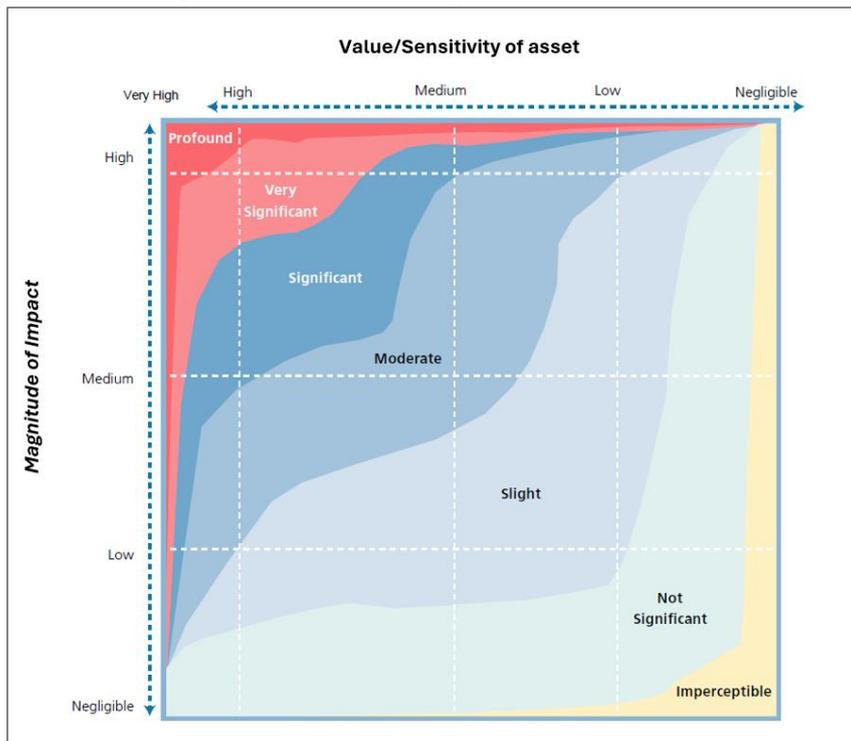
¹⁰ ICOMOS (2011). *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. ICOMOS, Paris. pp.14-17.

Significance of Effects

The Significance of Effect is calculated based on a consideration of the magnitude of effect combined with the value/sensitivity of the asset and can be described as Profound, Very Significant, Significant, Moderate, Slight, Not Significant, or Imperceptible (**Table 15.4**).

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Table 15.4 Significance of Effects (per EPA EIAR Guidelines 2022)



The significance of effects is described in **Table 15.5** and have been informed by EPA EIAR Guidelines 2022.

Table 15.5: Describing Significance of Effects on Cultural Heritage

Describing Significance of Effect	
Imperceptible	An effect capable of measurement but without significant consequences. Can directly or indirectly affect the cultural heritage resource but is without noticeable consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences. Can directly or indirectly affect the cultural heritage resource.
Slight	An effect which causes noticeable changes in the character of the environment but without affecting its sensitivities. Can directly or indirectly affect the cultural heritage resource.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. Directly or indirectly affects the cultural heritage receptor but not such where the integrity of the resource is compromised.

Describing Significance of Effect	
Significant	An effect which, by its character, magnitude, duration, or intensity alters a sensitive aspect of the environment. Directly or indirectly affects the cultural heritage receptor in part, with partial loss of integrity, character, and data.
Very Significant	An effect which, by its character, magnitude, duration, or intensity significantly alters most of a sensitive aspect of the environment. Directly or indirectly affects the cultural heritage receptor for the most part, with loss of integrity, character and data.
Profound	An effect which obliterates sensitive characteristics. Completely and irreversibly affects the cultural heritage receptor with total loss of integrity, character, and data.

15.3 BASELINE DESCRIPTION

15.3.1 Introduction

The following sections present summary details of the main periods within the Irish archaeological record with references to known archaeological sites, designated architectural heritage structures (RPS and NIAH) and identified undesignated Cultural Heritage assets located within the Study Areas (**Section 15.3.2**), grid connection (**Section 15.3.11**) and turbine delivery route (**Section 15.3.12**).

Datasets have been interrogated and retrieved from current State and Local Authority sources and are considered accurate at the time of writing in September 2024.

15.3.2 Wind Farm Study Area: Archaeological and Historical Context

15.3.2.1 Prehistoric Periods

Until the recent identification of Palaeolithic human butchery marks on a bear bone recovered from a cave site in County Clare, the earliest recorded evidence for human activity in Ireland dated to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers lived on the heavily wooded island. The archaeological record indicates that these mobile groups tended to favour coastal, lake and river shores which provided a transport resource and also provided elements of their varied diet. They did not construct any settlements or monuments that have left any above ground traces although their presence in an area can often be identified by scatters of worked flints in ploughed fields or sub-surface traces of their settlements revealed during earth-moving undertaken as part of development works. There are no known archaeological sites dating to the Mesolithic period located within the 1km Study Area surrounding the Wind Farm Development.

The Neolithic period (4000-2400 BC) began with the arrival of agriculture and its establishment as the principal form of economic subsistence, which resulted in more

permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as substantial rectangular timber houses, field systems and various types of megalithic tombs, begin to appear in the archaeological record.

Metalworking arrived in Ireland with the advent of the Bronze Age period (c. 2400–500 BC). This new technology introduced a new assemblage of artefacts into the Irish archaeological record and this period was also associated with the construction of new monument types such as standing stones, stone rows, and stone circles. The development of new burial practices meant that the construction of funerary monuments such as cairns, barrows, boulder burials and tumuli or cists was a common practice during this period. The earliest archaeological remains within the study area consist of five standing stone sites and a burnt mound or *fulacht fiadh*, which are prehistoric site types typically associated with the Bronze Age and Iron Age period (c. 2400BC – 500AD).

A standing stone is a stone which has been deliberately set upright in the ground, usually orientated on a NE-SW axis and which vary in height from 0.5m to 6m. They functioned as prehistoric burial markers, commemorative monuments, indicators of routeways or territorial boundaries. Some can occur in pairs or in rows (three or more) which are often associated with cairns and stone circles and can be considered to have archaeoastronomical alignments as an integral functional element.

There are three standing stones located within the central portion of the Study Area, which are described by the Archaeological Survey of Ireland¹¹ as:

LH021-013--- **Standing stone** *Situated on the upper SSE slopes of a broad E-W ridge called 'Carnanbreaga', overlooking slope down to marshy ground and Drumshallon Lough at SE. Irregularly- shaped slab (max. dims. H 1.9m, 1m by 0.7m in section) with main axis orientated E-W. This site is the centrally sited between two other standing stone sites LH021-014--- and LH021-015---*.

LH021-014--- **Standing stone** *Situated on lower S slope of broad E-W ridge called 'Carnanbreaga'. Large slab of shale (max. dims. H 2.3m, 1.3m by 0.2m in section) orientated E-W. This is the south-westernmost of three standing stone sites in the area (see also LH021-013--- and LH021-015---. Field survey carried out for this assessment has confirmed a corrected location 6.7m further southwest of the recorded ASI location (ITM 707986.76, 783537.64).*

¹¹ Data retrieved from Historic Environment Viewer available at: [Historic Environment Viewer \(archaeology.ie\)](https://www.archaeology.ie) [Accessed 24.04.2024]

LH021-015--- **Standing stone** Situated on the upper E slopes of a high outcrop ridge called 'Carnanbreaga'. The stone is roughly rectangular in plan (H 1 H 1.6m, 0.9m by 0.4m in section) with the narrow sides orientated E-W. There are some recent scored marks at the NE corner but also the weathered remains of what may be an ogham inscription at a height of 0.5-1.25m. This site is the north-easternmost of three standing stone sites in the area (see also LH021-013--- and LH021-014---).

There are a further two standing stones located within the Study Area to the south (LH021-024---) and to the northwest (LH021-009---), both within commercial forested areas. There is also a record of an excavated pair of conjoined prehistoric pits (LH021-084---) in a forested area at Piperstown which were identified when digging drains for the forestry plantation (Excavation Licence No. 03E1142).

An unclassified cairn is noted at the southern limits of the Study Area at Brownstown. It is described as *a circular platform of earth and stones (max. diam. 19m, H 0.5m) with traces of a stone kerb around the perimeter. Locally known as 'The Moat'*. It is possible that this site has prehistoric origins or even medieval usage, given its proximity to a nearby late medieval church and graveyard (LH021-026001- and LH021-026002-).

Burnt mounds or *fulachta fiadh* represent the prehistoric remains of likely cooking activities using hot water and are often found near small streams or waterlogged areas. Boiling water was obtained by heating stones over an open fire before placing them in water-filled pits known as troughs. This process resulted in a distinctive deposit of charcoal and heat shattered stones which was discarded next to the trough. The *fulacht fiadh* at Piperstown (LH021-052---) was identified as an area of exposed burnt stone and charcoal uncovered during ploughing, c. 100m northeast of standing stone LH021-024---.

The arrival of iron-working technology in Ireland saw the advent of the Iron Age (600 BC – 400 AD). Relatively little has been known about settlement patterns during this period until recent decades when the corpus of evidence has been greatly increased by the discovery of Iron Age sites during archaeological investigations undertaken as part of various development projects. There are no recorded archaeological sites within the Study Area that can be definitively assigned an Iron Age date based on their morphology.

15.3.2.2 Early Medieval Period

The early medieval period began with the introduction of Christianity to Ireland and continued until the arrival of the Anglo-Normans in the late 12th century (c. 400–1169 AD). While this period saw the emergence of the first phases of urbanisation around the larger monasteries and the Hiberno-Norse ports, the dominant settlement pattern continued to be

rural-based and founded on an agricultural economy centred on enclosed farmsteads known as ringforts and their stone-built equivalents known as cashels.

The early medieval church sites were often morphologically similar to ringforts but are often differentiated by the presence of features such as church buildings, graves, stone crosses and shrines. There is one ringfort (LH021-016001-) located within the 1km Study Area. The presence of these sites (as well as three souterrains) demonstrates the presence of farming communities within the general area during this period. Early medieval souterrain sites comprise underground structures containing of one or more chambers connected by narrow passages that appear to have been built as defensive feature and/or for storage purposes. One of these souterrains is located within a ringfort (LH021-016002-) while the others appear to be isolated examples (LH018-043--- and LH021-023---). There is an ASI record of local oral tradition of a 'cave' to the north of Cartanstown House, which may indicate the presence of a souterrain (LH021-023---) while there is record of a souterrain located at Rokeby townland (LH018-043---).

There is also one enclosure site located within the Study Area and while sites assigned this classification can theoretically date from any period from prehistory onwards, many may form the remains of unclassified ringforts, but this cannot be conclusively proved without recourse to archaeological excavation. This is a large hilltop enclosure (LH018-042---) at Stonehouse which is recorded as being marked on Taylor & Skinner's map of 1777.

15.3.2.3 High and Late Medieval Periods

The arrival of the Anglo-Normans in the late 12th century broadly marks the advent of the Irish high medieval period which continued to c.1400 and was followed by the late medieval period which extended to c.1550. These periods saw the continuing expansion of Irish urbanisation as many of the port cities developed into international trading centres and numerous villages and towns began to develop throughout the country, often within the environs of Anglo-Norman manorial centres which were defended by masonry castles. By the 15th century, the native Irish chieftains and lords began to construct tower-house castles within their own landholdings as centres of territorial control.

A deserted medieval settlement (LH021-027001-) and motte site (LH021-027002-) is located at Piperstown, to the south/south-east of the Study Area. Deserted medieval settlements comprise abandoned settlement sites dating from the 13th century to 1550AD consisting of a group of houses in close proximity with associated land plots, associated with a parish church and/or castle or tower house, often evident as earthworks. The

deserted medieval settlement at Piperstown is locally known as 'Mullavilla', covering c. 7 acres and with a motte located just to the east (LH021-027002-). It is noted on ASI records¹² that excavations in 1987 by T.B. Barry indicated that the site may be later (post-medieval) in date.

The motte (LH021-027002-) has been heavily disturbed although is described by ASI as an oval, flat-topped mound 4.5m high with no evidence for a fosse or bailey. A motte is an artificial, steep-sided mound, on or in which is set the principal tower of a castle, constructed by the Anglo-Normans in the late 12th century and early 13th century.

There is evidence of late medieval ecclesiastical activity within the Study Area, including a possible 13th century cell of three canons of the Church of St. Mary's Drumshallon (linked to the Holy Trinity Priory, Dublin) of which there are ruined material remains in the form of a church (LH021-018001-), enclosure (LH021-018002-), graveyard (LH021-018003-) and graveslab (LH021-018004-). A holy well location is recorded in Gallstown (LH021-011---) which was marked as 'Toberanelshy' on the 1912 OS 6-inch edition mapping but is now within the site of a large operational quarry (possibly removed). A mass rock (LH021-010-- -) is located to the northwest of the viable area within commercial forestry and is described by ASI¹³ as: *on the west edge of a piece of rock outcrop, on the north edge of a hillock, has a carving of a small cross with the foot expanded to depict a possible chalice. Also carved on the rock is a name (C. Dolan) and date (1866). In addition, there is what appears to be a word in Irish. According to local information in the 1930's, Oliver Plunkett is supposed to have said mass here (Irish Folklore Collection Schools' Manuscripts, 674, 133).*

There is also the fragmentary remains of a likely late medieval parish church and graveyard at Brownstown (LH021-026001- and LH021-026002-). The church foundations are grassed over and no grave slabs were noted at the graveyard when inspected by ASI¹⁴ in 1966, however there is reference to 'one lying on the ground in the 1930's' (*Irish Folklore Collection Schools' Manuscripts, 674, 180*).

It is noted in the ASI¹⁵ records that at Cartanstown townland within the Study Area, there is local oral tradition of a graveyard (LH021-012---) located south of Cartanstown Lough, although no other details are available in terms of upstanding remains or potential period of use for same.

¹² See Ref. 8

¹³ See Ref. 8

¹⁴ See Ref. 8

¹⁵ See Ref. 8

15.3.2.4 *Post Medieval Period*

The centuries following 1550 comprise the post-medieval period which continued into the middle of the 19th century and the period thereafter is often described as early modern. The early phase of the post-medieval period was a turbulent time in Ireland and saw a period of wars between the 1560s and 1603 with further conflict during the mid-17th century Cromwellian Wars which resulted in extensive dispossession of forfeited Gaelic lands. An agricultural boom in the late 18th and early 19th centuries saw a rise in prices for both Irish tillage and dairy produce which resulted in landlords investing in extensive land improvement works within their holdings to increase productivity. This included widespread land drainage works and enclosure of open lands into field systems that survive to the present-day.

The post-medieval period saw the development of high and low status stone houses throughout the Irish countryside and rural settlement clusters at this time typically consisted of single-storey thatched cottages with associated farm buildings while two-storey farmhouses became more common during the 19th century. The settlement pattern throughout much of the rural landscape was greatly affected by the Famine period and its aftermath in the middle of the 19th century which saw the depopulation of many areas. The ruins of former vernacular stone cottages and farmsteads of the 19th century are noted throughout the region, including the Study Area. Country houses and designed landscapes often associated with the landlord classes are also a feature of the 18th and 19th centuries. There are two such country houses and designed landscapes located within the Study Area comprising Rokeby Hall and Piperstown House (see **Section 15.3.7**).

15.3.2.5 *Archaeological monuments with landscape setting sensitivity*

A review of the lands extending for 10km in all directions from the Site was carried out to ascertain if they contain any additional prehistoric archaeological monuments with potential inherent ritual visual alignments or topographical settings across the wider landscape. The reviewed monument types included all classes of megalithic monuments, stone circles, stone rows and standing stone pairs. There is a wedge tomb (LH021-021---) and a passage tomb (Townleyhall) (LH024-008002-) located within the 10km assessment area. Townleyhall passage tomb is also a National Monument and located within an ACA (Louth County Development Plan 2021-2027) and an NIAH Garden Demesne (see **Sections 15.3.4 and 15.3.7**).

Wedge tombs represent the most common form of megalithic tomb in Ireland, built during the Early Bronze Age period with a geographical distribution largely restricted to the western half of the island. As the name suggests, these tombs are defined by a wedge-like shape with a central roofed gallery constructed from large stones and covered by a cairn or mound retained by kerbstones. Wedge-tombs are predominantly orientated towards the west/southwest/northwest. The wedge tomb LH021-021--- is locally named 'Calliagh Virra's House' and has been sketched by Du Noyer (1866). It is incorporated into a field wall which abuts it at the east and west, while it is also aligned E-W. It consists of a gallery, 5.5m in overall length and averaging about 1.1m wide and is covered by four roofstones, with the tomb entrance at the western side. If intentional, the orientational focus of the wedge tomb is towards the horizon and/or topography to the west (opposite direction of the Proposed Development).

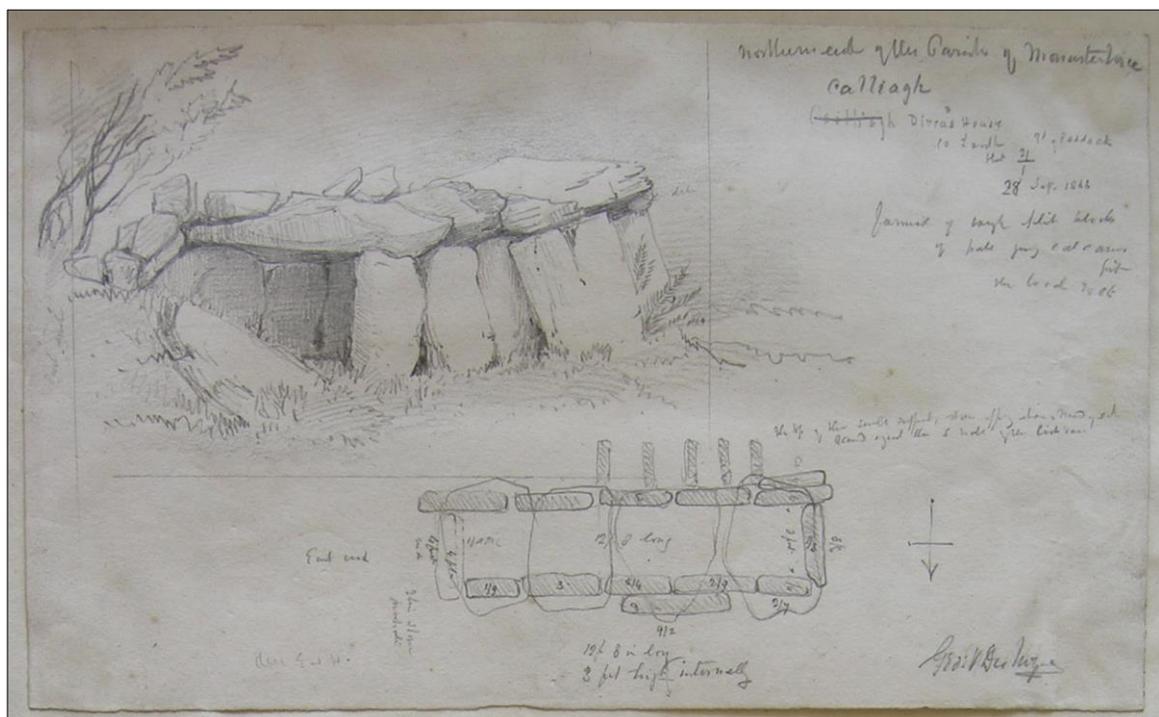


Figure 15-1 Calliagh Dirra's House (elevation and plan) George Victor Du Noyer, 1866. Royal Society of Antiquaries of Ireland, Image source: <https://rsai.locloudhosting.net/items/show/24177> [accessed 03.05.2024]

Townleyhall passage tomb LH024-008002-) was excavated in 1960-61. It is described as having been enclosed in a mound 13.5m diameter and being destroyed and undifferentiated at the time. The tomb measures 5.3m long and is aligned NE-SW with the entrance at the NE end. Passage tomb alignments are evidenced to have been intentional (e.g. Winter solstice sunrise at Newgrange) and the line of sight from the northeastern entranceway at Townley hall passage tomb is towards the rising sun at Summer Solstice, including use of the topography and/or horizon in that direction, which by extension includes towards the

Proposed Development. Part of the mound and any surviving orthostats and kerbstones have been reinstated and the site is located at the northern portion of the Buffer Area associated with *Brú na Bóinne*.



Figure 15-2 MapGenie Ortho view of Townley Hall passage tomb. Note entrance orientation to NE. Image source: NMS, Tailte Éireann Available at: <https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=0c9eb9575b544081b0d296436d8f60f8> [Accessed 03.05.2024]

It is noted that the World Heritage Site of *Brú na Bóinne* which includes the renowned megalithic passage tomb complex of Newgrange, Knowth and Dowth is located c. 12.5km southwest of the Proposed Development site (see **Section 15.3.2.6**).

15.3.2.6 *Brú na Bóinne & Battle of the Boyne*

Brú na Bóinne, located in Co. Meath along the River Boyne, is a World Heritage Site of Very High Cultural Heritage value. A Management Plan¹⁶ (2017) for the site defines a Core Area

¹⁶ *Brú na Bóinne* World Heritage Site Management Plan (2017) Available at: https://www.worldheritageireland.ie/wp-content/uploads/2022/06/Bru_na_Boinne_Mgt_Plan_2017.pdf [Accessed 24.04.2024]

and a Buffer Zone in terms of inherent landscape contribution to its Outstanding Universal Value (OUV) (see **Volume III; Figure 15.1**).

The Proposed Development is located c. 7.6km north of the Buffer Zone and c. 8.4 km northeast of the Core Area boundaries associated with *Brú na Bóinne*. Furthermore, the Proposed development is located c. 3.7 km northeast of the northern ridgeline associated with the World Heritage Site and as defined in the *Louth County Development Plan 2021-2027* (planning policy objectives BHC14-BHC19 have specific reference to same) (see **Volume III; Figure 15.2**).

The Battle of the Boyne battlefield site is also recognised as an important heritage receptor and there are various policies relating to same in the *Louth County Development Plan 2021-2027* including the need to seek to protect the battlefield landscapes from inappropriate development (Policy Objectives BHC 11-13). The Proposed Development is c. 5.5 km outside the Battle of the Boyne northernmost battlefield site (see **Volume III; Figure 15.3**).

A Landscape and Visual Impact Assessment of these locations and heritage amenity receptors has been undertaken in **Chapter 11: Landscape and Visual Amenity**.

15.3.3 Record of Monuments and Places (RMP)/Sites and Monuments Record (SMR)

There are a total of 24 No. recorded SMR archaeological sites located within 1km of the Site and these are listed in **Table 15.6** (see also **Volume III; Figure 15.4**). Of these, 22 No. are recorded on the RMP for Co. Louth. Two of the recorded archaeological sites are located within the Red Line Boundary but all are sited outside the Proposed Development footprint.

In addition to the SMR/RMP, *Louth County Development Plan 2021-2027* identifies Zones of Archaeological Potential (ZAPs) within 10 km of the Site which include Monasterboice ecclesiastical complex, Drogheda, Collon, Dunleer and Termonfeckin (see **Volume III; Figure 15.5**).

Table 15.6 Recorded Archaeological Monuments (SMRs) within 1km Study Area

Monument SMR No.	RMP (Y/N)	Class	Townland	Approx distance to nearest Development footprint	Within Red Line Boundary (Y/N)
LH018-042---	Y	Enclosure	STONEHOUSE	348 m	N
LH018-043---	Y	Souterrain	ROKEBY	749 m	N
LH021-009----	Y	Standing stone	KEARNEYSTOWN	191 m	N
LH021-010----	Y	Mass-rock	KEARNEYSTOWN	115 m	N
LH021-011----	Y	Ritual site – holy well	GALLSTOWN	224 m	N

Monument SMR No.	RMP (Y/N)	Class	Townland	Approx distance to nearest Development footprint	Within Red Line Boundary (Y/N)
LH021-012----	Y	Burial ground	CARTANSTOWN	349 m	N
LH021-013----	Y	Standing stone	DRUMSHALLON	24 m	Y
LH021-014----	Y	Standing stone	DRUMSHALLON	31 m	Y
LH021-015----	Y	Standing stone	DRUMSHALLON	230 m	N
LH021-016001-	Y	Ringfort – rath	BRITTAS	844 m	N
LH021-016002-	Y	Souterrain	BRITTAS	844 m	N
LH021-018001-	Y	Church	DRUMSHALLON	481 m	N
LH021-018002-	Y	Ecclesiastical enclosure	DRUMSHALLON	481 m	N
LH021-018003-	Y	Graveyard	DRUMSHALLON	481 m	N
LH021-018004-	N	Graveslab	DRUMSHALLON	481 m	N
LH021-023---	Y	Souterrain	CARTANSTOWN	352 m	N
LH021-024----	Y	Standing stone	PIPERSTOWN	226 m	N
LH021-025---	Y	Cairn – unclassified	BROWNSTOWN	718 m	N
LH021-026001-	Y	Church	BROWNSTOWN	811 m	N
LH021-026002-	Y	Graveyard	BROWNSTOWN	811 m	N
LH021-027001-	Y	Settlement deserted – medieval	PIPERSTOWN	265 m	N
LH021-027002-	Y	Castle – motte	PIPERSTOWN	284 m	N
LH021-052----	Y	Fulacht fia	PIPERSTOWN	163 m	N
LH021-084----	N	Excavation – miscellaneous	PIPERSTOWN	239 m	N

15.3.4 National Monuments in State Ownership/Guardianship

There are six National Monuments in State Care (Ownership or Guardianship) located within the 10km Study Area (**Table 15.7** and **Volume III; Figure 15.6**). Landscape settings that form part of monument character and original function are particularly relevant to Townleyhall passage tomb (Ref. 529).

One of the National Monuments located within 10km of the Site, Mellifont Abbey (Ref. 93), is listed in a database of Monuments to Visit¹⁷ published by the Department of Housing, Local Government and Heritage. This listing identifies examples at which the Office of Public Works maintain visitor services and those which have no formal visitor services, but which are recorded as being accessible to the public. It should be noted however that Monasterboice ecclesiastical site (Ref. 94) is also accessible to the public with dedicated car-parking and toilet provisions for same.

¹⁷ Department of Housing, Local Government and Heritage, Monuments to Visit – Points of Interest. Available at: <https://data.gov.ie/dataset/monuments-to-visit-points-of-interest> [Accessed 24.04.2024]

Table 15.7: National Monuments in State Care within 10km of Site

National Monument No. and Status	RMP No.	Class	Townland	Approx. distance from nearest turbine
93 (Ownership)	LH023-002---	Mellifont Abbey (Cistercian)	Drogheda	8.5 km SW
94 (Ownership)	LH021-062003- LH021-062004- LH021-062006- LH021-062007- LH021-062008- LH021-062009-	High crosses, churches & round tower	Monasterboice	3.6 km SW
144 (Ownership)	LH015-012001-	Motte	Greenmount	8.5 km N/NW
178 (Ownership)	LH022-041012-	Castle	Termonfeckin	5.7 km SE
529 (Ownership)	LH024-008002-	Passage Tomb	Townleyhall	9.2 km SW
579 (Guardianship)	LH015-015001-	Lisnaran Ringfort	Linns	8.9 km N/NE

A review of monuments listed with Preservation Orders (PO) within the 10 km Study Area indicates that there are four located in Co. Louth and one in Co Meath (see **Table 15.8** and **Volume III; Figure 15.6**). The latter refers to a henge monument (ME020-010---) at Dowth, within the *Brú na Bóinne* World Heritage Site. Those in Co. Louth refer to Lisnaran Fort (also a National Monument Ref. 579), a barrow and a dwelling in Milltown (LH021-037--- and LH018-052---), and Rathdrummin Rath (LH018-045001- and LH018-045002-). With the exception of the henge at *Brú na Bóinne*, although landscape setting is relevant to the sites in a general sense, none of these monuments are deemed to have inherent astronomical or visual alignments.

Table 15.8: Monuments with Preservation Orders within 10km Study Area

PO Ref./ PO Date	RMP No.	Class	Townland	Approx. distance from nearest turbine
02/1971; 11/02/1971	LH015-015001- LH015-002-; LH015-015003- & Nat Mon Ref. 579	Lisnaran Ringfort	Linns	8.9 km N/NE
02/1999; 19/04/1999	LH018-052---	Dwelling	Milltown	3.5 km NE
16/1977; 10/06/1977	LH021-037---	Barrow	Milltown	3.1 km SE
03/1971; 11/02/1971	LH018-045001-; LH018-045002-	Rath	Rathdrummin	2.6 km NE

PO Ref./ PO Date	RMP No.	Class	Townland	Approx. distance from nearest turbine
13/1976; 04/06/1976	ME020-010---	Henge	Dowth	9.9 km SW

The Landscape and Visual Impact Assessment, with a Study Area and Zone of Theoretical Visibility (ZTV) extending for a 20 km radius from the Proposed Development has been prepared by the relevant discipline expert (**Chapter 11**). It is noted that the archaeological complexes at Monasterboice, the Boyne Valley, Slane, Old Mellifont Abbey and Brú Na Bóinne Bru na Boinne offer a tangible sense of time depth within the wider receiving landscape. Sites identified as having high levels of visitor frequency/amenity value are:

- Drumshallon Forge Heritage Centre c. 700m east;
- Monasterboice Church, Roundtower and High Cross c. 3.5km southwest;
- Athclare Castle c. 2.8km northwest;
- Barmeath Castle c. 3.4km northeast;
- Termonfeckin Castle c. 6.2km southeast;
- Mellifont Abbey c. 7km west;
- Brú Na Bóinne (Newgrange, Knowth, Dowth) c. 10.1km southwest; and
- Hill of Slane c. 13km southwest.

15.3.5 Topographical Files of the National Museum of Ireland

A review of the Topographical Files in the National Museum of Ireland relevant to the Proposed Development Study Area was undertaken on 31 July 2023. This study identified records from Piperstown and Castletown (**Table 15.9**). Those at Piperstown comprise seven flint artefacts (part of the Rynne Collection) as well as a copper alloy button and a coin (1592) found via metal detection. The Castletown finds are also of flint, representing three arrowheads.

The SMR record also provides evidence of human settlement within the Piperstown area throughout the Site, and the wider Study Area including Castletown. As such, there is potential for the sub-surface areas within the Site footprint to reveal further as yet undiscovered stray finds/archaeological features within the Proposed Development area.

Table 15.9: List of artefact finds within Study Area (NMI Topographical Files)

Townland	Within Proposed Development Area	NMI ID Ref.	Artefact Type	Notes
Piperstown	Yes	1991C1:157	Coin	Elizabeth I, 1592. Containing box found to be conflicting with file regarding findplace, originally recorded as Piperstown, Co. Louth with accompanying OS location map. Box findplace was given as Ballyduagh, Co Tipperary, no evidence in files to support this.
Piperstown	Yes	1991C1:146	Button	Featuring harp on front, stamped 'Gaunt London' on reverse.
Piperstown	Yes	2015C1:28.7	Flint	Flint artefact. Sub-circular in shape. Upper surface is flat and smooth. Evidence of rippling. Underside is curved and smooth. Black and white cortex visible. Flint is black/dark grey in colour.
Piperstown	Yes	2015C1:28.6	Flint	Flint artefact. Sub-rectangular in shape and concave. Upper surface rough. Underside is curved. Red and white cortex visible. Cortex also visible on edges. No signs of shaping. Flint is orange in colour.
Piperstown	Yes	2015C1:28.5	Flint	Flint artefact. Sub-rectangular in shape. Upper surface is smooth. Small bit of white cortex on right edge. Two facets on upper edge. Left side of surface is uneven. Underside is curved. White cortex visible. No sign of shaping. Flint is orange in colour.
Piperstown	Yes	2015C1:28.4	Flint	Flint artefact. Circular in shape. Surfaces are smooth. Underside is curved. Cortex visible. White/black in colour. No sign of shaping. Flint is grey in colour.
Piperstown	Yes	2015C1:28.3	Flint	Flint artefact. Flake. Triangular in shape. Smooth on both surfaces. Ripples of percussion evident on underside. Edges are sharp. Flint is orange in colour.
Piperstown	Yes	2015C1:28.2	Flint	Flint artefact. Sub-rectangular. Surfaces are smooth. White cortex visible on underside. Concave on lower edge. Bottom edge is sharp from the break. Flint is orange in colour.
Piperstown	Yes	2015C1:28.1	Flint	Flint artefact. Sub-circular in shape. Upper surface is smooth. Underside is rough. From surface of the flint nodule. No shaping on edges. Flint is orange in colour. Three facets on

Townland	Within Proposed Development Area	NMI ID Ref.	Artefact Type	Notes
				upper surface. White cortex visible on edges.
Castletown	Unknown	2019:166	Flint Arrowhead	Findplace unknown
Castletown	Unknown	1879:38	Flint Arrowhead	Findplace unknown
Castletown	Unknown	1701:Wk138	Flint Arrowhead	Findplace unknown

15.3.6 Aerial/Satellite Images

A review of online aerial and satellite imagery published by Ordnance Survey Ireland, Bing, and Google [accessed September 2024], revealed the presence of a modern forestry plantations, pasture fields and some areas of improved (wet) pasture within the 1km Study Area. No potential unrecorded Cultural Heritage assets were noted within the Proposed Development area during a review of these sources.

Further details on the review of these sources in relation to the locations of various elements of the Proposed Development (turbines, met mast, access roads, grid connection etc.) are presented in **Table 15.18**.

15.3.7 Designated Architectural Heritage

The *Louth County Development Plan 2021-2027* lists seven protected structures located within 1km of the Redline Boundary, and these are listed in **Table 15.10** (see also **Volume III: Figure 15.7**). These structures comprise buildings from Rokeby Hall demesne (RPS Lhs018-018-019 (house), LHS018-018 (stable block), Lhs018-035 (gate lodge and railings), Stonehouse estate Lhs021-006 (house) and another structure, a thatched cottage at Stonehouse townland (Lhs021-005); Cartanstown House estate Lhs021-007 (house) and Piperstown Estate (Lhs021-015). It is noted that Rokeby House is of National rating per NIAH records and although in private ownership, it facilitates the visiting public¹⁸ by way of guided tours.

Further details on the layout of lands in relation to the Site during the 19th and 20th centuries are presented in the review of historic map sources provided in **Section 15.3.9**.

There are a number of Architectural Conservation Areas (ACAs) identified in the *Louth County Development Plan 2021-2027* within the 10 km Study Area including Monasterboice ecclesiastical complex, Collon, Oldbridge Demesne, Townley Hall and Newtown

¹⁸ See visitor information for Rokeby House here: <https://www.rokeby.ie/?panel=visiting> [Accessed 07.05.2024]

Monasterboice (see **Volume III, Figure 15.8**). None of these ACAs are located within the 1km Study Area and none will be affected by the Proposed Development.

Table 15.10: Designated Architectural Heritage Sites within 1km of Redline Boundary

RPS Ref.	Name	NIAH Building Ref.	NIAH Rating	NIAH Garden Ref.	Townland	Distance from nearest turbine
Lhs021-005	Stonehouse thatch	n/a	n/a	n/a	Stonehouse	712 m (T01)
Lhs021-006	Stone House	13902110	Regional	ID 1324	Stonehouse	1068 m (T01)
Lhs021-007	Cartanstown House	13902111	Regional	n/a	Cartanstown	829 m (T03)
Lhs018-035	Rokeby Hall Gates/railings	13901801	Regional	ID LH0066; No. LH-36-O-086854	Rokeby	1301 m (T02)
Lhs018-019	Rokeby Hall	13901802	National	ID LH0066; No. LH-36-O-086854	Rokeby	1115 m (T02)
Lhs018-018	Rokeby Hall Coach House	13901803	Regional	ID LH0066; No. LH-36-O-086854	Rokeby	1155 m (T02)
Lhs018-035	Rokeby Hall Gate Lodge	13901809	Regional	ID LH0066; No. LH-36-O-086854	Rokeby	1301 m (T02)
Lhs021-015	Piperstown House & Gate Lodge	13902112	Regional	ID LH0087; No. LH-36-O-091825	Piperstown	486 m (sub-station); 740 m (T05)

15.3.8 Previous Archaeological Work in the Site environs: Excavations Database

A review of the Database of Irish Excavation Reports (accessed 6 Sep 2024) relevant to six townlands (see section 15.3.10.2) that fall within the Site, revealed that it does not record any archaeological investigations undertaken within the Site footprint itself but does contain a number of entries for investigations within immediately adjacent lands (Site environs) (**Table 15.11, Volume III, Figure 15.15**).

Most recently (2022), archaeological geophysical survey and test trenching was undertaken at lands proposed for extension for Kilsaran Quarry (Licence Ref. 22E0655). These lands are located 135 m southwest of the Proposed Development (T02). A number of anomalies were identified in the geophysical survey and five areas of archaeological activity were noted within the test trenches, which all comprised prehistoric spreads/pits:

AA1: A spread of dark-brown sandy silt measuring 1.5m wide and 0.06m deep. A sub-circular pit or possible hearth measuring 1.1m long, 1m wide and 0.1m deep with the base and sides showing evidence for in-situ burning. Another spread of dark-brown sandy silt measuring 1.4m wide and 0.01m deep.

AA2: Consists of two small pits. The first is a sub-circular feature measuring 0.38m in length, 0.32m in width and 0.08m deep. The second is also a sub-circular feature measuring 0.32m long, 0.3m wide and 0.09m deep.

AA3: Consists of two pits and a curvilinear feature. The curvilinear ditch or gully measures 5m in exposed length, 0.8m in width and 0.52m in depth. A sub-oval pit measuring 1.2m in length, 0.4m in width and 0.15m deep. A second sub-oval pit measuring 0.76m in length, 0.5m in width and 0.05m in depth.

AA4: Consists of a sub-circular pit, measuring 0.45m in length and 0.38m in width. This pit contained prehistoric pottery.

AA5: Consists of a sub-circular possible token cremation, measuring 0.56m in length and 0.5m in width.

Recorded site LH021-084--- located in Piperstown is described by ASI¹⁹ as: A pair of conjoined pits in a figure-of-eight form, were identified while excavating drains in advance of plantation (Excavation Licence No. 03E1142). Pit 1, (Wth 0.95m NW/SE; D 0.13m) was lined with large stones and contained charcoal rich soil with fragments of burnt bone, the base was fire-reddened. Pit 2 (Wth 0.72m NW/SE; D 0.08m) contained occasional stones and charcoal rich soil. A small flue fed into both pits. (Keane, M. 2006 Piperstown Prehistoric pits. In I. Bennett (ed.), Excavations 2003: summary accounts of archaeological excavations in Ireland, 343 (No. 1287). Bray. Wordwell, pp. 343).

Recorded deserted medieval settlement LH021-027001- has also been excavated in part by Terry Barry in 1987, which offered potentially a post-medieval date for the material remains uncovered.

Table 15.11 Archaeological excavations within the Site environs

Excavation Licence Ref.	Townland	ITM Centre point	Type	Approx distance to Site design footprint	Notes
22E0655	Drumshallon	708201, 783993	Prehistoric activity - pits		Testing undertaken following archaeological geophysical survey at Gallstown Quarry, Sep 2022. Testing revealed five areas of archaeological significance (prehistoric pits/spreads), one of which contained prehistoric pottery.
02E1766 & 02E1766 ext.	Drumshallon	707951, 783842	n/a		Monitoring at Gallstown Quarry (south of existing quarry). No archaeological significance.
None. 1995	Gallstown	707661, 784735	Cultivation ridges		Archaeological monitoring was carried out on a proposed quarry site in Gallstown, Dunleer, Co. Louth, in May

¹⁹ See Ref. 8

Excavation Licence Ref.	Townland	ITM Centre point	Type	Approx distance to Site design footprint	Notes
					1995. Undated furrows, one piece of worked flint identified.
03E1142	Piperstown	708198, 782556	Prehistoric pits		Prehistoric pits see LH021-084---
-	Piperstown	708528, 782548	Deserted medieval settlement		Excavations by T Barry see LH021-027001-
15E0441	Piperstown	708225, 782745	n/a		Road for forestry plantation – no archaeological significance
16E0114	Piperstown	708970, 782512	n/a		Equestrian centre – no archaeological significance

15.3.9 Ordnance Survey Maps

The consulted historic 1st, 2nd, and 3rd edition Ordnance Survey (OS) maps surveyed in the 19th and early 20th centuries show the Site as demonstrating typical nucleated settlement and irregular field enclosure systems, all of which is indicative of late nineteenth agricultural practices that can present a range of vernacular structures (cottages, outbuildings, bridges, wells, lime kilns, mills etc.). Details of undesignated vernacular features and structures noted during field surveys are outlined in **Section 15.3.13**.

Land-use type is predominantly a mix of improved pasture with marshy/bogland throughout. Formalised modest historic demesne sites per the RPS and/or NIAH Garden Survey records are mapped throughout which show the form and extent of these holdings that retain architectural built heritage interest (see **Section 15.3.7**).

The consulted historic Ordnance Survey (OS) maps surveyed in 1834 (1st edition OS 6-inch edition) shows the Site as largely open land, enclosed by field boundaries in part, with an east-west extending track/roadway accessing same from Drumshallon House (now demolished) and ecclesiastical site (**Volume III: Figure 15.9**). A small vernacular structure is located at the end of the east-west trackway (CH02, ITM 708247, 783689). A 'Pigeon House' is marked in Piperstown, opposite Drumshallon forge (later marked smithy on 2nd and 3rd edition) (CH05, ITM 709388, 782800). The 'Pigeon House' is then later indicated as a 'windmill stump' on the 2nd and 3rd editions. It is still upstanding today (see **Plate 53, Appendix 15.1**).

The 2nd edition 25-inch OS map edition (surveyed 1908) shows the same layout as that for the 1st edition in 1834, with the exception of an extension to the probable cottage at the end of the east-west trackway with small outhouse and enclosed garden/paddock area to the

northeast. There are two wells now indicated on this edition, one of which is named 'Tobertheorin' [well of the boundary] (CH06, 708388, 784218) located in Swinestown, in a field named 'The Rocks' (Louth Field Name Project, 2015), 76m northwest of T02 and west of an access road (**Volume III: Figure 15.10**) (see also **section 15.3.10**). The three recorded standing stone sites (LH021-013---, LH021-014--- & LH021-015---) are also marked in the area.

Early 20th century 6-inch 3rd edition OS mapping (c. 1940s) shows the Site as largely as that per the 2nd edition and of unimproved pasture/rough grazing reflecting the current land-use context with a pocket of open pasture to the eastern area (**Volume III: Figure 15.11**).

15.3.10 Undesignated Cultural Heritage Receptors

While encompassing the protected archaeological and architectural heritage resources, Cultural Heritage also includes various undesignated assets such as demesne landscapes and vernacular structures as well as intangible assets such as folklore, placenames and historical events and associations.

15.3.10.1 Vernacular heritage

A review of historic OS mapping of the Site (see **section 15.3.9**), as well as field inspection and consultation with a local landowner (see **section 15.3.13**), identified a total of nine undesignated Cultural Heritage receptors (CH01-CH09) (see **Table 15.12 and Volume III; Figure 15.12**). These comprise a vernacular cottage (ruinous), Drumshallon House outbuildings (ruinous), stone boundary walling, Drumshallon Forge, a windmill stump, a named well (Tobertheorin) and another adjacent well, a stone setting (possible archaeological feature) and a likely relict field system, as well as a high stone wall (also a townland boundary), possibly associated with the former Cartranstown estate.

Table 15.12 Undesignated Cultural Heritage receptors within or near the Redline Boundary

CH Ref	Type	Townland	ITM	Distance to Development
CH01	Vernacular cottage	Drumshallon	708247, 783689	72 m (Plate 36, Appendix 15.1)
CH02	Drumshallon House / outbuildings	Drumshallon	709195, 783592	393 m
CH03	Stone walling	Drumshallon	708560, 783663	17 m
CH04	Drumshallon Forge	Drumshallon	709527, 783158	397 m Plate 52, Appendix 15.1
CH05	Windmill	Piperstown	709388, 782800	230 m Plate 53, Appendix 15.1

CH Ref	Type	Townland	ITM	Distance to Development
CH06	Toberthoerin (well)	Swinestown	708388, 784216	38 m
CH07	Well	Swinestown	708361, 784216	65 m
CH08	Stone setting	Piperstown	707876, 783132	195 m Plate 20a, Appendix 15.1
CH09	Relict field system	Piperstown	707942, 783182	115 m Plate 20, Appendix 15.1
CH10	Stone walling/townland boundary	Cartranstown/Piperstown	707834, 783208	105m Plate 20a, Appendix 15.1
CH11	Vernacular farm bridge	Piperstown	708888, 782633	8 m Plate 58, Appendix 15.1

15.3.10.2 Placenames

The Site extends into six townlands which are small geographical land divisions used in Ireland. The townland system is of Gaelic origin, pre-dating the Anglo-Norman conquest, and delineate territories often having names of Irish origin (**Table 15.13**). The boundaries and names of Irish townlands were recorded and standardised by the Ordnance Survey (OS) in the 19th century and these typically comprised anglicisations of their original Irish names.

The Irish origins of townland names often refer to natural topographical features, past landowners, farming practices, etc. but some name elements may also indicate the presence of potential archaeological sites within the townland, e.g., lios or rath may indicate an association with a ringfort while temple, saggart, termon or kill may record associations with a church site. The translations of the townland names within the Site presented in **Table 15.13** have been sourced from the Placenames Database of Ireland²⁰.

The Site is located within the townland of Drumshallon for the most part, with a pocket at the southern area located within Piperstown, and areas within Stonehouse, Kearneystown and Gallstown to the northwest. The townland placename Drumshallon refers to the topographical location (*droim*: ridge) whilst the remaining townlands give reference to past named/ownership medieval settlement in the form of Piperstown (Peppard's town/homestead) and Kearneystown (Kearney's town/homestead) whilst Gallstown may have earlier inferences of settlement (prehistoric/Iron Age) as town/homestead of the foreigner (*Gall*). Swinestown likely refers to a pig rearing homestead/farm while Stonehouse shares its name along with two houses (one thatched) of the same name that are also listed on the RPS (Lhs021-005 and Lhs021-006, see **section 15.3.7**).

²⁰ See Ref. 7

Table 15.13: Translation of townland names within Site

Townland	Irish Origin	Translation/Notes
Gallstown	<i>Baile Ghall</i>	<i>Baile</i> : town, homestead <i>Gall</i> : foreigner, standing stone Town/homestead of the foreigner
Swinestown	<i>Bhaile Mhac Suibhne</i>	<i>Baile</i> : town, homestead Mhuc: pigs Town/homestead of the Pigs
Stonehouse	<i>Stónús</i>	Stonehouse
Kearneystown	<i>Baile Uí Chearnaigh</i>	<i>Baile</i> : town, homestead Kearney's town/homestead
Drumshallon	<i>Droim Sealann</i>	<i>Droim</i> : ridge
Piperstown	<i>Baile an Phiobaraigh</i>	<i>Baile</i> : town, homestead Peppard's or Pepper's town/homestead

It is also noted that detail in relation to field names in Co. Louth, including this area, has been largely captured by the Louth Field Names Project.²¹ The field named Tobertheorin derives its name from the undesignated well 'Tobertheorin' located in the southwest corner together with another well (CH06 and CH07); while the field with T05 is named Upper Mullavilla or Standing Stone (R. B. Daly Archive) which has direct reference to the recorded standing stone LH021-009--- at this area. None of the remaining fields captured in the Louth Field Names Project that are located within the Redline Boundary have any reference to potential archaeological features. However, some indicate geographical position or land quality for the most part (e.g. Sixty Acre (T01) Cloughbreaga (T02), Far Rough or Paddock (T03), Near Rough, Rocks (T04); Furry Field, Back Four. Back Three, Stonefield, White Field etc.).

A review of the National Folklore Collection UCD Digitisation Project²² indicates several entries that refer to the recorded archaeological resource of the standing stones in Drumshallon. Folklore refers to a field named 'Cúl Finn' where a rock was thrown by Fionn Mac Cumhail from Carlingford (as well as other referenced locations such as Ormondstown hill, Almondstown) with the marks of his hand imprinted on it (this refers to the ogham inscription on standing stone LH021-015---). There are also references to unusual fish living in the Drumshallon Lough with locals not knowing what they are or where they originated (also reference to an eel with hair); as well as a man named Wade having drowned in it and so it is known as 'Lough Wade'.

²¹ See Ref. 6

²² National Folklore Collection UCD Digitization Project. Available at: <https://www.duchas.ie/en> [Accessed 22.01.2024]

There are several references to the church and graveyard at Drumshallon (LH021-018001- to LH021-018004-) including that St Patrick said mass there, as well as the last burial to have taken place 'fifty years ago' (this would indicate c. 1890). Drumshallon House is also referenced as a place for card playing and ghostly experiences, and that long ago in Drumshallon there was a 'mill for grinding corn...driven by the river that still runs through it'. This corn mill is not indicated in any of the OS historic mapping editions. The mass rock in Kearneystown (LH021-010---) is also referenced, including its carved chalice, and that 'Oliver Plunkett is supposed to have said mass there when in hiding during the Penal Days'.

It is also referenced that Piperstown got its named from the pipers and fiddlers that lived nearby, and that there was a paved old road that passed through Ballymackenny and onward to the back of Piperstown House (paving stones found when a later road passed there), to Drumshallon and eventually reached the road at Kellystown.

15.3.11 Grid Connection Route: Cultural Heritage Receptors

A review of Cultural Heritage constraints within a 100m wide corridor centred on the Grid Connection Routes (GCR) (Option 1 and Option 2) was carried out and these comprised recorded archaeological sites and designated architectural heritage structures. Reviews of historic OS maps and aerial/satellite images were also undertaken in order to assess the potential presence of unrecorded Cultural Heritage constraints within the roadways that comprise the route of the Grid Connections.

A review of the historic OS map editions indicate that the road network along with the opposed grid options traverse were in situ save for more recent developments such as the M1 and associated link roads and local/regional road upgrades. Four un-named road-over-water crossings were noted (see **Table 15.14**) and a dis-used quarry at Mell townland (adjacent Option 2). The proposed Grid Connection methodology at water crossings will comprise Horizontal Directional Drilling (HDD) and will not require any interventions to the bridge structures or within the associated watercourses (potential underwater cultural heritage receptors).

Table 15.14 Undesignated Cultural Heritage receptors along Grid Connection Route Option Corridors

Grid Option	CH Ref	Name/Class	Townland	ITM	Approx. distance from Route
1 & 2	CH12	Un-named road bridge	Tullyard	709148, 781516	0 m
1 & 2	CH13	Un-named road bridge	Tullyard	709140, 781292	0 m

Grid Option	CH Ref	Name/Class	Townland	ITM	Approx. distance from Route
1 & 2	CH14	Un-named road bridge	Mell	706813, 777844	0 m
1 & 2	CH15	Un-named road bridge	Mell	706256, 777279	0 m
2	CH16	Quarry (dis-used)	Mell	706963, 777063	5 m

There are eight recorded archaeological sites located within the GCR assessment corridor (**Table 15.15, Volume III Figure 15.13**). A historic church and graveyard (LH021-038001- and LH021-038002-/RPS Lhs021-008/NIAH13902114) together with a school-house (RPS Lhs021-016/NIAH13902113) is located in Ballymackenny, fronting the local roadway/GCR, while another historic church, graveyard and font (LH024-004001- to LH024-004003-) are located in Killineer townland 41 m distant to the roadway/GCR.

A ring-barrow (LH024-046---), enclosure (LH024-045---) and ditches with struck flint (excavation miscellaneous) (LH024-051---) at Tullyallen townland along the GCR route corridors were all excavated as part of construction works relating to the M1 motorway in 2000 and are now 'records-only' of these previously located sites.

Table 15.15: Recorded Archaeological Sites within GCR 100m Study Area

Grid Option	Monument No.	Classification	Townland	Approx. distance from Route
1 & 2	LH021-038001-	Church	Ballymackenny	16 m
1 & 2	LH021-038002-	Graveyard	Ballymackenny	1.4 m
1 & 2	LH024-045----	Enclosure	Tullyallen	0 m
1 & 2	LH024-046----	Barrow - ring-barrow	Tullyallen	34 m
1 & 2	LH024-051----	Excavation - miscellaneous	Tullyallen	0 m
1 & 2	LH024-004001-	Church	Killineer	41 m
1 & 2	LH024-004002-	Graveyard	Killineer	41 m
1 & 2	LH024-004003-	Font	Killineer	41 m

There are five designated architectural heritage structures located within the GCR assessment corridors (**Table 15.16, Volume III Figure 15.13**) although it is noted that St Nicholas' Church of Ireland is also within the archaeological complex LH021-038001-. Piperstown House gate-lodge fronts the roadway, forming part of the house curtilage (RPS Lhs021-015/NIAH 13902112), as does Killineer House gate-lodge (RPS Lhs024-003B/NIAH 13902428). A house NIAH 13902427 is also located along the GCR corridor at Killineer.

Table 15.16: Designated Architectural Heritage Structures within GCR 100m Study Area

Grid Option	RPS	NIAH	Name/Class	Townland	Approx. distance from Route
1 & 2	Lhs021-015	13902112	Piperstown Gate Lodge	Piperstown	14 m
1 & 2	Lhs021-008	13902114	St Nicholas' Church of Ireland	Ballymackenny	16 m
1 & 2	Lhs021-016	13902113	St Nicholas School House	Ballymackenny	15 m
1 & 2	-	13902427	House	Killineer	11 m
1 & 2	Lhs024-003B	13902428	Killineer Gate-lodge	Killineer	9 m

15.3.12 Turbine Delivery Route: Cultural Heritage Receptors

There are four options with regards to the Turbine Delivery Route (TDR) to the Site. There are 3 no. locations along the TDRs that require temporary works to facilitate turning of wide-bearing loads. These 3-no. proposed temporary works areas will include road widening/ground reduction and as such have been reviewed in order to ascertain if there are any known or potential Cultural Heritage constraints located at these areas. In addition, a review of a 100m wide area radius at the 3 no. temporary works areas was also undertaken. The results of this review are presented in **Table 15.17**. There are no predicted likely effects on the Cultural Heritage resource at any of the three proposed temporary works areas.

Table 15.17: Review of Cultural Heritage constraints at TDR work areas

TDR Works Area	ITM Co-Ords	Assessment of work area on historic OS mapping	Recorded Cultural Heritage Constraint within 100m of location
1	705776, 784670	Existing roadway was built at time of 1 st ed OS mapping (mid-19 th C); enclosed field with no built cultural heritage structures to western verge (proposed works area).	None
2	707289, 776930	Modern roundabout junction within enclosed field adjacent existing 1 st ed OS roadway to NE and quarries to south. No built cultural heritage structures at proposed works area.	None
3	706443, 776673	Modern roundabout junction; crosses an existing road on 1 st ed OS. All proposed works within road surface. No built Cultural Heritage structures.	None

15.3.13 Field Work

The Site was inspected in January 2022, December 2022, February 2024, and March 2024. Each of the development elements associated with the Project are described with respect to Cultural Heritage field walkover surveys in **Table 15.18** and a full photographic record is presented in **Appendix 15.1**.

Table 15.18 Field Survey Notes of Development Elements

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Turbine 1 (including hardstand, temporary compound 1 & access road)	285m (T01) Standing Stone LH021-009--- 116m LH021-010--- Mass Rock (Access Rd)	Large open rocky expanse with rough pasture interspersed. Vernacular structure noted 79m NE of Standing Stone LH021-009-- -	Entirely covered in commercial forestry. No additional potential surface trace cultural heritage features were noted on the aerial photography in this area	The proposed location of T01 is situated entirely within the mature forestry plantation as indicated on Plate 5, Appendix 15.1 . In addition, most of the access route including a small turning head which will serve this turbine, is also located within the same mature forestry (Plate 4, Appendix 15.1). The closest SMR to the access route, is Mass Rock LH021-010--- , as shown in Plate 3, Appendix 15.1 . The Mass Rock is mostly covered with gorse and vegetation with occasional rocky outcroppings. The precise location of this feature was confirmed using a handheld GPS during the site visit (ITM: 707474, 784529) which largely corresponds to the SMR record. The northern most half of the access route, passes through a large undulating pasture field (Plates 1-2, Appendix 15.1), this field is bounded to the north by a local road, to the east and west by fences and to the south by the mature forest plantation.	 <p>View of T1 within forestry, towards S Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this area of T01 or the access road area.</p>

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Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
<p>Turbine 2 (including hardstand and access roads N and S)</p>	<p>Standing Stone LH021-015---</p>	<p>Lands represented by enclosed large field systems. Wells CH06 and CH07 not indicated until 2nd and 3rd eds. Farmstead noted to the north, centrally placed in Swinestown townland. Rough pasture noted in later map eds.</p>	<p>Large open elevated pasture at T02, with portions of rough pasture along access route to N and S. No additional potential surface trace cultural heritage features were noted on the aerial photography in this area.</p>	<p>The proposed location of T02, as shown on Plate 9, Appendix 15.1, is within a large and relatively flat green field. The field is bounded on all sides by a mixture of mature hedgerows and wire fencing. The nearest SMR to this location is a Standing Stone (LH021-015---), as shown on Plate 6, Appendix 15.1. The precise location of this feature was confirmed using a handheld GPS during the site visit (ITM: 708341, 783887). The access roads, both north and south of T02 (Plate 8 & 10, Appendix 15.1), pass through several separate land parcels, mostly comprised of poorly drained and undulating rough pasture and arable farmland, with frequent rocky outcroppings.</p>	<div data-bbox="1294 352 1973 863" data-label="Image"> </div> <p data-bbox="1294 879 1592 903">Location of T2, towards W</p> <p data-bbox="1294 916 1966 991">Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this area of T02 or the access road areas.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
<p>Turbine 3 (including hardstand)</p>	<p>61m Standing stone LH021-014---- 24m Standing Stone LH021-013----</p>	<p>The area is depicted as enclosed wet/marshy rough grazing with CH01 vernacular cottage, it's laneway to the east and CH03 (stone walling evident). The laneway extends westwards from Drumshallon House, and Drumshallon church & graveyard. Drumshallon Lough is indicated to the SE. The Standing stones LH021-014-- - and LH021-013-- - are not indicated on the 1st ed but are in 2nd and 3rd OS editions.</p>	<p>Scrub and vegetation visible in large pockets throughout together with livestock desire lines/paths. Trackways associated with Piperstown Demesne noted to the south. No additional potential surface trace cultural heritage features were noted on the aerial photography in this area.</p>	<p>T03 is located on a south facing slope defined by bedrock outcrops and coarse shrub vegetation (predominantly gorse, blackthorn and brambles). The topsoil cover appears to be thin. The field falls away to a flat area of wetland covered in coarse grass at its southern margin. This field is used for grazing and contains small patches of grass in clearings between the mature vegetation with evidence of cattle poaching throughout. The large field is bounded on all sides by a stone field wall (CH03) in relatively good condition and a former vernacular cottage (CH01) is noted to the north boundary.</p> <p>There are two recorded standing stones within the field, one of which (LH021-014----) is upstanding and clearly visible from T03 (Plate 11-14, Appendix 15.1). Its location was recorded as ITM 708001/783547 (+/- 3m). This is slightly further SW to the location recorded on the SMR.</p> <p>The precise location of the second standing stone (LH021-013----) could not be identified with any certainty due to the heavy vegetation cover and poor GPS signal, however a number of recumbent stones were noted near its recorded location (Plate 15, Appendix 15.1). It is possible that</p>	<div data-bbox="1294 352 1980 871" data-label="Image"> </div> <p>Location of T3, towards E</p> <p>There is intervisibility between T03 and all recorded monuments to the south and east. The upper section of the turbine will also be visible from LH021-015--- to the north.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
				<p>these stones represent the toppled remains of (LH021-013----), this would need to be investigated further upon removal of the vegetation in this area if required (by hand, outside bird nesting season).</p>	
<p>Turbine 4 (including hardstand)</p>	<p>400m Standing Stone LH021-015---</p>	<p>Indicated as wet/marshy ground and field boundary to east in place at this time. Another unnamed lough to that of Drumshallon is indicated to the SE. CH01 and CH03 noted as for T03 above. Ground improved to pasture by 2nd and 3rd ed OS.</p>	<p>An area of S-facing area of pasture, with some rock outcropping and scrub growth to the W/SW. No additional potential surface trace cultural heritage features were noted on the aerial photography in this area.</p>	<p>T04 is located on a moderate south facing slope within a field used for grazing (Plate 23, Appendix 15.1). The turbine hardstand is located within an area of grass immediately west of a stone field boundary (CH03, Plates 24, 25, Appendix 15.1). A small mound of field clearance was noted at the northeast corner of the field (Plate 26, Appendix 15.1).</p> <p>A number of large bedrock outcrops were noted to the west of T04. The turbine is located within the same field as T03 but subdivided from it by a post and wire electric fence. The field is accessed from an existing access track to the north.</p>	 <p>Access road, towards location of T04, towards south.</p> <p>Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this area of T04 or the access road areas.</p>

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Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Turbine 5 (including hardstand)	138m Deserted Medieval Settlement LH021-027001-	The area is depicted as enclosed agricultural land, likely pasture. An 'old drain' is marked at the northern edge of T05 hardstand area which is also the Piperstown/ Drumshallon townland boundary. Standing Stone LH021-024-- is not marked but is indicated on later 2 nd and 3 rd OS eds.	Entirely covered in commercial forestry. No additional potential surface trace cultural heritage features were noted on the aerial photography in this area.	<p>T05 is located on level ground in a commercial forestry conifer plantation. An access road runs along its eastern margin which is defined by waste ground/dumped soil etc overgrown with coarse shrub/brambles etc. (Plates 31, 32, Appendix 15.1)</p> <p>Currently, there are limited views towards LH021-024---- through an access road (Plate 33, Appendix 15.1).</p> <p>A large portion of the turbine hardstand is located in an area covered by conifers (Plate 34, Appendix 15.1).</p> <p>There will be a likely visual impact on adjacent upstanding monuments towards T05, particularly for standing stone LH021-024----, and for LH021-027001- and LH021-027002- and Piperstown House (RPS Lhs021-015) which are located on slightly higher ground to the south (Plate 35, Appendix 15.1).</p>	 <p>Location of T05, towards southeast</p> <p>Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this area of T04 or the access road areas.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
<p>Access Roads (between T03 and T05)</p>	<p>35m Standing Stone LH021-014---</p>	<p>Indicated as wet/marshy ground and enclosed field. Ground improved to pasture by 2nd and 3rd ed OS. Tree belt indicated on 2nd and 3rd eds OS at south.</p>	<p>Quarry pit indicated to NW as well as modern stoned tracks associated with Equestrian Centre at Piperstown House. Historic tree belt still visible to south. Surfaces undulations noted – incl relict field systems (CH09).</p>	<p>The proposed access roads between T05 and T03 extends across two large fields divided by a stone wall at the lowest point of an open valley.</p> <p>The area immediately north of T05 is characterised by a large field used for grazing (Plates 18, 19 Appendix 15.1).</p> <p>Frequent bedrock outcrops were noted along with a relic field system (CH09) consisting of low rectilinear earthen and stone banks forming small enclosures along the western portion of the field (Plate 20, Appendix 15.1). It is possible that these are associated with the deserted medieval village and motte (LH021-027001- and LH021-027002-) to the south of T05. The access road is largely located to the south of these enclosures but may impact on a small number of the banks.</p> <p>A circular stone setting (CH08) was also noted within this area (as shown by landowner) however it cannot be ascertained whether this is an archaeological feature (Plate 20a, Appendix 15.1).</p> <p>A quarry (visible on aerials) was also noted immediately west of the proposed access road.</p> <p>A substantial stone wall (CH10) (Plate 20a, Appendix 15.1) extends along the boundaries of the</p>	 <p>Proposed access road towards T05 facing southeast</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
				<p>field and is particularly tall along the western boundary where it has the appearance of a demesne wall. This also represents the townland boundary of Cartanstown and may be associated with the former early estate.</p> <p>The northern margin of this field dips down towards a level area of grassy bog but is divided from the same by a stone field boundary which marks the northern extent of the field (Plate 26, Appendix 15.1).</p> <p>A modern access track/bridle way extends along the southern side of the wall. Within the northern field the access road skirts along the western margin of the bog before climbing up a moderate slope to the location of T03. It will pass within close proximity of standing stone LH021-014---- at this point.</p>	

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Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Turning Head & temporary compound 2	598m Mass Rock LH021-010---	The area is indicated as enclosed pasture with the existing road to the north, and Gallstown House and a gate lodge to Rokeby House, already built by this time in the mid-19 th century. The (existing) mature tree line to the south is also clearly marked, and a small stream traverses the area.	The enclosed pasture area retains belts of trees/scrub to the east and a new dwelling is also sited to the NE, fronting the local road network to the north. No surface undulations of note.	<p>The proposed location of the large turning head and associated access road is set within a large, relatively flat, poorly drained pasture field at the north side of Kilsaran quarry (Plate 7, Appendix 15.1).</p> <p>The field is bounded to the south by a mature tree line, to the north and east by a local road and mature hedgerow and to the west by the existing quarry access lane.</p>	 <p>Location of Turning Head area, towards SE</p> <p>Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this Turning Head area or the access road areas.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Met Mast	353m Drumshallon Church and Graveyard LH021-018001- to LH021-018004-	The area is indicated as within an enclosed field with a stream to the northern boundary. West of a tree-lined roadway accessing Drumshallon House on the 1st ed OS map and later editions. It is noted that just beyond the NW field boundary corner a lough is depicted on the 1st ed OS but not later editions.	Large open improved pasture field. No surface undulations of note. Small lough east of Drumshallon lough appears to be drained and vegetated (outside RLB).	The met mast is located within a slightly undulating field of improved grassland with good views to the south and west (Plate 30, Appendix 15.1). A small area of mature trees bounds the field to the southeast, while a tree-lined stream is located along the northern boundary.	 <p data-bbox="1285 874 1733 901">Location of Met Mast area, towards SE</p> <p data-bbox="1285 911 1973 994">Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this Met Mast area or the access road area.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Sub-station & temporary compound 3	280m Deserted Medieval Settlement LH021-027001-	Large open field indicated, N-S extending eastern boundary indicated in later 2 nd and 3 rd ed OS, along with small tree pocket (still existing).	Enclosed s-facing field of pasture with no surface undulations observed.	<p>The substation is located within a south-facing field of improved grassland with good views to the south and west.</p> <p>The land rises very slightly to the north of the substation limiting views in this direction (Plates 27-29, Appendix 15.1).</p> <p>A small area of mature trees bounds the field to the east.</p>	 <p>Towards substation from cable route, facing north</p> <p>Nothing of potential unrecorded archaeological/cultural heritage significance was noted in this Turning Head area or the access road areas.</p>

Development Element	Distance to nearest archaeological site	1 st edition 6-inch OS Map	Aerial images	Field Survey Notes	Representative Field Survey Photo
Grid Connections (1 & 2)	Various 0m – 41m			<p>The cable route from the substation to the main grid existing sub-station extends along the eastern boundary of a field of improved grassland (Plate 57, Appendix 15.1), before crossing a small stream adjacent to a vernacular stone bridge (Plate 58, Appendix 15.1), and extending along the western boundary of a north facing field before joining the existing access road for Piperstown Equestrian Centre (Plate 59, Appendix 15.1).</p> <p>The cable route then follows the existing road network to the Drybridge 110kV substation (Plate 60-75, Appendix 15.1)</p>	 <p>View of cable route outside Bone Valley Baptist Church (SMR LH021-038001-, LH021-038002-, NIAH13902114 RPS Lhs021-008), Ballymakenny Road, facing northeast</p>

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15.3.14 Summary

15.3.14.1 The Site

The recorded archaeological dataset from the Study Area indicates that human settlement and habitation was in place from early prehistoric times and throughout the medieval periods, to the present day. This longevity of settlement pattern is demonstrated by the known datasets with a relatively high volume of SMR monuments noted within the Study Area. It is also noted that recent (2022) archaeological geophysical survey and testing at a quarry extension area (see **section 15.3.8**) to the west/southwest of T02 has revealed likely prehistoric activity in the form of burnt spreads/pits and pottery fragments. It is possible that given the recorded prehistoric monuments (standing stones) located within the Site, together with the elevated and broad ridge topography (in particular the central area of T02 -T04 including access roads) that similar Bronze Age/prehistoric finds/features may exist at a sub-surface level within the design footprint.

Furthermore, proximity to the recorded late medieval activity at Piperstown demesne (deserted medieval settlement, motte) to the south (including T05, access roads and sub-station) as well as relict field systems noted during field survey (CH09) also indicate possibility of encountering below-surface archaeological finds/features.

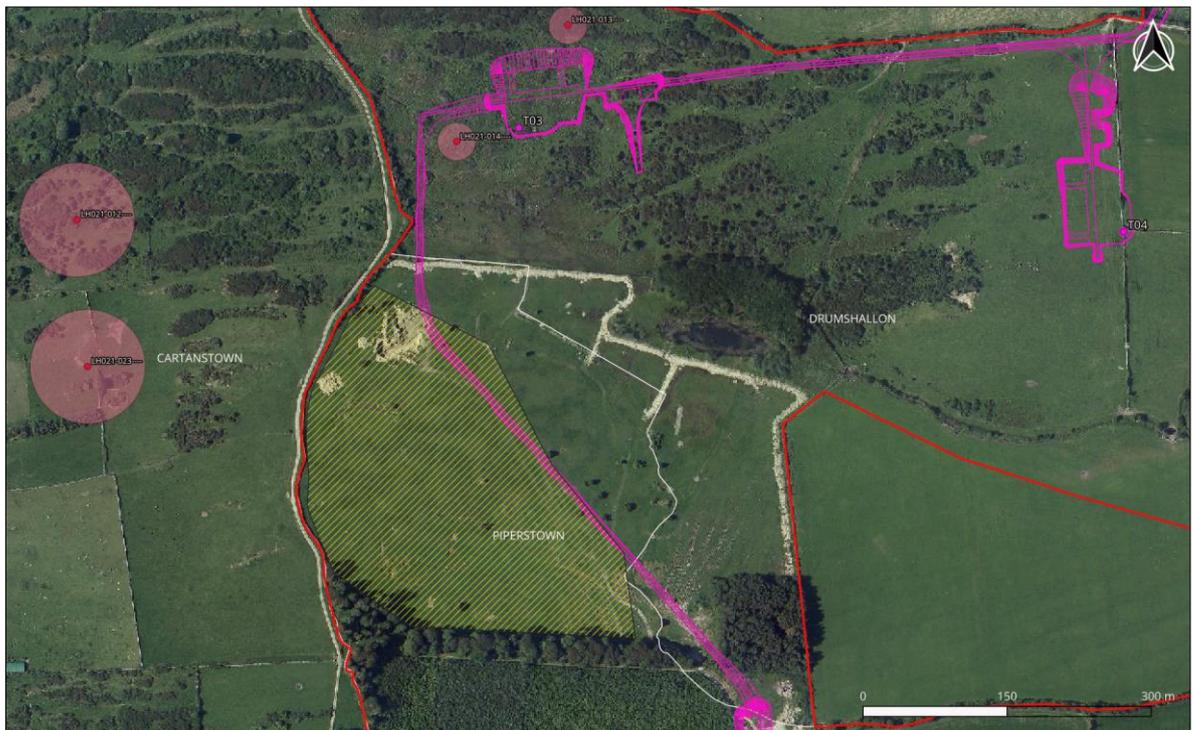


Figure 15.3 Location of Relict Field System CH09 (yellow) and Proposed Development layout (purple) and Red Line Boundary

The recorded archaeological monuments located within the Red Line Boundary have been avoided by design. It is noted that the location of T03 and associated hardstand and access roads traverses E-W (and centrally), through the close environs of standing stones LH021-013--- and LH021-014--- (outside respective Zones of Notification). These standing stones, including those recorded to the north (LH021-015--- and LH021-024--- respectively) are likely contemporary, intervisible, and would have likely held significance during the Bronze Age in terms of landscape markers (ritual or territorial) at these general Site environs.

A review of archaeological monuments with landscape setting sensitivities within 10km indicates that there are two monuments of note: a wedge tomb (LH021-021---) and a passage tomb (Townleyhall) (LH024-008002-) located within the 10km assessment area. Townleyhall passage tomb is also a National Monument and located within an ACA (Louth County Development Plan) and a NIAH Garden Demesne. Townley Hall passage tomb is publicly accessible and although it has been excavated in the past, the entrance opening faces towards the NE and the Site. The ZTV arc of view (see LVIA **Chapter 12**) of the Proposed Development from the passage tomb will be screened by an existing block of vegetation circa 250m distant.

There are six National Monuments in State Care (Ownership or Guardianship) located within 10km of the Site. Landscape settings that form part of monument character and original function are particularly relevant to Townleyhall passage tomb (Ref. 529) which is located just inside the designated Buffer Zone associated with World Heritage Site *Brú na Bóinne* (see above paragraph).

The LVIA chapter has identified a number of publicly accessible cultural heritage receptors within a 20km Study Area, and have selected VP locations based on various methodological factors that includes heritage. Those that interact with this chapter include Rokeby House (VP4), Stonehouse (VP5), Drumshallon Forge (VP10), Piperstown House (VP12), Monasterboice ecclesiastical site (VP13), Hill of Slane (VP21), Dowth Passage Tomb (VP22), Knowth Passage Tomb (VP23) and Newgrange Passage Tomb (VP24). Moderate LVIA significance of effect is noted for Rokeby House and Stonehouse area at the local road to the north of the Site (VP4 & VP5) and for Piperstown House at the local road to the east of the Site (VP12). A Substantial-Moderate LVIA significance of effect is noted for Drumshallon Forge.

The Proposed Development is located c. 7.6km north of the Buffer Zone and c. 8.4 km northeast of the Core Area boundaries associated with the World Heritage Site of *Brú na Bóinne*. Furthermore, the Proposed Development is located c. 3.7 km northeast of the northern ridgeline associated with the World Heritage Site and as defined in the *Louth*

County Development Plan 2021-2027. The LVIA (**Chapter 11**) indicates a Slight significance of effect for the VP22-VP24 at Knowth, Dowth and Newgrange Passage Tomb key locations within the *Brú na Bóinne* complex. The Battle of the Boyne battlefield site, located 5.5 km to the southwest of the Site, is also recognised as an important heritage receptor with various planning policies relating to same. Views from select locations towards the battlefield site per LVIA (**Chapter 11**) VP27-VP29, indicate that the ZTV is not relevant to the Site (outside ZTV or view in opposite direction – south). Consideration of the Hill of Slane (VP21) indicates a Slight significance of effect while there is an Imperceptible significance of effect for Monasterboice ecclesiastical complex (VP13).

The *Louth County Development Plan 2021-2027* also lists seven Protected Structures located within 1km of the Redline Boundary. Of particular note to the Proposed Development is the adjacent location of Piperstown House (RPS Lhs021-015).

15.3.14.2 Grid Connection

There are eight recorded archaeological sites located within the 100m Grid Connection Study Area although three of these are excavated record-only sites. Upstanding sites comprise two historic churches and graveyards at Ballymackenny (roadside) and Killineer which are located 1.5m-41m distant from the grid connection route.

In addition, there are five designated architectural heritage structures which comprise two gate-lodges, a church (also an SMR), a school-house and a vernacular house. All of these structures front the local road network.

15.3.14.3 Turbine Delivery Route

The TDR requires three discreet temporary working areas to facilitate wide and abnormal loads (turning) along existing local road networks. There are no works locations that retain known Cultural Heritage receptors on or near these locations.

15.3.14.4 Field Survey

A total of sixteen undesignated cultural heritage features were noted during field surveys, all of which are located within the Redline Boundary except for CH05, windmill stump at Piperstown townland. None are directly located within the Proposed Development footprint and have been avoided through design iteration.

Given the large volume of recorded archaeological monuments within the Study Areas, as well as the scale of the Project, it is likely that sub-surface archaeological remains or features continue to survive with no visible surface trace. This is particularly relevant for the

following identified Areas of Archaeological Potential (AAPs) (see **Volume III; Figure 15.14**):

- AAP01: Area of heightened archaeological sensitivity at standing stone sites LH021-013--, LH021-014--- and LH021-015--- including footprint of T02, T03 and T04; and access roads between T03 and T04.
- AAP02: Area of heightened archaeological sensitivity north of Piperstown Deserted Medieval Village and Motte area (LH021-027001- and LH021-027002-) including footprint of Sub-station and access road, and access road between T05 and T03. The location of Piperstown House and curtilage (RPS Lhs021-015) is also noted in terms of its heritage landscape estate setting.

15.3.15 Likely evolution of the Baseline Environment

The existing Cultural Heritage environment within the Redline Boundary comprises a combination of commercial forestry plantations and undulating or sloping pasturelands land-use types. There is evidence of rocky outcrops in places, and the existing Kilsaran Quarry to the north of the site is likely to continue to evolve by way of approved extension to lands immediately adjacent the Redline Boundary, north/northwest of Turbine 3.

The upstanding and recorded Cultural Heritage resource is likely to remain per the baseline environment in terms of location and extent, although overall condition may degrade with the passage of time due to weathering, climate change (extreme weather events including temperatures (heat/freeze) and storms). Should land use change for forestry purpose, there would be a likely impact on sub-surface remains, while the landscape setting of certain receptors would be impacted on a long-term but reversible basis.

15.4 ASSESSMENT OF POTENTIAL EFFECTS

15.4.1 Construction Phase – Direct Impacts

Wind Farm Site

The construction phase will have no likely predicted direct effects on the known archaeological monuments within the wider landscape surrounding the Site as no examples are located within the footprint of any Proposed Development areas. This includes the ZAPs as identified in the *Louth County Development Plan 2021-2027*, all of which are located within the wider 10km Study Area only.

It is noted that there are nine recorded archaeological sites located within the Redline Boundary, with any potential direct impact avoided by design for each of the locations (see

Table 15.6). Any likely indirect impact at construction or operational phases on these receptors is set out in sections **15.4.2** and **15.4.4**.

There are no designated architectural structures located within the Proposed Development footprint that are likely to be directly affected. In addition, none of the identified ACAs, are within the 1km Study Area, and none will be affected by the Proposed Development. The locations of all designated Cultural Heritage receptors have been avoided by design iteration.

A total of fifteen undesignated Cultural Heritage features were noted within the Redline Boundary. All undesignated Cultural Heritage receptors have been avoided by design, with the exception of one area (CH09), that retains possible relict field systems/boundaries where an access road between T03 and T05 is located in Piperstown townland. These boundary features are likely to be directly impacted (in part) during construction stage via ground reduction measures. The Cultural Heritage value of this undesignated receptor is currently unknown, however based on the presentation of the upstanding remains and proximity to recorded archaeological monuments including a possible deserted medieval settlement and an assessment of the historic landscape changes over recent centuries, it is possible that these CH09 features are archaeological in nature. This is considered a permanent negative direct impact of medium-high magnitude on a low-medium value receptor, resulting in Moderate-Significant significance of effect.

There are no proposed crossings of land drainage channels and minor streams within the Site. There are a number of natural streams and field ditches/drains in the Site, which will be avoided by means of buffer zones during construction. There are no predicted underwater Cultural Heritage impacts as a result.

It is concluded that the construction phase within the Site will result in one predicted direct effect on the Cultural Heritage resource, an undesignated potential relict field system (CH09). While the existence, location, extent, and significance of any unrecorded, sub-surface archaeological remains that may be present within the Site is unknown, the potential exists for direct, adverse, and permanent construction phase effects of medium to high magnitude (and thereby Moderate-Significant significance of effect) on any such remains situated within the footprint of proposed construction areas and this will require mitigation.

Grid Connection Route (GCR)

There are a number of known Cultural Heritage receptors located within the 100m corridor centred on the grid route which extends along areas previously disturbed by the construction of existing roads (see **Table 15.14**, **Table 15.15** and **Table 15.16** and **Volume**

III; Figure 15.13). Although some of these receptors front onto the roadside, they will not be directly impacted by the GCR route which will be retained in road and/or along the existing road verge only. The construction of the grid connection route will result in no predicted direct effects on the known cultural heritage resource.

Turbine Delivery Route (TDR)

The TDR requires discrete temporary working areas (ground reduction activities) to facilitate wide and abnormal loads (turning) along existing local road networks. There are no works locations that retain known Cultural Heritage receptors on or near these locations and as such there are no predicted direct impacts on the resource.

Table 15.19: Summary of Construction Phase Direct Impacts on the Cultural Heritage Resource

Receptor	Type	Value	Type of impact	Quality of impact	Magnitude of impact	Duration	Significance of Effect
CH09	Relict field system	Low-Medium	Direct	Negative	Medium-High	Permanent	Moderate-Significant
Potential unrecorded (sub-surface) archaeological features/artefacts	Unknown	Low-Medium	Direct	Negative	Medium-High	Permanent	Moderate-Significant

15.4.2 Construction Phase – Indirect Impacts

Wind Farm Site

There are Cultural Heritage receptors located in close proximity to the Site and/or retain sensitive landscape setting characteristics that the local topography or land-use does not offer a natural screening effect.

Standing stones LH021-013--- and LH021-014--- are located inside the redline Boundary while standing stone LH021-015--- is located just outside the Redline Boundary. The original functionality of standing stones as a land markers either for funerary or territorial purpose, with their visibility within the landscape comprising an inherent characteristic feature. Given the very close proximity to the Site, and the required vehicular movement of machinery for the construction works, this visual and noise distraction within the landscape setting is a predicted temporary negative indirect impact. This is considered of low-medium magnitude on the integrity and heritage setting of each of these three standing stones, each considered medium value receptors, and each resulting in a Moderate significance of effect.

Piperstown house and demense (Lhs021-015), which also includes a deserted medieval settlement LH021-027001- and motte LH021-027002-, is located within the Redline Boundary. Although visibility or prominence within the landscape was not inherent to the original functionality of the domestic residence or the earlier medieval village, the siting and orientation of Piperstown house within its formal grounds would have been carefully considered and designed. Given the close proximity to the Site, and the required vehicular movement of machinery for the construction works, this visual and noise distraction within the landscape setting is a predicted temporary negative indirect impact. This is considered of low-medium magnitude on the integrity and heritage setting of Piperstown house and demesne, considered a high value receptor, and resulting in a Slight-Moderate significance of effect.

The deserted medieval settlement LH021-027001- and motte LH021-027002 comprise some upstanding remains although they have been subject to interference (including archaeological excavation) over the centuries thereby degrading their condition and compromising their preservation. Furthermore, there has been a recent modern stable block built immediately adjacent to same. These are considered low value receptors, with low magnitude of impact resulting in a Slight significance of effect.

Grid Connection Route (GCR)

It is noted that there are seventeen Cultural Heritage receptors located within 100m of the GCR (see **Section 15.3.11**). These receptors are set back within adjacent fields or front along the existing roadside.

Four undesignated sites comprise road-bridges (CH12-CH15) however, construction at water crossings will involve HDD and will not require any interventions to the bridge structures or within the associated watercourses (potential underwater cultural heritage receptors). Each of these four bridges and the disused quarry site CH16, are considered low value receptors of negligible magnitude of impact, resulting in Not Significant significance of effects.

The construction works will involve in-road/in-verge trench excavation, with associated vehicular movements, machinery and traffic management systems. As such only those receptors with adjacent amenity heritage value to the visiting public are likely to have any predicted temporary negative indirect impact. Two retain visiting public amenity value/use in the form of historic churches and graveyards at Ballymackenny (LH021-038001-/RPS Lhs021-016/NIAH 13902114; LH021-038002-) and Kilineer (LH024-004001-; LH024-004002-).

The historic church and graveyard at Ballymakenny is of high value, but with negligible magnitude on its setting, resulting in a Slight significance of effect. However, it is noted that the close roadside proximity to the historic graveyard in Ballymakenny (LH021-038002-) raises the potential for associated sub-surface features to be directly or indirectly impacted during construction stage and as such, mitigation measures will be required at this location in line with those required for the unknown resource for the overall Site. The historic church and graveyard at Kilineer is of medium value, but with negligible magnitude on its setting, resulting in a Slight significance of effect.

The remaining receptors along the GCR 100m assessment corridor comprise Piperstown gate-lodge (Lhs021-015), school-house (Lhs021-016/NIAH 13902113), a house (NIAH 13902427) and Kilineer gate-lodge (Lhs024-003B). All in private ownership, these receptors are not accessible to the public and as such any predicted temporary negative indirect impact caused by construction related activities (in-road trench excavation, vehicular movements of machinery and traffic control systems) is considered of negligible magnitude of impact. The value of the receptors vary and as such the resulting significance of effect varies.

The value of Piperstown gate-lodge (Lhs021-015), although altered, does form part of the Piperstown demesne and is a protected structure, is considered of high value. The significance of effect is considered Slight. Similarly, the Kilineer gate-lodge (Lhs024-003B), is associated with Kilineer House and demesne, is a protected structure, of high value and so is considered a Slight significance of effect.

The school-house (Lhs021-016/NIAH 13902113), is also a protected structure, of high value and the significance of construction-related temporary significance of effect is considered Slight. The house (NIAH 13902427) although not a protected structure, retains architectural character and is considered a medium value receptor with the significance of construction-related temporary significance of effect is considered Slight-Imperceptible.

Turbine Delivery Route (TDR)

The Turbine Delivery Route requires discrete temporary working areas (ground reduction activities) at pinch-point turning locations. There are no works locations that retain known Cultural Heritage receptors on or near these locations and as such there are no predicted indirect impacts on the resource.

Table 15.20: Summary of Construction Phase Indirect Impacts on the Cultural Heritage Resource

Receptor	Type	Value	Type of impact	Quality of impact	Magnitude of impact	Duration	Significance of Effect
SMR LH021-013---	Standing Stone	Medium	Indirect	Negative	Medium	Temporary	Moderate
SMR LH021-014---	Standing Stone	Medium	Indirect	Negative	Medium	Temporary	Moderate
SMR LH021-015---	Standing Stone	Medium	Indirect	Negative	Medium	Temporary	Moderate
RPS Lhs021-015	Piperstown House	High	Indirect	Negative	Low-Medium	Temporary	Moderate-Significant
LH021-027001- and LH021-027002	Deserted Medieval settlement & motte	Low	Indirect	Negative	Low	Temporary	Slight
LH021-038001-/RPS Lhs021-016/NIAH 13902114	Church	High	Indirect	Negative	Negligible	Temporary	Slight
LH021-038002-	Graveyard	Medium	Indirect	Negative	Negligible	Temporary	Slight
LH024-004001-	Church	Medium	Indirect	Negative	Negligible	Temporary	Slight
LH024-004002-	Graveyard	Medium	Indirect	Negative	Negligible	Temporary	Slight
Lhs021-015	Piperstown House Gate Lodge	High	Indirect	Negative	Negligible	Temporary	Slight-Moderate
Lhs024-003B	Killineer House Gate Lodge	High	Indirect	Negative	Negligible	Temporary	Slight
Lhs021-016/NIAH 13902113	School House	High	Indirect	Negative	Negligible	Temporary	Slight
NIAH 13902427	House	Medium	Indirect	Negative	Negligible	Temporary	Slight-Imperceptible
CH12-CH16	4 No. Road bridges and dis-used quarry	Low	Indirect	Negative	Negligible	Temporary	Not Significant

15.4.3 Operational Phase – Direct Impacts

Wind Farm Site

There are nine recorded archaeological heritage receptors within the Red Line Boundary (see **Table 15.6**) while Piperstown House estate lands (Lhs021-015) are also located within same. In addition, there are seven undesignated Cultural Heritage receptors located within the Red Line Boundary (CH02, CH03, CH06, CH08, CH09, CH10 and CH11).

The operational phase of the proposed Project will not require any ground reduction measures and as a result there are no predicted direct physical impacts on the known Cultural Heritage resource.

Successful implementation of the mitigation measures at construction stage (see **section 15.5**) will result in the preservation in situ (by avoidance), or the preservation by record (via archaeological excavation), of any undesignated and/or unrecorded, sub-surface archaeological sites or features that may exist within proposed construction areas.

In cases of preservation in situ, these newly discovered site locations will be clearly marked on available project constraint mapping records and recorded on relevant national State Body databases (e.g SMR). Any future maintenance regimes required (e.g. access track resurfacing, drainage etc.) will take due cognisance of such recorded locations and mitigate accordingly via consultation with the Local Authority and National Monuments Service. There will, therefore, be no predicted direct impacts on any such undesignated receptors and/or potential unrecorded archaeological sites during the operational phase.

Grid Connection Route (GCR)

There are a number of known Cultural Heritage receptors located within the 100m corridor centred on the grid route which extends along areas previously disturbed by the construction of existing roads (see **Table 15.14, Table 15.15 and Table 15.16 and Volume III; Figure 15.13**). Although some of these receptors front onto the roadside, they will not be directly impacted by the GCR route which will be buried and retained in-road and/or along the existing road verge only. The construction of the grid connection route will result in no predicted in direct effects on the known cultural heritage resource.

Turbine Delivery Route (TDR)

The TDR requires discrete temporary working areas (ground reduction activities) to facilitate wide and abnormal loads (turning) along existing local road networks. There are no works locations that retain known Cultural Heritage receptors on or near these locations and as such there are no predicted direct impacts on the resource.

15.4.4 Operational Phase – Indirect Impacts

Wind Farm Site

There are archaeological monuments located within close proximity to the Site and/or retain sensitive landscape setting characteristics. These include standing stones LH021-013--- and LH021-014--- (outside respective Zones of Notification). These standing stones,

together with those recorded at further distances to the Proposed Development footprint (LH021-015--- and LH021-024---) are all likely to have been contemporary, intervisible monuments, that held significance during the Bronze Age in terms of landscape markers (ritual or territorial) at these general Site environs.

Today, these standing stone monuments are still standing *in situ* although it is possible that one has toppled over (LH021-014---) and is covered in dense scrub per available field survey records (see **section 15.3.13**). It cannot be determined whether collectively the standing stones (in whole or in part) located within this area formed a deliberate landscape alignment or linear boundary line marker. Nonetheless, it is recognised that the grouping represent a high-density volume of the monument type within a relatively small geographical area.

The location of T03 and associated hardstand and access roads traverses E-W (and centrally), through the close environs of standing stones LH021-013--- and LH021-014--- (within 24m-31m). There is a predicted long-term negative indirect impact of high magnitude on the setting of standing stones LH021-013--- and LH021-014---, designated medium value receptors, resulting in Very Significant significance of effects respectively.

Further, the Proposed Development (all Turbines) are likely to be prominently visible from the remaining standing stone locations, in particular LH021-015---. There is a predicted long-term negative indirect impact of high magnitude on the setting of standing stones LH021-015---, a designated medium value receptor, resulting in a Significant significance of effect.

Standing stones LH021-009--- and LH021-024--- are currently sited within dense and semi-mature commercial forestry lands and as such currently have reduced landscape visibility from same. There is a predicted long-term negative indirect impact of medium magnitude on the setting of standing stones LH021-009 and LH021-024---, designated medium value receptors, resulting in a Moderate significance of effect.

Landscape setting is not considered a key inherent element to the Deserted Medieval Settlement and Motte site (LH021-027001- and LH021-027002-) in Piperstown estate. However, proximity to T05 is noted, and this is considered a predicted long-term negative indirect impact of low magnitude on a medium value receptor, resulting in a Slight significance of effect. Similarly, proximity to T04 is noted for Drumshallon church and graveyard site (LH021-018001- to LH021-018004-). This site retains overgrown, upstanding

medieval fabric masonry and medieval/post-medieval grave-slabs. The quality of the setting of this religious site has prominence with regards to the inherent character and form of the site. Considered a medium value receptor, with a predicted long-term negative indirect impact of low magnitude, this results in a Slight-Moderate significance of effect.

Each of the four undesignated Cultural Heritage receptors located within the environs of the Proposed Development, a named well 'Tobertheorin' CH06; the former Drumshallon House outbuildings (CH02); windmill stump CH05; and Drumshallon Forge (CH04) are considered low value receptors. The magnitude of the impact on each site setting is considered medium due to each receptor being sited at similar distances to the Proposed Development and/or within similar topographical environments, resulting in a Slight significance of effect for each.

Townley Hall passage tomb is a National monument, and forms part of the World Heritage Site *Brú na Bóinne*. It is publicly accessible and although it has been excavated in the past, the passage entrance opening faces towards the northeast and the Site c. 9.2 km distant. The ZTV arc of view (see LVIA **Chapter 12**) of the Proposed Development from the passage tomb will be screened by an existing block of vegetation circa 250m distant. It is documented through archaeological excavations in 1960-61 by Prof George Eogan that the passage tomb was originally aligned towards sunrise on summer solstice. This phenomenon has been captured via drone videography²³ in recent years. The existing solstice alignment orientation from the tomb will remain unaffected and the Proposed Development is not visible along same. This is considered an indirect negative long-term impact of negligible-low magnitude on a Very High value receptor resulting in a Slight significance of effect.

There are a number of Very High/High value Cultural Heritage receptors located within 20km of the Proposed Development that retain landscape setting sensitivities that have also been captured in LVIA **Chapter 12** by way of VP selection and photomontage. These include: Rokeby House (VP4), Stonehouse (VP5), Piperstown House (VP12), Monasterboice ecclesiastical site (VP13), Hill of Slane (VP21), Dowth Passage Tomb (VP22), Knowth Passage Tomb (VP23) and Newgrange Passage Tomb (VP24) (see **Table 15.21**). In selecting VP locations for the LVIA, nine have direct or indirect relevance to Cultural Heritage receptors (see Error! Reference source not found.) and it concludes that it is not considered that the Proposed Development will result in any significant visual impacts in respect of heritage and amenity features.

²³ For example see video here from National Monuments Service: <https://www.facebook.com/watch/?v=402250628598635>

Table 15.21: LVIA VPs with Cultural Heritage relevance/sensitivity

VP Ref. (Chpt 12)	Cultural Heritage Receptor	Approx. distance to nearest turbine	Magnitude of Impact (LVIA only)	Significance of Effect (LVIA only)
VP4 Local road north of site at Rokeby	Rokeby House (RPS Lhs018-018)	0.9km (T2)	Medium-Low	Moderate [no significant visual impact for local community receptors]
VP5 Local road north of Stonehouse	Stonehouse (RPS LHs021-006)	0.8km (T1)	Medium	Moderate [no significant visual impact for local community receptors]
VP10 Drumshallon Forge Heritage Centre	Drumshallon Forge (CH04)	0.9km (T4)	High-Medium	Substantial-Moderate [no significant visual impact for heritage receptors]
VP12 Local road east of Piperstown	Piperstown House (RPS Lhs021-015)	1.1km (T5)	Medium	Moderate [no significant visual impact for local community receptors]
VP13 Monasterboice Cemetery Carpark	Ecclesiastical site, Monasterboice (Nat Mon. 94)	n/a (T1)	Negligible	Imperceptible [no significant visual impact for heritage receptors]
VP21 Hill of Slane	Hill of Slane/demesne (ME019-060010-)	14.2km (T1)	Low-Negligible	Slight [no significant visual impact for heritage receptors]
VP22 Dowth Passage Tomb	Dowth Passage Tomb (ME020-017--)	10.8km (T5)	Low-Negligible	Slight [no significant visual impact for heritage receptors]
VP23 Knowth Passage Tomb	Knowth Passage Tomb (ME019-030001-)	12.8km (T5)	Low-Negligible	Slight-Imperceptible [no significant visual impact for heritage receptors]
VP24 Newgrange Passage Tomb	Newgrange Passage Tomb (ME019-045---)	12.7km (T5)	Low-Negligible	Slight [no significant visual impact for heritage receptors]

Rokeby House (LHs018-018 and Lhs018-019) is a private dwelling located on third party lands and was not accessible during field survey. It is a Protected Structure and considered of National importance per the NIAH survey. The Proposed Development has been assessed as having a Moderate LVIA significance of effect, with no significant visual impact for local community receptors along the local road at Rokeby (VP4) (see **Chapter 12**). The house and estate fall within the ZTV and LVIA assessment indicates that the turbines may

be visible from parts of the wider estate, albeit it is anticipated that any views to be partial and heavily filtered by mature vegetation within the grounds and around the Hall. It is also noted that views of the Proposed Development would not occur in views of the primary building facades. The Proposed Development is likely to be visible, in part, from Rokeby House, and is considered an indirect negative long-term impact of medium magnitude on a high value receptor, resulting in a Significant significance of effect.

Stonehouse (Lhs021-006) is a private dwelling located on third party lands and was not accessible during field survey. It is a Protected Structure and considered of Regional importance per the NIAH survey. The Proposed Development has been assessed as having a Moderate LVIA significance of effect, with no significant visual impact for local community receptors along the local road north of Stonehouse (VP5) (see **Chapter 12**). The Proposed Development is likely to be visible, in part, from Stonehouse, and is considered an indirect negative long-term impact of medium magnitude on a high value receptor, resulting in a Significant significance of effect.

Cottage (Lhs021-005) lies south of Stonehouse (Lhs021-006) and is a private dwelling located on third party lands and was not accessible during field survey. It is a Protected Structure and considered of Regional importance per the NIAH survey. The Proposed Development is likely to be visible, in part, from the cottage, and is considered an indirect negative long-term impact of medium magnitude on a high value receptor, resulting in a Significant significance of effect.

Piperstown House (Lhs021-015) is a private dwelling located on third party lands and was not accessible during field survey. It is a Protected Structure and considered of Regional importance per the NIAH survey. The Proposed Development has been assessed as having a Moderate LVIA significance of effect, with no significant visual impact for local community receptors along the local road east of Piperstown house (VP12) (see **Chapter 12**). The Proposed Development is likely to be visible, in part, from Piperstown house, and is considered an indirect negative long-term impact of medium magnitude on a high value receptor, resulting in a Significant significance of effect.

Cartranstown House Lhs021-007 is a private (derelict) dwelling located on third party lands and was not accessible during field survey. It is a Protected Structure and considered of Regional importance per the NIAH survey. The Proposed Development is likely to be visible, in part, from the structure, and is considered an indirect negative long-term impact of medium magnitude on a high value receptor, resulting in a Significant significance of effect.

The ecclesiastical complex of Monasterboice (National Monument 94) is publicly accessible, save for direct entrance to the round tower. The Proposed Development has been assessed as having an Imperceptible LVIA significance of effect, with no significant visual impact for local community receptors at the Monasterboice carpark (VP13) (see **Chapter 12**). There are no views afforded towards the Proposed Development from the complex or from the door/top of steps from the round tower. As such, there is no predicted impact on this high value Cultural Heritage receptor. Similarly it is noted that there are no views afforded from Old Mellifont Abbey (National Monument 93) and as such there is no predicted impact on this high value Cultural Heritage receptor.

Views from the Hill of Slane offer glimpse views of the Proposed Development in the form of distant horizon intrusion of blade tips and turbine hubs (see **Chapter 12 Photomontage Booklet** for reference). The Proposed Development has been assessed as having a Slight LVIA significance of effect, with no significant visual impact for local community receptors at the Hill of Slane (VP21) (see **Chapter 12**). The Hill of Slane is a High value receptor and the predicted impact is that of an indirect long-term negative impact of negligible-low magnitude resulting in a Slight significance of effect.

Views from the passage tomb Newgrange offer glimpse views of the Proposed Development in the form of distant horizon intrusion of blade tips and turbine hubs (see **Chapter 12 Photomontage Booklet** for reference). The Proposed Development has been assessed as having a Slight LVIA significance of effect, with no significant visual impact for local community receptors at Newgrange (VP24) (see **Chapter 12**). The passage tomb of Newgrange forms part of the World Heritage Site of *Brú na Bóinne*. It is world-renowned for its alignment and deliberate orientation towards the southeast and the rising sun at Winter Solstice. This is the opposite direction of the Proposed Development and so horizon views to the SE from the tomb are unaffected. This is considered an indirect long-term negative impact of negligible-low magnitude on a Very High value receptor resulting in Slight significance of effect.

Views from the passage tomb Knowth offer glimpse views of the Proposed Development in the form of distant horizon intrusion of blade tips and turbine hubs (see **Chapter 12 Photomontage Booklet** for reference). The Proposed Development has been assessed as having a Slight LVIA significance of effect, with no significant visual impact for local community receptors at Knowth (VP23) (see **Chapter 12**). The passage tomb of Knowth forms part of the World Heritage Site of *Brú na Bóinne*. Knowth retains two passages,

aligned east and west. The Proposed Development is sited northeast of the site and the alignments remain unaffected. This is considered an indirect long-term negative impacts of negligible-low magnitude on Very High value receptors resulting in Slight significance of effect.

Views from the passage tomb Dowth offer glimpse views of the Proposed Development in the form of distant horizon intrusion of blade tips and turbine hubs (see **Chapter 12 Photomontage Booklet** for reference). The Proposed Development has been assessed as having a Slight LVIA significance of effect, with no significant visual impact for local community receptors at Dowth (VP22) (see **Chapter 12**). The passage tomb of Dowth forms part of the World Heritage Site of *Brú na Bóinne* and has two passages, both opening to the western side. The Proposed Development is sited northeast of the site and the alignment remains unaffected. This is considered an indirect long-term negative impacts of negligible-low magnitude on Very High value receptors resulting in Slight significance of effect.

The Battle of the Boyne battlefield site falls within the ZTV pattern to various degrees, LVIA assessment indicates that visibility is likely to be possible from some areas, but this visibility will be incidental and partial, relating to turbine tips and hubs. Given the limited views towards the Proposed development per ZTV analysis and select indicative VPs (VP19) outlined in Chapter 12, it is considered that any likely indirect impacts for the battlefield site (5.5km distant at closest point) are long-term negative impacts of negligible magnitude on a high value receptor resulting in a Not Significant/Slight significance of effect.

Grid Connection Route (GCR)

Due to the buried nature of the underground cabling, there are no predicted indirect operational stage impacts on the Cultural Heritage resource relevant to the GCR for the Proposed Development.

Turbine Delivery Route (TDR)

The proposed TDR Works Areas will be reinstated at Construction Phase, with no Operational Phase required. There are no Cultural Heritage receptors relevant to the TDR. There are no predicted indirect operational stage impacts on the Cultural Heritage resource relevant to the TDR for the Proposed Development.

Table 15.22: Summary of Operational Phase Indirect Impacts on the Cultural Heritage Resource

Receptor	Type	Value	Type of impact	Quality of impact	Magnitude of impact	Duration	Significance of Effect
SMR LH021-013---	Standing Stone	Medium	Indirect	Negative	High	Long-term	Very Significant
SMR LH021-014---	Standing Stone	Medium	Indirect	Negative	High	Long-term	Very Significant
SMR LH021-015---	Standing Stone	Medium	Indirect	Negative	High	Long-term	Significant
SMR LH021-009	Standing Stone	Medium	Indirect	Negative	Medium	Long-term	Moderate
SMR LH021-024---	Standing Stone	Medium	Indirect	Negative	Medium	Long-term	Moderate
SMR LH021-027001-	Deserted Medieval Settlement	Low-Medium	Indirect	Negative	Low	Long-term	Slight
SMR LH021-027002-	Motte	Low-Medium	Indirect	Negative	Low	Long-term	Slight
SMR LH021-018001-	Church	Medium	Indirect	Negative	Low	Long-term	Slight-Moderate
SMR LH021-018002-	Graveyard	Medium	Indirect	Negative	Low	Long-term	Slight-Moderate
CH06	Tobertheorin (Well)	Low	Indirect	Negative	Medium	Long-term	Slight
CH02	Drumshallon House outbuildings	Low	Indirect	Negative	Medium	Long-term	Slight
CH05	Windmill stump	Low	Indirect	Negative	Medium	Long-term	Slight
CH04	Drumshallon Forge	Low	Indirect	Negative	Medium	Long-term	Slight
Townley Hall Nat Mon 529	Passage Tomb	Very high	Indirect	Negative	Negligible-Low	Long-term	Slight
Rokeby House RPS Lhs018-018	Country House & demesne	High	Indirect	Negative	Medium	Long-term	Significant
Stonehouse RPS Lhs021-006	Country House & estate	High	Indirect	Negative	Medium	Long-term	Significant
Stonehouse cottage RPS Lhs021-005	Thatched cottage	High	Indirect	Negative	Medium	Long-term	Significant
Piperstown house RPS Lhs021-015	Country House & estate	High	Indirect	Negative	Medium	Long-term	Significant
Cartranstown House RPS Lhs021-007	Country House	Medium	Indirect	Negative	Medium	Long-term	Moderate
Monasterboice Nat Mon 94	Ecclesiastical Complex	High	n/a	n/a	n/a	n/a	n/a
Old Mellifont Abbey Nat Mon 93	Ecclesiastical Complex	High	n/a	n/a	n/a	n/a	n/a

Receptor	Type	Value	Type of impact	Quality of impact	Magnitude of impact	Duration	Significance of Effect
Hill of Slane SMR ME019-060010-	Tower House	High	Indirect	Negative	Low	Long-term	Slight
Newgrange (WHS) ME019-045---	Passage Tomb	Very High	Indirect	Negative	Negligible	Long-term	Slight
Knowth (WHS) ME019-030001-	Passage Tomb	Very High	Indirect	Negative	Negligible	Long-term	Slight
Dowth (WHS) ME020-017---	Passage Tomb	Very High	Indirect	Negative	Negligible	Long-term	Slight
Battle of the Boyne Battlefield	Battlefield	High	Indirect	Negative	Negligible	Long-term	Not Significant/Slight

15.5 MITIGATION MEASURES AND RESIDUAL EFFECTS

15.5.1 Construction Phase Mitigation Measures

The Wind Farm layout was informed by Cultural Heritage desktop studies and fieldwork undertaken during the design and assessment phases and was designed to avoid the locations of known and potential heritage receptors.

There is an identified potential relict field system (CH09) and overall sub-surface archaeological potential at the Site (recorded monuments in close proximity/near environs; previous investigations at Kilsaran Quarry to the northwest (geophysical survey, test trenching); potential relict field system, AAPs 1 & 2).

As part of advance construction works and where suitable, feasible and viable, a programme of licenced archaeological geophysical survey at CH09 and throughout the design footprint and temporary working areas in the Site will be carried out by a licence-eligible archaeo-geophysicist.

This will be followed up by strategic and targeted test trenching of any anomalies that may be identified. In the event of an archaeological find during testing, consultation with statutory bodies (NMS/NMI) will be carried out to direct next steps in terms of preservation in situ (avoidance) or preservation by record (excavation).

Ground works during the construction phase will be subject to archaeological monitoring by a licence-eligible archaeologist under licence by the National Monuments Service. A systematic advance programme of archaeological field-walking surveys will also be carried out within Proposed Development areas in forestry plantations following tree felling to

confirm the conditions predicted in this assessment, i.e., that they contain no visible surface traces of potential unrecorded archaeological or architectural heritage sites.

In the event that any sub-surface archaeological features are identified during archaeological monitoring they will be securely cordoned off, cleaned and recorded *in situ*. The National Monuments Service will then be notified and consulted to determine further appropriate mitigation measures, which may include preservation *in situ* (by avoidance) or preservation by record (archaeological excavation).

The identified temporary indirect negative impacts on the Cultural Heritage resource during construction stage are of a visual nature only that detract from the setting and/or amenity value/access to the identified sensitive receptor. There are no appropriate mitigation measures to reduce or offset these indirect impacts on setting.

It is noted that standing stone LH021-013--- has possibly toppled over based on field survey observations, since the ASI survey was conducted, while standing stone LH021-014--- is still upright, and located 31m distant (closest point) to the Proposed Development footprint. A minimum 20m diameter buffer and exclusion zone around the monuments will be retained at construction stage (using temporary and highly visible non-ground intrusive fencing) in order to avoid any inadvertent damage to the stones as well as ground rutting in and around the monuments.

15.5.2 Construction Phase Residual Impacts – Direct

The mitigation measures presented in **Section 15.5.1** will provide for either the avoidance of the potential unrecorded, sub-surface archaeological resource within the footprint of proposed construction locations or the proper and adequate recording of the Cultural Heritage resource (CH09) by record via a full archaeological excavation/built heritage survey. No residual construction phase direct impacts are predicted following the implementation of these mitigation measures.

15.5.3 Construction Phase Residual Impacts – Indirect

There are no available mitigation measures to reduce or offset identified indirect impacts on the Cultural Heritage resource. Nonetheless, these construction stage indirect impacts are temporary in nature and reversible.

15.5.4 Operational Phase Mitigation Measures

As detailed in **Section 15.4.4**, the Project will result in a range of long-term, indirect negative impacts on the wider setting of archaeological and architectural heritage receptors within and beyond the environs of the Site. These indirect operational stage impacts range from Not Significant to Very Significant in terms of significance of effect (**Table 15.22**). Given the nature of the Turbine structures, there are no mitigation measures that can address the indirect impact on heritage landscape setting. It is noted that these impacts will be reversible at the decommissioning phase.

15.5.5 Operation Phase Residual Impacts - Direct

There are no predicted operational phase direct residual impacts on the cultural heritage resource.

15.5.6 Operation Phase Residual Impacts - Indirect

The operational phase will result in a range of Not Significant to Very Significant long-term residual indirect impacts on the setting of archaeological sites within the environs of the Project. It is noted that these impacts will be reversible following decommissioning of the Site (see **section 15.7**).

15.6 CUMULATIVE IMPACTS

A review of operational, consented, and proposed wind farm developments within 20km of the Site was carried out in order to assess potential cumulative effects on the cultural heritage resource (**Table 15.23**). This included a review of any available relevant reports contained in the online planning files published on the Louth County Councils' planning enquiry systems as well as the results of any archaeological site investigations at their locations published in the Database of Irish Excavation Reports. A review of adjacent Kilsaran Quarry planning files was also undertaken and the results are presented in **Table 15.23**.

Table 15.23: Cultural Heritage review of Wind Farms and Kilsaran Quarry within 20km of the Site

Name	No. WTG	Approximate Distance from the Site (km)	Planning Status	Cultural Heritage Context
Dunmore Wind Farm (Part 1)	2	11.4 km to W	Operational	A review of the Database of Irish Excavation Reports revealed that archaeological monitoring (Ref. CO17) of groundworks was undertaken during this phase of the construction of this wind farm in 2005. No archaeological features were noted.
Dunmore Wind Farm (Part 2)	2	11.4 km to W	Operational	A review of the Database of Irish Excavation Reports revealed that geophysical survey and test-trenching was undertaken at Dumore Hill, Belpatrick (Ref. C321; E3988) in 2008 for the WF extension. No archaeological features were identified.
Leaby Cross Wind Farm	1	12.9 km to W	Operational	This development did not retain a Cultural Heritage related planning condition as part of the Grant of Permission.
Meade Wind Farm	1	17 km to W	Operational	A review of the Database of Irish Excavation Reports revealed that it contains no entries for the excavation of any archaeological features identified during the construction of this wind farm.
WuXi Biologics	1	19.5 km to N	Permitted	This development did not retain a Cultural Heritage related planning condition as part of the Grant of Permission (Louth Co Co)
Kilsaran Quarry	n/a	21 m to W 148 m to E	Operational and Conditional	A review of the Planning Files for a recent quarry extension application indicated the need for geophysical survey and test-trenching as part of an FI request which was carried out in 2022. This indicated the presence of archaeological features (prehistoric pits, spreads and pottery fragments). Grant of Planning Condition indicates the need for stripping of topsoil in advance of construction/extraction under archaeological licence together with further consultation with NMS for approval of mitigation strategy to be adopted in advance of works.

Given the absence of any predicted direct effects on the recorded Cultural Heritage resource arising from the Project, in combination with the results of the above review of wind farms, it is concluded that the Project is not predicted to contribute to any significant direct cumulative effects on the Cultural Heritage resource of the wider area.

However, it is noted that, the operational phase of the Proposed Development will result in indirect operational Not Significant-Very Significant effects on the settings of identified sensitive Cultural Heritage sites within the environs of the Site. In considering the cumulative effect of operational and permitted development sites outlined in **Table 15.22**, Standing Stones LH021-013---, LH021-014--- and LH021-015-- are notable due to the close proximity of the monuments, to both the Proposed Development and the permitted quarry extension area. Two of these standing stone monuments, LH021-014--- and LH021-015--- are upstanding, with the other monument LH021-013--- now lying on its side. The permitted quarry extension boundary is 21 m to west and 148 m to the east of the Proposed Development, while standing stones LH021-013--- and LH021-014--- are located within the Redline Boundary. The cumulative impact on the setting of each of the standing stone monuments, also accounting for impact on the grouping value of the contemporaneous monument type, this is considered a negative indirect impact of high magnitude on medium value receptors resulting in a Significant significance of effect.

15.7 DECOMMISSIONING IMPACTS

No direct impacts on known elements of the cultural heritage resource are predicted during the decommissioning phase as any recorded Cultural Heritage assets located within the footprint, or close environs of the Proposed Development will be resolved by mitigation at construction phase.

Any previously unrecorded archaeological remains that could potentially be identified during the site investigations detailed in **Section 15.5.1** will either be preserved by avoidance within the Site or preserved by record (excavation). No decommissioning impacts on such potential features are predicted.

Buffer and exclusion zones will be adopted for upstanding archaeological monuments (Standing Stones LH021-013---, LH021-014--- and LH021-015---) and any archaeological features preserved in situ during the original construction stage. This will avoid any inadvertent strike damage or ground rutting at these locations during decommissioning works and removal of Site infrastructure.

The decommissioning of the Proposed Development will result in the reversal of the long-term, indirect, negative operational impacts on the archaeological monuments located both within the environs of the Site and the wider landscape (**Table 15.22**).

15.8 CONCLUSIONS

The Proposed Development will not result in any predicted direct negative impacts on any known archaeological monuments or designated architectural heritage structures. However, there is potential for direct impact at areas of heightened cultural heritage sensitivity, with respect to proximity (and hitherto unknown sub-surface extent or survival) of known receptors.

There is direct impact in part on one undesignated feature, a relict field system CH09. This feature will be subject to advance works site investigation, together with other identified areas of archaeological potential and the design footprint, via geophysical survey and test trenching.

Archaeological investigations will be undertaken by licence, issued by the National Monuments Service, and will be carried out by a suitably qualified archaeologist. In the event that any sub-surface archaeological remains are identified during site investigations, they will be cleaned, recorded and left to remain in situ within cordoned off areas while the National Monuments Service are notified and consulted in relation to appropriate future mitigation strategies, which may entail preservation in situ, by avoidance, or preservation by record by archaeological excavations.

Ground works during the construction phase will also be subject to archaeological monitoring by a suitably qualified archaeologist under licence by the National Monuments Service. A systematic advance programme of archaeological field-walking surveys will also be carried out within Proposed Development areas in forestry plantations following tree felling.

The Proposed Development will result in a range of Not Significant-Very Significant indirect negative impacts on the settings of archaeological monuments and architectural heritage structures located within surrounding lands during the operational phase. These indirect impacts will be long-term in duration and will be reversible during the decommissioning phase.

Table 15.24 Summary of Impacts and Residual Effects

CH Receptor	Type of Impact	Development Stage	Duration	Significance of Effect	Mitigation Measure	Residual Effect	Cumulative Impact	Decommissioning Impact
CH09 Relict Field System	Direct	Construction (Site)	Temporary	Moderate-Significant	<p>Programme of licenced archaeological geophysical survey, followed by target anomaly test trenching. In the event of archaeological material being encountered, preservation in situ and/or by preservation by record will apply, subject to NMS/NMI agreement.</p> <p>Any preserved in situ features adequately and accurately recorded and mapped for operational stage underground constraint mapping.</p> <p>Licenced archaeological monitoring of areas requiring ground reduction measures and not already subject to geophysical/test-trenching investigations.</p>	None	None	None
Potential unrecorded (sub-surface) archaeological features/ artefacts	Direct	Construction (Site, GCR)	Temporary	Moderate-Significant	<p>Programme of licenced archaeological geophysical survey, followed by target anomaly test trenching. In the event of archaeological material being encountered, preservation in situ and/or by preservation by record will apply, subject to NMS/NMI agreement.</p> <p>Any preserved in situ features adequately and accurately recorded and mapped for operational stage underground constraint mapping.</p> <p>Licenced archaeological monitoring of areas requiring ground reduction measures and not already subject to</p>	None	None	None

CH Receptor	Type of Impact	Development Stage	Duration	Significance of Effect	Mitigation Measure	Residual Effect	Cumulative Impact	Decommissioning Impact
					geophysical/test-trenching investigations.			
SMR LH021-013-- - Standing Stone	Indirect	Construction (Site)	Temporary	Moderate	Application of a minimum 20m buffer/exclusion zone surrounding monument.	Moderate	None	None
SMR LH021-013-- - Standing Stone	Indirect	Operational (Site)	Long-Term	Very Significant	None	Very Significant	Significant	None Reversal of operational and residual impacts. Application of a minimum 20m buffer/exclusion zone surrounding monument.
SMR LH021-014-- - Standing stone	Indirect	Construction (Site)	Temporary	Moderate	Application of a minimum 20m buffer/exclusion zone surrounding monument.	Moderate	None	Application of a minimum 20m buffer/exclusion zone surrounding monument.
SMR LH021-014-- - Standing Stone	Indirect	Operational (Site)	Long-Term	Very Significant	None	Very Significant	Significant	None Reversal of operational and residual impacts. Application of a minimum 20m buffer/exclusion zone surrounding monument.
SMR LH021-015-- - Standing Stone	Indirect	Construction (Site)	Temporary	Moderate	None	Moderate	None	None
SMR LH021-015-- - Standing Stone	Indirect	Operational (Site)	Long-Term	Significant	None	Significant	Significant	None Reversal of operational and residual impacts.
Piperstown House RPS Lhs021-015	Indirect	Construction (Site)	Temporary	Slight-Moderate	None	Slight-Moderate	None	None
Piperstown House RPS Lhs021-015	Indirect	Operational (Site)	Long-Term	Significant	None	Significant	None	None Reversal of operational and residual impacts.

CH Receptor	Type of Impact	Development Stage	Duration	Significance of Effect	Mitigation Measure	Residual Effect	Cumulative Impact	Decommissioning Impact
LH021-027001- and LH021-027002 Deserted medieval settlement and Motte	Indirect	Construction (Site)	Temporary	Slight	None	Slight	None	None
LH021-027001- and LH021-027002 Deserted medieval settlement and Motte	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
LH021-038001-/RPS Lhs021-016/NIAH 13902114 Ballymackenny Historic Church	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
LH021-038002-Ballymackenny Historic Graveyard	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
LH024-004001-Church	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
LH024-004002-Graveyard	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
Lhs024-003B Killineer House gate-lodge	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
Lhs021-016/NIAH 13902113 School House	Indirect	Construction (GCR)	Temporary	Slight	None	Slight	None	None
NIAH 13902427 House	Indirect	Construction (GCR)	Temporary	Slight-Imperceptible	None	Slight-Imperceptible	None	None
CH12-CH16 4 no. road bridges and disused historic quarry	Indirect	Construction (GCR)	Temporary	Not Significant	None	Not Significant	None	None
SMR LH021-009-- Standing Stone	Indirect	Operational (Site)	Long-Term	Moderate	None	Moderate	None	None

CH Receptor	Type of Impact	Development Stage	Duration	Significance of Effect	Mitigation Measure	Residual Effect	Cumulative Impact	Decommissioning Impact
								Reversal of operational and residual impacts.
SMR LH021-024-- - Standing Stone	Indirect	Operational (Site)	Long-Term	Moderate	None	Moderate	None	None Reversal of operational and residual impacts.
SMR LH021-018001- Church	Indirect	Operational (Site)	Long-Term	Slight - Moderate	None	Slight - Moderate	None	None Reversal of operational and residual impacts.
SMR LH021-018002- Graveyard	Indirect	Operational (Site)	Long-Term	Slight - Moderate	None	Slight - Moderate	None	None Reversal of operational and residual impacts.
CH06 Tobertheorin (Well)	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
CH02 Drumshallon House outbuildings	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
CH05 Windmill stump	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
CH06 Drumshallon Forge	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
Townley Hall Nat Mon 529	Indirect	Operational (Site)	Long-Term	Slight	None	Slight	None	None Reversal of operational and residual impacts.
Rokey House RPS Lhs018-018	Indirect	Operational (Site)	Long-Term	Significant	None	Significant	None	None Reversal of operational and residual impacts.
Stonehouse Lhs021-006	Indirect	Operational (Site)	Long-Term	Significant	None	Significant	None	None

CH Receptor	Type of Impact	Development Stage	Duration	Significance of Effect	Mitigation Measure	Residual Effect	Cumulative Impact	Decommissioning Impact
								Reversal of operational and residual impacts.
Stonehouse cottage Lhs021-005	Indirect	Operational (Site)	Long-Term	Significant	None	Significant	None	None Reversal of operational and residual impacts.
Cartranstown House Lhs021-007	Indirect	Operational (Site)	Long-Term	Moderate	None	Moderate	None	None Reversal of operational and residual impacts.

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15.9 SUMMARY OF SIGNIFICANT EFFECTS

No predicted direct significant effects on the Cultural Heritage resource arising from the Proposed Development have been identified.

There is predicted indirect, negative and long-term Very Significant significance of effect at operational stage on Standing Stones LH021-013---, LH021-014---.

There is indirect negative and long-term Significant significance of effect on Standing Stone LH021-015---; Rokeby House and demesne (RPS Lhs018-018); Stonehouse (RPS Lhs021-006), Stonehouse cottage (RPS LHS021-005) and Piperstown House (RPS Lhs021-015).

Furthermore, it is noted that there is a Significant cumulative impact on each of the three standing stones LH021-013---, LH021-014--- and LH021-015--- including their inherent grouping value.

There are no mitigation measures to ameliorate these indirect operational stage impacts on setting, however it is noted that the duration of same is long-term and the effect is reversible following decommissioning of the Site.

15.10 DO-NOTHING SCENARIO

A Do-Nothing scenario at the Proposed Development site would result in the continued preservation of potential (hitherto) unrecorded sub-surface archaeological remains within design footprint and temporary working areas.

In addition, the Cultural Heritage baseline environment would remain unchanged, including no further detracting of the character and setting associated with the identified Cultural Heritage receptors within the Study Area.

15.11 STATEMENT OF SIGNIFICANCE

An assessment has been made of the potential for significant effects of the Proposed Development on the Cultural Heritage resource. Following the application of effective mitigation measures based on best practice guidelines, including archaeological inputs during the Project design process combined with onsite archaeological works prior to and during the construction phase, the Proposed Development is not predicted to result in likely

direct Significant effects on the Cultural Heritage resource at any stage – construction, operational or decommissioning stages.

There is predicted indirect Significant effect at operational stage at three standing stone monuments (SMRs) and four protected structures (Rokeby House, Stonehouse (2) and Piperstown House. It is acknowledged that these indirect significant effects on landscape setting is reversible at decommissioning stage of the Proposed Development.

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