

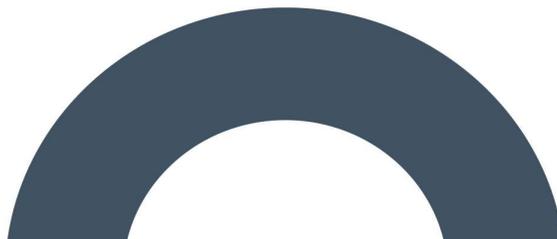
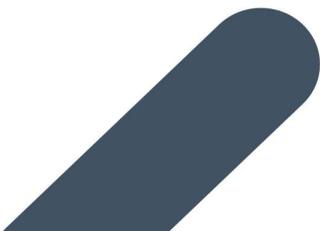
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Environmental Impact Assessment Report (EIAR)

Carrig Renewables Wind Farm

Chapter 13 – Cultural Heritage

Tipperary Planning Authority – Inspection Purposes Only!



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Table of Contents

13. CULTURAL HERITAGE	13-1
13.1 Introduction.....	13-1
13.1.1 Proposed Development.....	13-1
13.1.2 Location and Topography.....	13-1
13.1.3 Statement of Authority.....	13-1
13.1.4 Relevant Legislation.....	13-2
13.1.4.1 Granada Convention.....	13-2
13.1.4.2 Tipperary County Development Plan 2022-2028.....	13-3
13.1.4.3 Offaly County Development Plan 2021-2027.....	13-5
13.1.5 Statutory Consultations	13-10
13.1.5.1 Tipperary County Council.....	13-10
13.1.5.2 Offaly County Council.....	13-10
13.1.5.3 National Monuments Service.....	13-10
13.2 Assessment Methodology.....	13-10
13.2.1 Geographical Information Systems (GIS).....	13-10
13.2.2 Desktop Assessment.....	13-10
13.2.2.1 Record of Monuments and Places, Sites and Monuments Record and National Monuments.....	13-11
13.2.2.2 Cartographic Sources and Aerial Photography	13-11
13.2.2.3 Topographical Files - National Museum of Ireland.....	13-11
13.2.2.4 Archaeological Inventory Series.....	13-11
13.2.2.5 Record of Protected Structures.....	13-11
13.2.2.6 Excavations Database.....	13-12
13.2.2.7 National Inventory of Architectural Heritage (NIAH).....	13-12
13.2.2.8 Previous Assessments	13-12
13.2.3 Field Inspection.....	13-12
13.2.3.1 Limitations Associated with Fieldwork.....	13-12
13.2.4 Assessment of Likely Significant Effects	13-12
13.2.4.1 Types of Impact.....	13-13
13.2.5 Methodology for the assessment of impacts on visual setting (indirect effects).....	13-13
13.3 Existing Environment	13-15
13.3.1 Results of Field Inspection.....	13-15
13.3.2 Archaeological, Architectural and Cultural Heritage.....	13-15
13.3.2.1 UNESCO World Heritage Sites and those on Tentative List	13-15
13.3.2.2 National Monuments.....	13-15
13.3.2.3 Recorded Monuments within the Proposed Wind Farm Site.....	13-28
13.3.2.4 Recorded Monuments within 5km of the nearest proposed turbine	13-33
13.3.2.5 Excavations Database.....	13-51
13.3.2.6 Topographical Files of the National Museum of Ireland.....	13-53
13.3.2.7 Sub-Surface Archaeological Potential.....	13-54
13.3.2.8 Archaeological Landscapes	13-54
13.3.2.9 Protected Structures within 5km of the nearest proposed turbine.....	13-55
13.3.2.10 NIAH Structures and Historic Gardens within 5km of the nearest proposed turbine.....	13-60
13.3.2.11 Cartographic Evidence and Local Cultural Heritage	13-64
13.3.2.12 Townlands and administrative boundaries.....	13-68
13.3.3 Proposed Underground Electrical Cabling Route.....	13-69
13.3.3.1 National Monuments.....	13-69
13.3.3.2 Recorded Monuments	13-70
13.3.3.3 Protected Structures.....	13-78
13.3.3.4 NIAH	13-80
13.3.3.5 Cartographic Evidence and Local Cultural Heritage	13-88
13.3.4 Proposed Turbine Delivery Route.....	13-90
13.3.4.1 Pinchpoint at Riverstown, Co. Tipperary and Co. Offaly.....	13-91
13.3.4.2 Pinchpoints at Roscrea, Co. Tipperary	13-91
13.3.4.3 Pinchpoint at Junction of N52-L1071, Riverstown, Co. Tipperary	13-91
13.4 Likely Effects and Associated Mitigation Measures.....	13-95
13.4.1 Construction Phase Potential Impacts (Indirect).....	13-95
13.4.2 Construction Phase Potential Impacts (Direct)	13-95
13.4.2.1 UNESCO World Heritage Sites and those on Tentative List	13-95
13.4.2.2 National Monuments.....	13-95

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13.4.2.3	Recorded Monuments within the Wind Farm Site	13-96
13.4.2.4	Recorded Monuments within 5km of the nearest proposed turbine	13-97
13.4.2.5	Recorded Monuments along the Grid Connection Underground Electrical Cabling Route.....	13-97
13.4.2.6	Recorded Monuments along the Transport Delivery Route.....	13-97
13.4.2.7	Sub-surface Archaeological Potential	13-98
13.4.2.8	Protected Structures within the Proposed Wind Farm Site.....	13-99
13.4.2.9	Protected Structures within 5km of the nearest proposed turbine.....	13-99
13.4.2.10	Protected Structures within 100m of the Grid Connection Underground Electrical Cabling Route.....	13-99
13.4.2.11	Protected Structures and NIAH Structures along the Transport Delivery Route	13-100
13.4.2.12	NIAH structures within the Wind Farm Site.....	13-100
13.4.2.13	NIAH structures within 5km of the nearest proposed turbines.....	13-100
13.4.2.14	NIAH structures within 100m of the Grid Connection Underground Electrical Cable Route	13-101
13.4.2.15	Features of Local Cultural Heritage Merit.....	13-101
13.4.3	Operational Phase Potential Impacts (Indirect).....	13-102
13.4.3.1	UNESCO World Heritage Sites and those on Tentative List	13-102
13.4.3.2	National Monuments.....	13-102
13.4.3.3	Recorded Monuments within the Proposed Wind Farm Site.....	13-105
13.4.3.4	Recorded Monuments within 5km of the nearest proposed turbine	13-106
13.4.3.5	Protected Structures within the Proposed Wind Farm Site.....	13-121
13.4.3.6	Protected Structures within 5km of the nearest proposed turbine.....	13-122
13.4.3.7	Protected Structures and NIAH Structures on the Proposed Transport Delivery Route.....	13-124
13.4.3.8	NIAH Structures and Historic Gardens within 5km of the nearest proposed turbine.....	13-124
13.4.3.9	Features of Local Cultural Heritage Merit.....	13-128
13.5	Cumulative Impacts	13-128
13.5.1	All extant planning applications within 20km	13-128
13.5.2	Other Wind Farms	13-129
13.5.3	Cumulative Impacts (Direct Impacts – Construction stage).....	13-129
13.5.3.1	Cumulative impacts (direct) considering other windfarms within 20km.....	13-130
13.5.4	Cumulative Effects (Indirect Impact on Setting)	13-130
13.5.4.1	UNESCO World Heritage sites (tentative).....	13-131
13.5.4.2	National Monuments in State Care	13-131
13.5.4.3	Recorded Monuments (5km).....	13-132
13.5.4.4	Protected Structures and NIAH (5km).....	13-132
13.6	Do Nothing Scenario	13-132
13.7	Decommissioning Phase.....	13-132
13.8	Conclusion.....	13-133
13.9	References	13-133

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13. CULTURAL HERITAGE

13.1 Introduction

This cultural heritage chapter was prepared by Tobar Archaeological Services Ltd. It presents the results of an archaeological, architectural and cultural heritage impact assessment of the Proposed Development

The purpose of this chapter is to assess the potential direct and indirect effects of the Proposed Development on the surrounding archaeological, architectural and cultural heritage landscape. The assessment is based on both a desktop review of the available cultural heritage and archaeological data, a field inspection of the Proposed Development footprint and EIAR Site Boundary and a windscreen survey of the proposed grid connection route and TDR accommodation works. An assessment of potential effects, including cumulative effects, is presented.

13.1.1 Proposed Development

The Proposed Development will comprise 7 No. wind turbines, and associated infrastructure, met mast, construction compounds, a 38kV on-site substation and associated works, including underground 38kV cabling to connect to the national grid at Dallow substation and accommodation works along the turbine delivery route (TDR).

The full description of the Proposed Development is detailed in Chapter 4 of this EIAR. A full description of all elements of the Proposed Development is detailed in Chapter 4 of this EIAR.

13.1.2 Location and Topography

The core of the Proposed Development site is located approximately 2 kilometres west of the village Carrig, Co. Tipperary, 5.7 kilometres to the southwest of Riverstown, Co Tipperary and 7 kilometres southwest of Birr, Co. Offaly. It is proposed to access the Proposed Development via a new access track off the L5040 Local Road to the southeast of the Proposed Development. The grid connection includes for underground 38kV cabling from the proposed onsite 38kV substation, in the townland of Faddan More, to the existing Dallow 110kV substation in the townland of Clondallow, County Offaly. The underground cabling route to Dallow, measuring approximately 13.7km in length, is primarily located within the public road corridor (Figure 13-1).

Current land-use on the Proposed Development comprises coniferous forestry, peat-cutting and agriculture. Current land-use along the grid connection comprises of public road corridor, public open space, discontinuous urban fabric and agriculture.

13.1.3 Statement of Authority

This chapter of the Environmental Impact Assessment Report (EIAR) has been prepared by Miriam Carroll of Tobar Archaeological Services Ltd. Miriam graduated from University College Cork in 1998 with a Masters degree in Methods and Techniques in Irish Archaeology. She is licensed by the Department of Housing, Local Government and Heritage (DHLGH) to carry out excavations and is a member of the Institute of Archaeologists of Ireland. Miriam has been working in the field of archaeology since 1994 and has undertaken numerous projects for both the private and public sectors including excavations, site assessments (EIAR) and surveys. Miriam Carroll is a director of Tobar Archaeological Services which has been in operation for 20 years.

13.1.4 Relevant Legislation

Archaeological monuments are safeguarded through national and international policy, which is designed to secure the protection of the cultural heritage resource. This is undertaken in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention). This was ratified by Ireland in 1997.

Both the National Monuments Acts 1930 to 2004 and relevant provisions of the Cultural Institutions Act 1997 are the primary means of ensuring protection of archaeological monuments, the latter of which includes all man-made structures of whatever form or date. There are a number of provisions under the National Monuments Acts which ensure protection of the archaeological resource. These include the Register of Historic Monuments (1997 Act) which means that any interference to a monument is illegal under that Act. All registered monuments are included on the Record of Monuments and Places (RMP).

The Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments (Amendment) Act 1994 and consists of a list of known archaeological monuments and accompanying maps. The Record of Monuments and Places affords some protection to the monuments entered therein. Section 12 (3) of the 1994 Amendment Act states that any person proposing to carry out work at or in relation to a recorded monument must give notice in writing to the Minister (Environment, Heritage and Local Government) and shall not commence the work for a period of two months after having given the notice. All proposed works, therefore, within or around any archaeological monument are subject to statutory protection and legislation (National Monuments Acts 1930-2004).

The term ‘national monument’ as defined in Section 2 of the National Monuments Act 1930 means a monument *‘the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto’*. National monuments in State care include those which are in the ownership or guardianship of the Minister for Arts, Heritage and the Gaeltacht. Section 5 of the National Monuments Act (1930) allows owners of other national monuments to appoint the Minister for the Arts, Heritage and the Gaeltacht or the relevant local authority as guardian of such monuments, subject to their consent. This means in effect that while the property of such a monument remains vested in the owner, its maintenance and upkeep are the responsibility of the State. Some monuments are also protected by Preservation Orders and are also regarded as National Monuments. National Monuments also includes (but not so as to limit, extend or otherwise influence the construction of the foregoing general definition) every monument in Saorstát Éireann to which the Ancient Monuments Protection Act, 1882, applied immediately before the passing of this Act, and the said expression shall be construed as including, in addition to the monument itself, the site of the monument and the means of access thereto and also such portion of land adjoining such site as may be required to fence, cover in, or otherwise preserve from injury the monument or to preserve the amenities thereof.

Under the Heritage Act (1995) architectural heritage is defined to include *‘all structures, buildings, traditional and designed, and groups of buildings including street-scapes 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...’*. A heritage building is also defined to include *‘any building, or part thereof, which is of significance because of its intrinsic architectural or artistic quality or its setting or because of its association with the commercial, cultural, economic, industrial, military, political, social or religious history of the place where it is situated or of the country or generally’*.

13.1.4.1 Granada Convention

The Council of Europe, in Article 2 of the 1985 Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), states that *‘for the purpose of precise identification of the*

monuments, groups of structures and sites to be protected, each member State will undertake to maintain inventories of that architectural heritage'. The Granada Convention emphasises the importance of inventories in underpinning conservation policies.

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

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

The Council of Europe's definition of architectural heritage allows for the inclusion of structures, groups of structures and sites which are considered to be of significance in their own right, or which are of significance in their local context and environment. The NIAH believes it is important to consider the architectural heritage as encompassing a wide variety of structures and sites as diverse as post boxes, grand country houses, mill complexes and vernacular farmhouses.

13.1.4.2 Tipperary County Development Plan 2022-2028

The Tipperary County Development Plan 2022-2028 came into effect on 22nd August 2022. The relevant policies and objectives of Tipperary County Council regarding archaeology and built heritage were consulted in the CDP and include the following:

13.1.4.2.1 Architectural Heritage

It is the policy of the Council to:

13 - 1 Encourage and support the sympathetic restoration, re-use and maintenance of protected structures thereby ensuring their conservation and protection. In considering proposals for development, the Council will have regard to the Architectural Heritage Protection Guidelines for Planning Authorities, (DAHG 2011) or any amendment thereof, and proposals that will have an unacceptable impact on the character and integrity of a protected structure or adjoining protected structure will not be permitted.

13 - 2 Encourage and support new development that contributes to the enhancement of ACAs with regard to; a) Impact on the character, appearance and integrity of the ACA in terms of compatibility in design, colour, finishes and massing of form; b) Impact on the existing amenities, character and heritage of the ACA; c) The importance of retaining important architectural and townscape elements such as shopfronts, sash windows, gutters and down pipes, plasterwork etc as appropriate.

13 - 3 Seek the sympathetic restoration, appropriate re-use and maintenance of buildings/features which are considered to be of local and vernacular architectural importance.

It is the objective of the Council to:

13 - A Support the owners of structures on the RPS and structures in ACAs through educational and information actions to assist in the conservation and active use of built heritage.

13 - B Administer and manage built heritage funding schemes such as the 'Built Heritage Investment Scheme', 'Structures at Risk Scheme' etc and any review thereof, to support owners of built heritage in the county.

13.1.4.2.2 Archaeological Heritage

It is a policy of the Council to:

13 - 4 Safeguard sites, features and objects of archaeological interest, including Recorded Monuments, National Monuments and Monuments on the Register of Historic Monuments, and archaeological remains found within Zones of Archaeological Potential located in historic towns and other urban and rural areas. In safeguarding such features of archaeological interest, the Council will seek to secure their preservation (i.e. in situ or in exceptional circumstances preservation by record) and will have regard to the advice and recommendation of the Department of Arts, Heritage and the Gaeltacht. Where developments, due to their location, size or nature, may have implications for archaeological heritage, the Council may require an archaeological assessment to be carried out. This may include for a requirement for a detailed Visual Impact Assessment of the proposal and how it will impact on the character or setting of adjoining archaeological features. Such developments include those that are located at, or close to an archaeological monument or site, those that are extensive in terms of area (1/2 ha or more) or length (1 kilometre or more), those that may impact on the underwater environment and developments requiring EIA.

13 - 5 Respect and preserve the remains (both sub-surface and upstanding) of the medieval towns in line with the Conservation, Management and Interoperation Plans in place for each town, in line with the guidance of the Heritage Council and the National Policy on Town Defences (DEHLG, 2008).

13 - 6 Consider landscapes of archaeological significance and, if considered necessary, require an impact assessment for proposed development which could have a significant impact on the identified landscape.

13 - 7 Consider underwater archaeology and ensure that development to river banks or coastal edges within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting.

It is an objective of the Council to:

13 - C Ensure that the towns of Cashel, Fethard, Carrick on Suir and Clonmel remain members of the Irish Walled Towns Network, and to carry out an annual maintenance, interpretation and conservation programme in respect of each of these towns

13 - D Carry out an audit of archaeological landscapes in Tipperary over the lifetime of the Plan, having consideration to landscapes that may extend into adjoining counties.

13 - E Work closely with the relevant State bodies, International Council on Monuments and Sites, UNESCO, the relevant local authorities and local stakeholders to support the designation of the Royal Sites as a UNESCO World Heritage Site.

13 - F Safeguard archaeological artefacts found on land or in rivers and, as appropriate, to file a 'Report of Discovery' with the National Museum of Ireland under Section 68 (2) of the National Cultural Institutions Act, 1997.

13.1.4.3 Offaly County Development Plan 2021-2027

13.1.4.3.1 Built Heritage Policies

Protected Structures

BHP-01 It is Council policy to ensure the protection, sympathetic and sensitive modification, alteration, extension or reuse of protected structures or parts of protected structures, and the immediate surrounds included and proposed for inclusion in the Record of Protected Structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, together with the integrity of their character and setting.

BHP-02 It is Council policy to ensure the protection of the curtilage of protected structures or proposed protected structures and to prohibit inappropriate development within the curtilage or attendant grounds of a protected structure which would adversely impact on the special character of the protected structure including cause loss of or damage to the special character of the protected structure and loss of or damage to, any structures of architectural heritage value within the curtilage of the protected structure.

BHP-03 It is Council policy to promote best practice and the use of skilled specialist practitioners in the conservation of, and any works to, protected structures. Method statements should make reference to the Department of Culture, Heritage and the Gaeltacht's Advice Series on how best to repair and maintain historic buildings.

BHP-04 It is Council policy to favourably consider the change of use of any structure included on the Record of Protected Structures provided such a change of use does not adversely impact on its intrinsic character and is in accordance with the proper planning and sustainable development of the area.

BHP-05 It is Council policy to actively encourage uses that are compatible with the character of protected structures.

BHP-06 It is Council policy to retain where practicable a protected structure which has been damaged by fire, and to retain those elements of that structure that have survived (either in whole or in part) and that contribute to its special interest.

BHP-07 It is Council policy to prohibit the demolition of any protected structure unless the Council is satisfied that exceptional circumstances exist. The demolition of a protected structure with the retention of its façade will likewise not generally be permitted.

BHP-08 It is Council policy to require an Architectural Heritage Assessment Report, as described in Appendix B of the Architectural Heritage Protection, Guidelines for Planning Authorities, Department of Culture, Heritage and the Gaeltacht (2013), to accompany all applications involving a protected structure.

BHP-09 It is Council policy to advise owners of protected structures in preparation of funding applications under Built Heritage Scheme of the Historic Structures Fund.

BHP-10 It is Council policy to ensure that in the event of a planning application being granted for development within the curtilage of a protected structure, the proposed works to the protected structure should occur, where appropriate, in the first phase of the development to prevent endangerment, abandonment and dereliction of the structure.

BHP-11 It is Council policy to ensure that measures to upgrade the energy efficiency of Protected Structures and historic buildings are sensitive to traditional construction methods and materials and

do not have a detrimental physical, aesthetic or visual impact on the structure. They should follow the principles and direction given in the Department of Arts, Heritage and the Gaeltacht's publication Energy Efficiency in Traditional Buildings.

Architectural Conservation Areas

BHP-12 It is Council policy to encourage the retention of original windows, doors, renders, roof coverings, street furniture and other significant features of historic buildings and landscape features within Architectural Conservation Areas.

BHP-13 It is Council policy to proactively promote conservation through the Planning and Development Act 2000 (as amended), the Built Heritage Investment Scheme and other schemes available to the Council.

BHP-14 It is Council policy to preserve the character of Geashill Architectural Conservation Area (ACA) and any future ACA's in County Offaly by ensuring that any new development within or contiguous to the ACA is sympathetic to the character of the area and that the design is appropriate in terms of scale, height, plot density, layout, materials and finishes having regard to the advice given in the Statements of Character for each area.

Vernacular Buildings

BHP-15 It is Council policy to encourage the protection, retention, appreciation and appropriate revitalisation of the vernacular heritage of Offaly.

BHP-16 It is Council policy to consider the guidance in "The Thatched Houses of Kildare" and "Reusing Farm Buildings, A Kildare Perspective" published by Kildare County Council in assessing planning applications in County Offaly relating to thatched cottages and traditional farm buildings.

BHP-17 It is Council policy to preserve the character and setting (for example, gates, gate piers and courtyards) of vernacular buildings where deemed appropriate by the planning authority.

BHP-18 It is Council policy to seek the repair and retention of traditional timber and/or rendered shop fronts and pub fronts, including those that may not be protected structures.

BHP-19 It is Council policy to communicate and work with owners of thatch buildings regarding the availability of conservation grants and funding

BHP-20 It is Council policy to encourage where appropriate the covering of thatch with metal, as a measure for the protection of buildings which are unoccupied and showing signs of considerable distress.

BHP-21 It is Council policy to support proposals to refurbish vernacular structures that are in a run down or derelict condition, provided that;

- Appropriate traditional building materials and methods are used to carry out repairs to the historic fabric; and
- Proposals for extensions to vernacular structures are reflective and proportionate to the existing building and do not erode the setting and design qualities of the original structure which make it attractive.

Industrial Heritage

BHP-22 It is Council policy to protect the industrial heritage of Offaly, including mills, historic industrial buildings, canals and historic bridges.

BHP-23 It is Council policy to utilise the information provided within Mills of County Offaly: An

Industrial Heritage Survey (2009) when assessing development proposals for surviving industrial heritage sites.

BHP-24 It is Council policy to protect and enhance the built and natural heritage of the Grand Canal and ensure that development within its vicinity is sensitively designed and does not have a detrimental effect on the character of the canal, its built elements and its natural heritage values and that it adheres to the Waterways Ireland's Heritage Plan 2016-2020.

BHP-25 It is Council policy to encourage appropriate change of use and reuse of industrial buildings, provided such a change does not seriously impact on the intrinsic character of the structure and that all works are carried out in accordance with best conservation practice.

BHP-26 It is Council policy to seek the retention and appropriate repair/maintenance of the historic bridges and harbours of the county whether they are protected structures or not.

BHP-27 It is Council policy to restrict vehicular access onto public roads that were formerly towpaths and any development permitted with access off a towpath must be screened effectively with trees and hedging. In relation to planning applications for housing in the open countryside with access proposed off towpaths, applicants must demonstrate compliance with Policy SSP-27 as towpaths are located within Natural Heritage Areas and Areas of High Amenity.

Country Houses, Gardens and Demesnes

BHP-28 It is Council policy to encourage the protection, conservation, promotion and enhancement of Country Houses, Gardens and Demesnes in the county and support public awareness, enjoyment of and access to these sites where appropriate.

BHP-29 It is Council policy to encourage the conservation, preservation, restoration and protection in their original setting of mausoleums and monuments: follies, grottoes; garden buildings and other structures of particular beauty or historic, environmental, architectural or industrial significance.

BHP-30 It is Council policy to discourage development that would lead to a loss of, or cause damage to, the character, the principle components of, or the setting of Country Houses, Gardens and Demesnes.

BHP-31 It is Council policy to consider the "Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estates and their Settings" published by Cork County Council 2006 in the appraisal and description of the impacts of proposed developments in County Offaly within or in close proximity to country houses and demesnes on historic designed landscapes, demesnes and gardens.

Protected Species

BHP-32 It is Council policy to protect habitats and species when considering proposed works to buildings and structures which are likely to impact on protected ecological sites and protected species.

Archaeological Heritage

BHP-33 It is Council policy to support and promote the protection and appropriate management and sympathetic enhancement of the county's archaeological heritage within the Plan area, in particular by implementing the Planning and Development Act 2000 (as amended) and the National Monuments Act 1930 (as amended).

BHP-34 It is Council policy to seek to promote awareness of and access to archaeological sites in the county where appropriate.

BHP-35 It is Council policy to consult with the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht (DCHG) in relation to archaeological sites within and/or adjoining

a proposed development.

BHP-36 It is Council policy to facilitate the identification of important archaeological landscapes in the county.

BHP-37 It is Council policy that any development that may, due to its size, location or nature, have implications for archaeological heritage (including both sites and areas of archaeological potential / significance) shall be subject to an archaeological assessment. When dealing with proposals for development that would impact upon archaeological sites and/or features, there will be presumption in favour of the ‘preservation in situ’ of archaeological remains and settings, in accordance with Government policy. Where permission for such proposals is granted, the Planning Authority will require the developer to have the site works supervised by a licenced archaeologist.

BHP-38 It is Council policy to ensure that archaeological excavation is carried out according to best practice as outlined by the National Monuments Service, Department of Culture, Heritage and the Gaeltacht, the National Museum of Ireland and the Institute of Archaeologists of Ireland and to protect previously unknown archaeological sites and features, where they are discovered during development works.

BHP-39 It is Council policy to ensure the protection and preservation of underwater and terrestrial archaeological sites, both known and potential in riverine or lacustrine locations including wrecks such as the remains of bridges.

BHP-40 It is Council policy to require archaeological assessment, including underwater archaeological assessment where relevant, for such developments that due to their location, size or nature may have implications for archaeological heritage. Such developments include those that are located at or close to an archaeological monument or site, those that are extensive in terms of area (0.5 hectares or more) or length (1 kilometre or more and developments that require an Environmental Impact Statement.

Monastic Sites

BHP-41 It is Council policy to retain the nominated status of the area comprising the National Monument at Clonmacnoise, enclosing eskers, Mongans Bog, Clonmacnoise callows, Fin Lough and the limestone pavement at Clorhane as the “Clonmacnoise Heritage Zone” in accordance with the recommendations of the study of the area carried out by the Environmental Sciences Unit of Trinity College, Dublin as shown in Figure 10.7 of this Plan.

BHP-42 It is Council policy to investigate the potential of Durrow Demesne as a public amenity and tourism asset.

BHP-43 It is Council policy to support and promote the protection and appropriate management of all monastic sites in the county.

Mass Rocks and Holy Wells

BHP-44 It is Council policy to preserve, protect and, where necessary, enhance mass rocks and holy wells in the County.

Historic Military Fortifications and Castle Sites

BHP-45 It is Council policy to support and promote the protection and appropriate management of historic military fortifications and castle sites in the county.

Funding

BHP-46 It is Council policy to support the progression and delivery of projects that repair and conserve

historic structures under the Historic Structures Fund, the Built Heritage Investment Scheme or other funding schemes as applicable.
 Community Archaeology

BHP-47 It is the policy of the Council to support the concept of Community Archaeology and greater collaboration in promoting awareness, knowledge and understanding of local archaeological resources in County Offaly

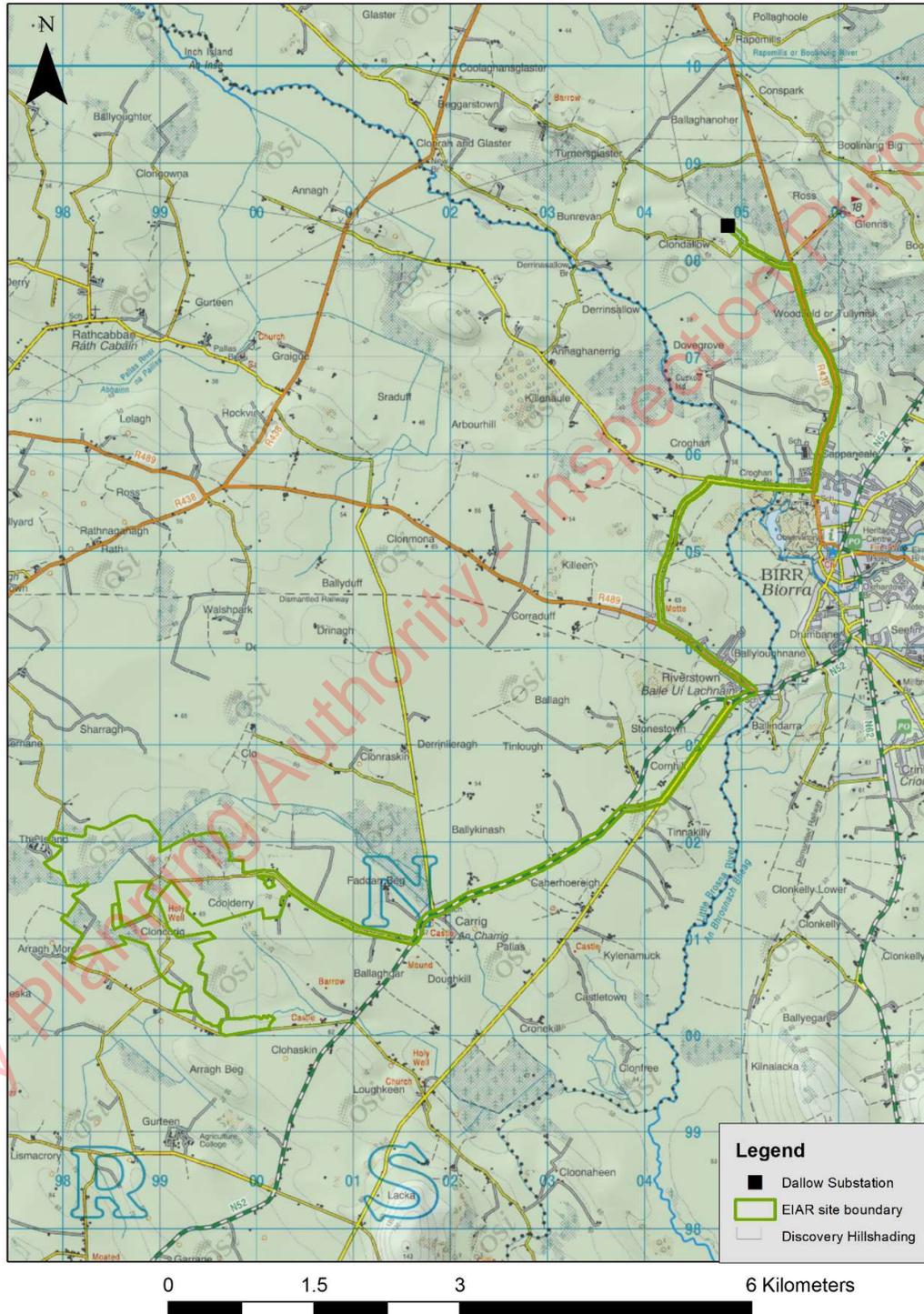


Figure 13-1: Site location map.

13.1.5 Statutory Consultations

13.1.5.1 Tipperary County Council

No archaeology, architectural or cultural heritage related responses were received from Tipperary County Council.

13.1.5.2 Offaly County Council

No archaeology, architectural or Cultural heritage related responses were received from Offaly County Council.

13.1.5.3 National Monuments Service

No archaeology, architectural or cultural heritage related responses were received from the National Monuments Services /Development Applications Unit of the Department of Housing, Local Government and Heritage (DHLGH).

13.2 Assessment Methodology

The assessment of the archaeology, architecture and cultural heritage of the Proposed Development included geographic information system (GIS) mapping, desk-based research and field inspection.

13.2.1 Geographical Information Systems (GIS)

GIS is a computer database which captures, stores, analyses, manages and presents data that is linked to location. GIS is geographic information systems which includes mapping software and its application with remote sensing, land surveying, aerial photography, mathematics, photogrammetry, geography and tools that can be implemented with GIS software. GIS was used to manage the datasets relevant to the archaeological and architectural heritage assessment and for the creation of all the maps in this section of the report. This involved the overlaying of the relevant archaeological and architectural datasets on georeferenced aerial photographs and road maps (i.e. Economic and Social Research Institute (ESRI)), where available. The integration of this spatial information allows for the accurate measurement of distances of a proposed development from archaeological and cultural heritage sites and the extraction of information on 'monument types' from the datasets. Areas of archaeological or architectural sensitivity may then be highlighted in order to mitigate the potential negative effects of a development on archaeological, architectural and cultural heritage.

13.2.2 Desktop Assessment

The following sources were consulted as part of the desktop assessment for the Proposed Development:

- > The Record of Monuments and Places (RMP)
- > The Sites and Monuments Record (SMR)
- > National Monuments in State Care County Tipperary
- > National Monuments in State Care County Offaly
- > The Topographical Files of the National Museum of Ireland
- > First edition Ordnance Survey maps (OSI)
- > Second edition Ordnance Survey maps (OSI)
- > Aerial photographs (copyright of Ordnance Survey Ireland (OSI))
- > Excavations Database
- > National Inventory of Architectural Heritage (NIAH)

➤ Record of Protected Structures

Each of these are discussed in the following sections.

13.2.2.1 Record of Monuments and Places, Sites and Monuments Record and National Monuments

A primary cartographic source and base-line data for the assessment was the consultation of the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP) for Counties Tipperary and Offaly. All known recorded archaeological monuments are indicated on 6-inch Ordnance Survey (OS) maps and are listed in these records. The SMR/RMP is not a complete record of all monuments as newly discovered sites may not appear in the list or accompanying maps. In conjunction with the consultation of the SMR and RMP the electronic database of recorded monuments and SMRs which may be accessed at www.maps.archaeology.ie/historicenvironment was also consulted.

A review of all National Monuments in State Care and those subject to Preservation Orders was also undertaken as part of the assessment.

13.2.2.2 Cartographic Sources and Aerial Photography

The 1st (1840s) and 2nd (1900s) edition OS maps for the area were consulted, where available, as was OSI aerial photography.

13.2.2.3 Topographical Files - National Museum of Ireland

Details relating to finds of archaeological material and monuments in numerous townlands in the country are contained in the topographical files held in the National Museum of Ireland. In order to establish if any new or previously unrecorded finds had been recovered from the Proposed Development site these files were consulted for each townland within and adjacent to the same. Heritage Maps (www.heritagemaps.ie) also contains locational detail for Museum find spots.

13.2.2.4 Archaeological Inventory Series

Further information on archaeological sites may be obtained in the published County Archaeological Inventory series prepared by the Department of Housing, Local Government and Heritage (DHLGH). The archaeological inventories present summarised information on sites listed in the SMR/RMP and include detail such as the size and location of particular monuments, as well as any associated folklore or local information pertaining to each site. The inventories, however, do not account for all sites or items of cultural heritage interest which are undiscovered at the time of their publication. Many sites have been discovered since the publication of the Inventory Series, which have now been added to the Sites and Monuments Record.

13.2.2.5 Record of Protected Structures

The current County Development Plans were consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest which may be affected by the Proposed Development. The development plans also outline policies and objectives relating to the protection of the archaeological, historical and architectural heritage landscape of County Tipperary and Offaly. The datasets for the Tipperary and Offaly Record of Protected Structures were added to the base mapping for the Proposed Development in order to accurately assess any potential impacts on such structures.

13.2.2.6 Excavations Database

The Excavations Database is an annual account of all excavations carried out under license. The database is available on line at www.excavations.ie and includes excavations from 1985 to 2023. This database was consulted as part of the desktop research for this assessment to establish if any archaeological excavations had been carried out within or near to the Proposed Development site.

13.2.2.7 National Inventory of Architectural Heritage (NIAH)

This source lists some of the architecturally significant buildings and items of cultural heritage and is compiled on a county by county basis by the Department of Housing, Local Government and Heritage (DHLGH). The NIAH database was consulted for all townlands within and adjacent to the Site. The NIAH survey has been published and the digital dataset was downloaded on to the base mapping for the Proposed Development (www.buildingsofireland.ie). The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Housing, Local Government and Heritage (DHLGH) and established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for the Department of Culture, Heritage and the Gaeltacht to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

13.2.2.8 Previous Assessments

No previous assessments were carried out on the Proposed Development Site.

13.2.3 Field Inspection

The Proposed Development (Wind Farm Site, Grid Connection Route and proposed pinchpoints along the Transport Delivery Route (TDR)) were subject to a walk-over survey and windscreen survey in December 2022 and January and April 2023. A photographic and descriptive record was made of the Proposed Development and any features of interest therein. The photographic record is included as Appendix 13-1 of this EIAR. All SMR sites within the Proposed Development site were inspected as well as any other relevant cultural heritage features.

13.2.3.1 Limitations Associated with Fieldwork

No significant limitations were encountered during fieldwork and all areas were accessed. Tree-cover is present in the areas of T6, T7 and T2, however, a general visual inspection of these areas was possible.

13.2.4 Assessment of Likely Significant Effects

The likely effects on the existing archaeological, architectural and cultural heritage environment are assessed using the criteria as set out in the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, May 2022). The following terminology is used when describing the likely effects of the Proposed Development from a Cultural Heritage perspective.

13.2.4.1 Types of Impact

- Direct impacts arise where an archaeological heritage feature or site is physically located within the footprint of the development whereby the removal of part, or all of the feature or site is thus required.
- Indirect impacts may arise as a result of subsurface works undertaken outside the footprint of the development, secondary environmental change such as a reduction in water levels and visual impacts.
- Cumulative Impacts arise when the addition of many impacts create a larger, more significant impact.
- Residual Impacts are the degree of environmental changes that will occur after the proposed mitigation measures have been implemented.

13.2.4.1.1 Magnitude of Effects (Significance)

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

13.2.5 Methodology for the assessment of impacts on visual setting (indirect effects)

A standardised approach was utilised for the assessment of impacts of visual setting (indirect effects) according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. This assessment does not include visits to each and every site as this is considered to be beyond the scope of this EIAR as they are mainly located on private lands to which the public have no access. The assessment of impacts on visual setting was undertaken using both the Zone of Theoretical Visibility (ZTV) map in the Landscape and Visual Impact Assessment (LVIA), as presented in Chapter 14 of this EIAR, and also photomontage / wireline technology from specific cultural heritage assets. The analysis used in the assessment of potential impacts on the visual setting of cultural heritage assets in the wider landscape of 10km and 20km considers the effects of the proposed turbines only. The tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Development from a visual perspective and have the most potential to give rise to significant, indirect, effects.

Other components of the Proposed Development, i.e. proposed underground Grid Connection and all other components of the Wind Farm Site are not deemed to be as visually prominent as the proposed turbines.

While direct physical impacts to a site or monument can easily be assessed in quantitative terms, the assessment of impacts on setting can be subjective and as such is a matter of qualitative, professional judgement and experience. The distances below used in the assessment of impacts on setting are regarded as appropriate and are based on professional judgement.

Table 13-1: Distance from the proposed turbines to cultural heritage assets considered according to sensitivity

Cultural Heritage Asset	Distance Considered from the Proposed Turbines
UNESCO World Heritage Sites (including tentative sites)	20km
National Monuments (State Ownership and Preservation Order Sites)	10km
Sites and Monuments and Recorded Monuments, RPS	5km
NIAH structures	5km
Undesignated sites, if relevant	500m

The **potential** visual effects of the turbines on the setting of cultural heritage assets are graded according to two criteria (**Error! Reference source not found.**):

- Distance to the nearest turbine:** Each increment of distance is numbered from 1-5 in severity with 1 being the lowest in severity (i.e. 4-5km from the nearest turbine and 5 being the most severe (0-1km from the nearest turbine).
- Number of turbines visible on ZTV.** Each increment is also numbered from 1-4 with 1 being the least severe (i.e. 1-2 turbines visible) and 4 being the most severe (7-9 turbines visible).

The number values are then multiplied to arrive at a potential effect (from Not Significant to Significant). Very Significant and Profound are reserved for adverse direct effects which result in the total removal of cultural heritage assets which does not occur from visual impacts. The following table is used to ascertain the potential visual effect not assuming any vegetation, existing buildings, and any other screening in the landscape.

Table 13-2: Grading of Potential visual effects according to Distance and No. of Turbines visible from Cultural Heritage Assets

No. of Turbines Visible (ZTV)	1-2 (1)	3-4 (2)	5-6 (3)	7 (4)
Distance of asset to turbine				
4-5km (1)	1	2	3	4
3-4km (2)	2	4	6	8
2-3km (3)	3	6	9	12
1-2km (4)	4	8	12	16
0-1km (5)	5	10	15	20
Imperceptible (0)	Not Significant (1-5)	Slight (6-10)	Moderate (11-15)	Significant (16-20+)

13.3 Existing Environment

13.3.1 Results of Field Inspection

No new previously unrecorded above-ground archaeological monuments were noted within the core of the EIAR Site Boundary during the walk-over survey. One site of local cultural heritage merit (CH1) was noted within the Proposed EIAR Site Boundary adjacent to a proposed road. No previously unrecorded monuments or features of cultural heritage merit were noted on the proposed underground electrical cabling route or at the Turbine Delivery Route (TDR) accommodation works areas. A photographic record of the Proposed Development is presented in Appendix 13-1.

13.3.2 Archaeological, Architectural and Cultural Heritage

Archaeological heritage includes UNESCO World Heritage Sites and those on the tentative list, National Monuments in State Care and those which are subject to a preservation order, sites listed in the RMP/SMR and newly discovered archaeological sites. Each of these are addressed in the following sections. Sub-surface archaeology is also addressed in the assessment.

A number of documentary and cartographic sources (as listed in Section 13.2.2 above) were utilised in order to ascertain the potential for the presence of architectural /cultural heritage features on or within the area of the Proposed Development i.e. the Wind Farm Site and Grid Connection route. Section 13.3.3 addresses the grid connection route and Section 13.3.4 addresses the proposed Turbine Delivery Route (TDR) accommodation works areas. Cultural heritage includes items such as buildings, farmhouses, gates, bridges, piers, and stone field boundaries.

13.3.2.1 UNESCO World Heritage Sites and those on Tentative List

No UNESCO World Heritage Sites (WHS) of those on the Tentative list are located within 20km of the nearest proposed turbine.

13.3.2.2 National Monuments

National Monuments are those recorded monuments which are in the ownership / guardianship of the Minister for Housing, Local Government and Heritage. They are frequently referred to as being in 'State Care'. National Monuments also include those which are subject to a Preservation Order. Five National Monuments in State Care are located within 10km from the nearest proposed turbine and are listed in Table 13-3 and shown on Figure 13-2. All of the monuments are located in County Tipperary and are described below.

Table 13-3: National Monuments within 10km of the nearest proposed turbine

Nat. Mon. No.	SMR NO.	ITM E	ITM N	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)
348	TN008-021—, TN008-022—	597882	698562	Lismacropy Mounds	Lismacropy	T04	2680

Nat. Mon. No.	SMR NO.	ITM E	ITM N	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)
378	TN004 - 022001 -	595056	704203	Lackeen Castle	Abbeville	T07	4026
673	TN004 - 010008 -	591945	704560	Lorrha Church	Lorrha	T07	6936
357	TN004 - 010006 -	591867	704609	Lorrha Priory	Lorrha	T07	7027
361	TN004 - 010001 -	591552	704506	Lorrha Friary	Lorrha	T07	7280

13.3.2.2.1 National Monument 348 Lismacropy Mounds

The mounds at Lismacropy are described on the Historic Environment Viewer (HEV) as follows:

TN008-021—

Class: Barrow - mound barrow

Townland: LISMACRORY

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 348. Situated at the base of the N-facing slope of a low hill with nearby mound (TN008-022—) to the S and ringfort (TN008-020—) to the SW. A small round-topped mound (H 2m; base diam. 9m N-S; 9m E-W) of earth and stone construction which has been slightly quarried at N. Field-clearance debris has been dumped at the base of the mound at E and W.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

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Plate 13-1: Lismacrory mound TN008-021— (photo courtesy of the National Monuments Service).

TN008-022—

Class: Barrow - mound barrow

Townland: LISMACRORY

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 348. Situated at the base of a N-facing slope of a low hill with nearby mound (TN008-021—) to the N and ringfort (TN008-020—) to the SW. A round-topped mound (H 2.5-3m; base diam. 9m N-S) of earth and stone construction with evidence of external stone facing along the base of the mound at E. The mound has been partially eroded and scarped at W. Could be same site as TN008-062— which is described in the NMI topographical files.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

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Plate 13-2: Lismacropy mound TN008-022— (Photo courtesy of the National Monuments Service).

The ZTV indicates that the mounds at Lismacropy are located in an area where all seven of the proposed turbines will theoretically be visible (Figure 13-3). A wireframe of the proposed turbines from the nearest public road to the National Monuments shows some visibility of turbines but also demonstrates how existing screening will also limit views of the structures. A change to the wider setting of the mounds at Lismacropy as a result of the proposed turbines is acknowledged, however, no impacts to their immediate setting will occur.

13.3.2.2.2 National Monument 378 Lackeen Castle

This tower house is located just over 4km to the north-west of T7 and is described in the HEV as follows:

TN004-022001-

Class: Castle - tower house

Townland: ABBEVILLE

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 378. A well-preserved four-storey tower (ext. dims. 10.3m E-W; 11.45m N-S; wall T 2.1m) and a large irregular-shaped bawn (TN004-022002-) situated on natural rock outcrop in low undulating countryside. There is a watermill (TN004-022006-) immediately S of the bawn, a deserted settlement (TN004-022004-) S of this and a later seventeenth and eighteenth-century house (TN004-022005-) built onto the E wall of the bawn. An O'Kennedy stronghold (Smyth 1985, 118) of sixteenth-century date which belonged to Brian Ua Cinneide Fionn, Chieftain of Ormond who died in 1588 (Harbison 1970, 230). Described in the Civil Survey (1654-6) as an 'old ruined castle & bawne of Leackeene the walls onely standing an orchard and garden' (Simington 1934, vol. 2, 315). Donogh Kenedy is listed as proprietor in 1640 (ibid.). The bawn is entered through a large round-arched gateway with punch-dressed limestone jambs at the centre of the S wall. The wall returns inside the gateway indicate evidence of a possible destroyed gatehouse. There is a second entrance to the bawn consisting of a two-centred doorway at the S end of the W wall. The presence of two punch-dressed hanging-eyes indicates a swing type door of two parts. A paved walkway leads from the doorway in a

westerly direction for a distance of approx. 3m. There is evidence of a destroyed machicolation which was carried on five double corbels off-centre to the S along the W wall. Wall-footings of a small circular tower protrude from the face of the S wall of the bawn to the W of the main gateway. A large wall niche at the N end of the W wall and a gun loop and slop-stone at the W end of the N wall provide evidence for an internal lean-to structure in the NW angle of the bawn. Rather than facilitating the removal of waste the slop-stone carried water into the structure.

The main tower is entered from a two-centred doorway on the S wall with a murder-hole in the form of a horizontal slit over-hanging the external face of the door and a destroyed machicolation directly above at wall-walk level. The lobby is protected by a murder-hole and gives access to a mural chamber along the W end of the S wall, mural stairs in SE angle and the main chamber to the N. The ground floor has a large wall niche with a blocked-up window at the N end of the W wall with a similar large niche on the E wall. The first floor, which has a wooden floor carried on corbels, is accessed from a two-centred door in the NE angle. A large well-preserved fireplace with joggled voussoirs lies off-centre to the S along the W wall. There is a vaulted loft or entresol above the first floor which is accessed from a mural passage in the N wall. A two-centred door in the SW angle gives access to a mural chamber in the S wall which leads to an L-shaped chamber in the SE angle. Spiral stairs in the NE angle give access to the second-floor main hall. The lobby near the stairs at this second-floor level is protected by a murder-hole accessed from the third floor. The N wall of the second floor hall has a fine traceried window and two-centred arcading with a poorly preserved carved head in relief. Access to the garderobes at first and second-floor level is in the NW angle. The stairs which give access to the third floor, the crenellated battlement levels and the wall-walk with fine crow-stepped gables, are accessed from the window embrasure of the second-floor hall. The gables are typical of the architectural style of the sixteenth century (Greysmith 1994, 40). A tall rectangular chimney stack protrudes at battlement level at the S end of the W wall. The windows consist of single-light ogee heads and simple round and rectangular slit opes with angle loops visible. The third floor was probably lit by two dormer windows, the timber supports of which are still visible beside the wall-plate corbels. Diagonally opposite bartizans occupy the NW and SE angles at wall-walk level.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

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Plate 13-3: Lackeen Castle (Nat. Mon. No. 378) (Photo courtesy of the National Monuments Service).

The ZTV indicates that the monument is located in an area in which seven of the proposed turbines will theoretically be visible. Given the distance of the tower house from the proposed turbines a change to its immediate setting will not occur, however, a change to the wider setting in which the monument is located is acknowledged.

Impacts and Mitigation is addressed below in Section 13.4.3.

13.3.2.2.3 **National Monuments 357, 361 and 673 Lorrha Friary, Priory and Church**

The National Monuments at Lorrha are located between 6.9km and 7.2km to the north-west of the nearest proposed turbine, T7. The monuments are described on the HEV as follows:

TN004-010008

Class: Church

Townland: LORRHA

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 673. Stone church dedicated to St. Ruadhán who died in 584 and was referred to as the 'Lamp of Lothra', his feastday was held on the 15th of April when the 'cuckoo began to call' (Ó Riain 2011, 541-2). He was the son of Fearghas Bearn of the Uí Dhuach clan from Fassadinin and Crannagh baronies, Co. Kilkenny (ibid.). In the Annals of Innisfallen under the year AD 1037 it is recorded that 'Cu Chaille, son of Cennetaig, King of Musgraige, with his son was slain in front of the stone church at Lorrha after he had been taken from the altar'. The Royal Visitation of 1615 described the building as 'chancell up church down' (Murphy 1914, 221). The church consists of a rectangular building (ext. dims. 11.1m N-S; 18.3m E-W) with projecting antae at both ends constructed with roughly coursed cyclopean masonry. The W end of the church was converted into a two-storey priest's residence by the insertion of a barrel-vaulted ground floor. The upper storey was well lit with a twin-light ogee-headed window in the W wall and access to the upper floor was via a mural stairs in the

S wall. A C of I church was added onto the E gable of the church in the nineteenth century. At the W end of the S wall there is a fifteenth-century pointed doorway with a hollow chamfer. Several motifs are carved on this chamfer, including vine leaves, rose motif and a pelican drawing blood from its breast. Over the existing doorway are the remains of an earlier arch with a carved head at its apex along with capitals and foliage decoration of late twelfth/early thirteenth-century date. The ground floor of the vaulted chamber contains the possible remains of a fireplace with a chimney stack (Gleeson 1915, vol. 1, 254) while there are three windows at first-floor level with a fireplace in the E gable (ibid.) This is possibly an eleventh-century church or earlier as referred to in the Annals of Innisfallen with a late twelfth/early thirteenth-century doorway. Further work was carried out in the 15th/16th century when the priest's residence and later doorway were inserted. Church located in the E quadrant of a large sub-rectangular graveyard (TN004-010013). The remains of two high crosses (TN004-010009/010) are situated in the graveyard (TN004-010013) of the nearby church.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

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Plate 13-4: Church TN004-010008- at Lorrha (Nat. Mon. No. 673) (Photo courtesy of the National Monuments Service).

TN004-010006

Class: Religious house - Augustinian canons

Townland: LORRHA

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 357. A house of Augustinian canons founded in Lorrha sometime during the twelfth century (Gwynn and Hadcock 1970, 155). In 1401 the Calendar of Papal Letters records the 'giving of alms for the repair and building of the friars preachers church of Lorrha' (Cal. papal letters, 347). Despite the dissolution, a prior of Lorrha was referred to in 1599 (Gwynn and Hadcock 1970, 185) and it seems that the Augustinian friars took over from the canons in 1643 (ibid., 185). In the year 1552 in the fiants of Edward VI there is a lease to John Hogan, clerk late prior of

Lorowe in Lower Ormond, of the site of the priory of canons Regular of St Augustine and the site of the monastery of friars of St Dominick's order in Lorowe and land called Friars Rath with its tithes in the said town (Gleeson 1915, vol. 1, 252). The poorly preserved remains of a fifteenth-century priory (ext. dims. 32m E-W; 8.8m N-S) with conventual buildings attached to the S. The walls were constructed with roughly coursed limestone rubble with prominent base-batter visible. The surviving quoins are well-cut, dressed limestone blocks. The main doorway located in the W gable consists of a pointed arch with ogee-headed hood-moulding surmounted with crocket finials. The doorway has two moulded orders the apex of which is decorated with a woman's head wearing a horned headdress and collared robe all of which appears to have been painted in blue and gold, traces of which still survive. Directly over this doorway there is a twin-light trefoil-headed window with quatrefoil over and hood-moulding with plain label stop. The windows consist of twin and single ogee-headed lights. There is a twin-light window in the E gable. Most of the S wall is destroyed and forms part of a modern ball alley. Three medieval limestone graveslabs lie within the church interior at the E end. The possible remains of a two-storey sacristy with barrel-vaulted ground floor protrude from the NE angle of the priory. This building is surmounted by a substantial stone chimney stack protruding from the S wall. A piscina with credence was removed from the church in the 1880s and brought to the Church of the Immaculate Conception, Minneapolis USA (Gleeson 1915, vol. 1, 253).

Possible conventual building adjoining the S of the church and the W wall of the sacristy. The W wall is gone, though foundations are visible at the SW angle. The S and E walls have been rendered to provide a concrete surface for the hand-ball alley. The S and E walls of this building have been rendered to provide a concrete surface for the hand-ball alley. The upper part of a doorway is clearly visible where the render is peeling off in the S wall. It has been largely blocked up with stones but the E jamb with cut limestone blocks is evident. It is a round-headed doorway with chamfered jambs. Internally there is a drawbar-hole on the E side. There is a receiver on the W side, which is partly cut into the rebate and is also formed by a splay. There is a wide internal splay with dressed limestone blocks. The bottom of the doorway does not survive. Four corbels project out from the S face, c. 2m above present ground level. There is a row of putlogs c. 1m above the corbels and another row c. 0.4m below.

Three medieval recumbent graveslabs (TN004-010023-024/025-) at E end of priory.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

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This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 51/1937).



Plate 13-5: Lorrha priory (Nat. Mon. No. 357) (Photo courtesy of the National Monuments Service).

TN004-010001-

Class: Religious house - Dominican friars

Townland: LORRHA

Scheduled for inclusion in the next revision of the RMP: Yes

Description: National Monument No. 361. Mistakenly identified as a Franciscan abbey on the OS 6-inch map. This is the Dominican friary founded in 1269 by Walter de Burgo, Earl of Ulster (Gleeson 1951-2, 102) and dedicated to St Peter the martyr who was canonised in 1254 (Gleeson 1915 vol. 1, 259). An indulgence for the repair of the buildings was granted in 1401 (Gwynn and Hadcock 1970, 227). After the dissolution of the monasteries in 1552 John Hogan was granted the lease of both the Dominican friary and Augustinian priory (ibid.). In 1688 a provincial chapter of the order was held in Lorrha (ibid.). In 1812 a church was built immediately to the N of the friary where the modern RC church now stands, the former church may have incorporated the W wall of the cloister range as Gleeson (1915 vol. 1, 258) suggests that the 'thickness of the wall behind the altar of the modern [1812] church seems to indicate that this wall was incorporated in the church ... and that it formed part of the Dominican Friary; this wall is much thicker than the other walls of the church'. The present remains consist of a long rectangular church (ext. dims. 10m N-S; 46.3m E-W; wall T 1.17m) built with roughly coursed limestone rubble with a slight base-batter at the E end of the church only. There are six pairs of twin-light lancets of Gothic style at the E end of the S wall while internally at the E end of the S wall there is a cinquefoil aumbry with a credence and a double piscina. A pointed limestone doorway off-centre to the E on the N wall may originally have given access to a cloister. There is a destroyed triple-light lancet window in E gable of which only the lower half of the mullions survive. Internally the base of this window is connected to the side walls via a string course which probably framed the inner face of the window. According to Leask there was a stone screen midway along the church to divide the nave and chancel. Midway along the inner face of the S wall there is a projecting block of masonry which contains a possible altar with piscina and sedilia. This structure is not bonded to the S wall and appears to be a later insertion and may have been inserted to support a crossing-tower. At the W end of the S wall there is a triple-light flat-headed window with external hood-moulding and a single-light lancet. According to local tradition a statute of St Ruadhan was kept in a niche in the S wall (Gleeson

1951-2, 103). The W gable, which collapsed in 1939, has been reconstructed by the OPW. They rebuilt the W doorway, the W window and the bellcote which surmounts the apex of the gable. At the W end of the N wall there are a series of destroyed single-light lancet windows. Inside the church there are two well-preserved seventeenth-century memorials (TN004-010015-/016-) to the O'Kennedy family one of which is dated 1629. Inside the nearby RC church there is a floriated graveslab (TN004-010002-) with calvary base, dated 1626, along with several architectural fragments incorporated into the E gable.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.
 Date of upload/revision: 22 September 2008

This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 53/1937).



Plate 13-6: Lorrha friary (Nat. Mon. No. 361) (Photo courtesy of the National Monuments Service).

The national monuments at Lorrha are located in an area where the ZTV suggests limited to no visibility of the proposed turbines (Figure 13-3). A photowire of the proposed turbines from Church TN004-010008- at Lorrha (Nat. Mon. No. 673) demonstrates no visibility of the proposed turbines. In this regard no potential visual effects to the National Monuments as a result of the proposed turbines will occur.

Impacts and mitigation are addressed below in Section 13.4.3.



Figure 13-2: National Monuments within 10km of the nearest proposed turbine.

Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine (Figure 13-3). Two of the three monuments are located at Lorrha and are discussed above. The third monument subject to a Preservation Order comprises a castle – motte and bailey (PO No. 43/1976) which is located c. 5.3km north-east of T2. It is described on the HEV as follows:

TN005-021—

Class: Castle - motte and bailey

Townland: KILLEEN (Loughkeen Par.)

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Situated inside a grove of trees on a natural rise of ground in undulating countryside with good views of the surrounding countryside. Present remains consist of a low flat-topped circular mound (top diam. 17m N-S; H 3.5m) enclosed by a V-shape fosse (D 1.5m) with a large well preserved rectangular-shaped bailey (int. dims. 43m E-W x 48m N-S) to the E. The bailey and motte are enclosed by two earthen banks with intervening fosse with entrance gap (With 5m) at NE. Preservation Order No. 43/1976 was placed on this monument in December 1976. A Fógra sign is located on top of the enclosing bank on the W side of the motte.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

Compiled and revised by: Caimin O'Brien

Date of revised upload: 11 June 2015

This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 43/1976).

This monument is located adjacent to the proposed underground grid connection route and is also discussed in Section 13.3.3 and shown on Figure 13-15.

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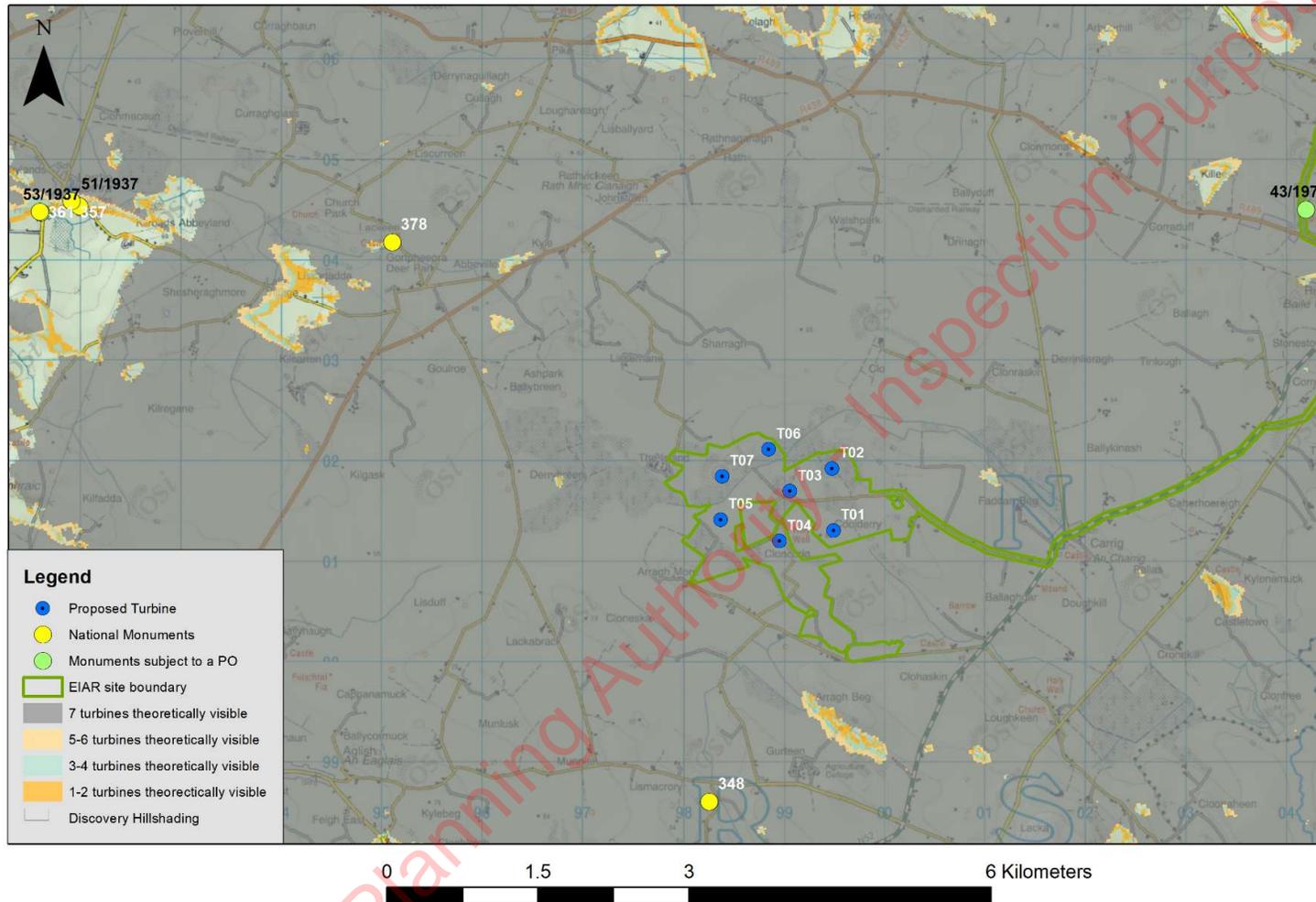


Figure 13.3: ZTV showing proposed turbines in relation to National Monuments and those subject to a Preservation Order within 10km.

13.3.2.3 Recorded Monuments within the Proposed Wind Farm Site

Two recorded monuments (TN008-002— well) and TN005-025— enclosure) are located within the proposed Wind Farm Site. They are listed in Table 13-4 and shown on Figure 13-4 below. Those along the Grid Connection underground electrical cabling route options are dealt with separately below in Section 13.3.3.

Table 13-4: SMRs located within the proposed Wind Farm Site

SMRS	ITM (E)	ITM (N)	Class	Townland	Turbine No.	Distance (m)
TN008-002—	599018	701195	Well	CLONCORIG	T04	117
TN005-025—	599021	701854	Enclosure	FADDAN MORE	T03	129

13.3.2.3.1 TN008-002---- Well

This monument is located within the proposed Wind Farm site c. 117m south-east of T4. It was visited as part of the site walk-over survey and was difficult to precisely locate, although flowing water was apparent in the area (Plate 13-7). It is described on the HEV as follows:

TN008-002—

Class: Well

Townland: CLONCORIG

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Situated on low-lying poorly drained marsh land. Natural spring well with stream flowing out from W side of well. No evidence of any religious activity around site. According to local information no knowledge of religious activity associated with well (Fitzpatrick 1985, 52).

Compiled by: Jean Farrelly and Caimin O'Brien

Date of upload/revision: 22 September 2008

Impacts and mitigation are addressed below in Section 13.4.



Plate 13-7: Flowing water in area of recorded monument TN008-002— Well.

13.3.2.3.2 **TN005-025---- Enclosure**

Enclosure TN005-025— is located within the proposed Wind Farm site c. 129m north of T3. It is located in a forested area and an existing track traverses the east side of the monument. It was inspected during the site walk-over of the Proposed Development in winter when vegetation growth was low and again in spring. The enclosure is not readily visible at ground level due to tree and vegetation cover, particularly to the west of the existing track. No surface trace of the monument was discernible at the east side of the track and the monument description notes that it was not possible to locate when visited by the Archaeological Survey of Ireland. It is depicted on the first edition OS map as an oval/sub-rectangular area under tree cover. On the later second edition OS map it is more clearly depicted as a sub-circular hachured enclosure. It is described on the HEV as follows:

TN005-025—

Class: Enclosure

Townland: FADDAN MORE

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Impossible to locate site in boggy terrain. Healy (1979, 34) describes it as a ringfort, 30m in diameter.

The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.

Date of upload/revision: 22 September 2008

It is clear from both the monument description and the recent site inspections carried out for this assessment that this monument is not readily discernible at ground level and the area of the monument is largely screened with trees and vegetation. The proposed new road which will extend from T3 to join

the existing track to the north of the monument will avoid the enclosure and extends along the outer edge of its associated Zone of Notification (ZoN). A change to the wider setting of the monument will occur as a result of the Proposed Development, however, visual effects are not considered to be significant due to the low-visibility nature of the enclosure. Impacts and mitigation are addressed below in Section 13.4.



Plate 13-8: Existing track extending through area of enclosure TN005-025—, looking NNE.

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Plate 13-9: Interior of enclosure TN005-025—, west of existing track.

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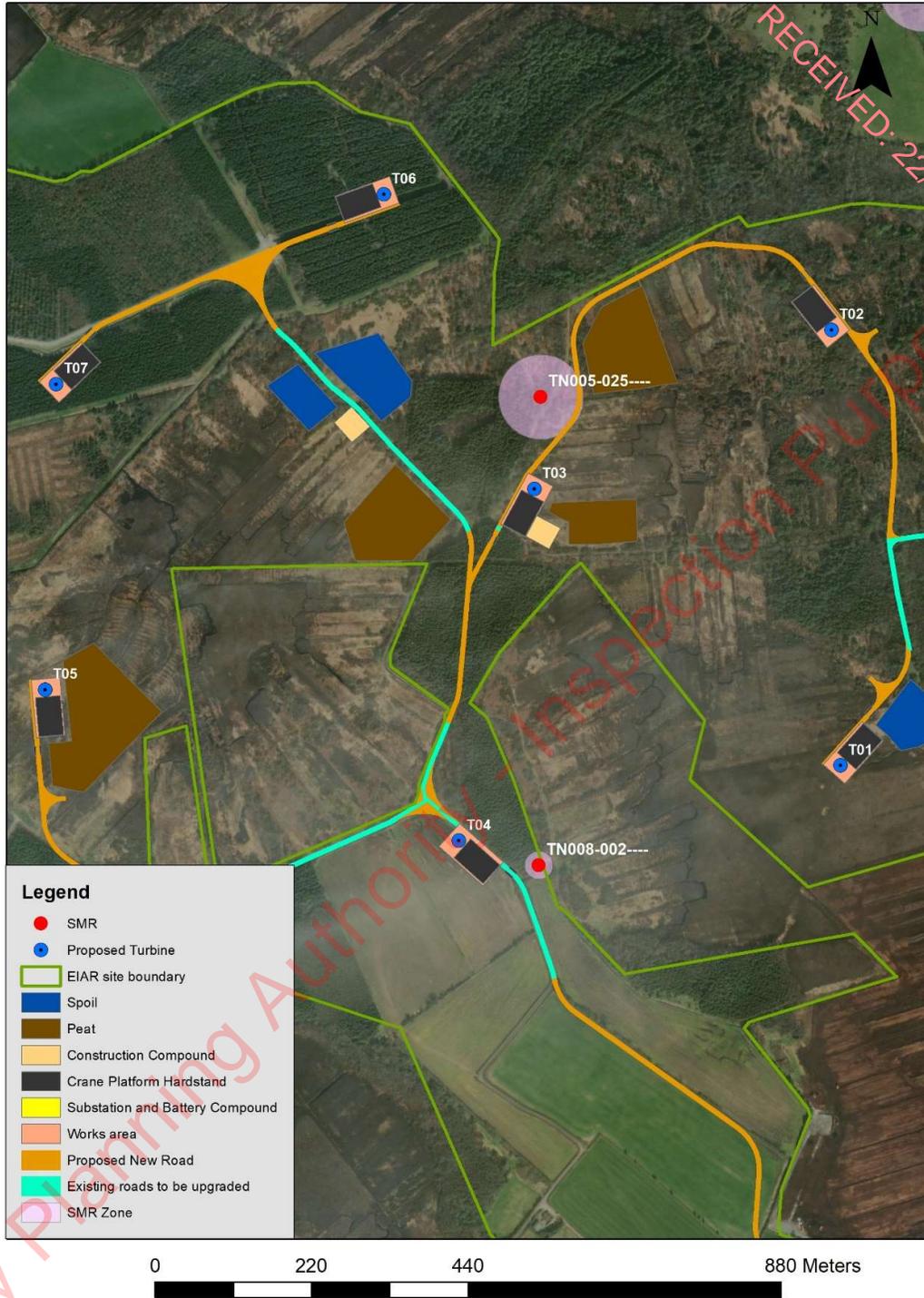


Figure 13-4: Recorded Monuments within the Proposed Development (Wind Farm) boundary.

13.3.2.4 Recorded Monuments within 5km of the nearest proposed turbine

A total of one hundred and thirty-six (136) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the two monuments located within the wind farm site boundary discussed above in Section 13.3.2.3. The monument locations are shown on Figure 13-5 and listed in Table 13-5. The ZTV shows that 130 of the 136 monuments are located in areas where seven turbines will theoretically be visible (Figure 13-6). Nearly half of monuments are represented by Enclosures, Ringforts and Souterrains (Early Medieval Period).

Table 13-5: Recorded monuments within 5km of the nearest proposed turbine.

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
1	TN0 08-002-	599018	701195	Well	CLONC ORIG	T04	117
2	TN0 05-025-	599021	701854	Enclosure	FADDAN MORE	T03	129
3	TN0 05-026-	599557	702428	Earthwork	FADDAN MORE	T02	496
4	TN0 05-027-	599899	702220	Designed landscape - tree-ring	FADDAN MORE	T02	542
5	TN0 08-001-	597833	700992	Enclosure	ARRAG H MORE	T05	666
6	TN0 05-034-	599921	702504	Designed landscape - tree-ring	CLONFI NANE	T02	741
7	TN0 05-040-	599161	702904	Mass-rock	CLONFI NANE	T06	845

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
8	TN0 05-039-	599051	702974	Road - unclassified togher	SHARRA GH	T06	871
9	TN0 05-028-	600420	702261	Redundant record	FADDAN MORE	T02	1038
10	TN0 08-003-	598955	700179	Enclosure	ARRAG H BEG	T04	1052
11	TN0 05-029-	600497	701480	Designed landscape - tree-ring	FADDAN MORE	T01	1064
12	TN0 08-004-	600671	700526	Barrow - bowl-barrow	FADDAN MORE	T01	1471
13	TN0 08-056-	598234	699824	Enclosure	GURTEE N (Ballinarry Par., North Riding)	T04	1558
14	TN0 08-0100-02-	600587	700191	Enclosure	CLOHAS KIN	T01	1618
15	TN0 08-005-	601064	701157	Enclosure	BALLAG HGAR	T01	1631
16	TN0 08-0100-01-	600629	700188	Castle - hall-house	CLOHAS KIN	T01	1650
17	TN0 07-	596831	700587	Enclosure	CLONES KA	T05	1721

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
	010- -						
18	TN0 08- 009- -	600251	699798	Enclosure	CLOHAS KIN	T01	1737
19	TN0 04- 0330 01-	596778	702679	Enclosure - large enclosure	ASHPAR K	T07	1758
20	TN0 05- 024- -	601010	702831	Enclosure	CLONRA SKIN	T02	1809
21	TN0 07- 009- -	596759	700510	Mound	CLONES KA	T05	1822
22	TN0 04- 0330 02-	596710	702688	Redundant record	ASHPAR K	T07	1822
23	TN0 08- 017- -	598865	699386	Enclosure	GURTEE N (Loughke en Par.)	T04	1844
24	TN0 08- 054- -	597092	699767	Enclosure	LISMAC RORY	T05	2080
25	TN0 08- 008- -	601469	700752	Barrow - ditch barrow	BALLAG HGAR	T01	2109
26	TN0 04- 036- -	596211	701744	Enclosure	DERRYB REEN	T07	2132
27	TN0 05-	599737	704103	Redundant record	WALSHP ARK	T06	2176

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
	023- -						
28	TN0 08- 016- -	598299	699134	Ringfort - rath	GURTEEN (Ballingarry Par., North Riding)	T04	2182
29	TN0 04- 035- -	596128	701893	Enclosure	DERRYBREEN	T07	2212
30	TN0 08- 007- -	601617	700847	Barrow - ring-barrow	DOUGH KILL	T01	2229
31	TN0 05- 0300 01-	601740	701256	Castle - unclassified	DOUGH KILL	T01	2299
32	TN0 08- 006- -	601749	701178	Ringfort - rath	DOUGH KILL	T01	2312
33	TN0 05- 031- -	601800	701425	Windmill	BALLYKINASH	T01	2359
34	TN0 04- 028- -	596412	703385	Barrow - ring-barrow	ASHPAR K	T07	2450
35	TN0 07- 014- -	596127	700310	Mound	LACKABRACK (Agliscloughane Par.)	T05	2472
36	TN0 08- 011- -	601336	699716	Enclosure	LOUGH KEEN	T01	2491

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
37	TN0 08-023-	598635	698746	Enclosure	GURTEEN (Ballinarry Par., North Riding)	T04	2498
38	TN0 08-021-	598195	698704	Barrow - mound barrow	LISMAC RORY	T04	2624
39	TN0 04-025-	596951	704136	Enclosure	LISSERANE	T07	2656
40	TN0 07-008-	595789	700597	Moated site	LISDUFF (Agliscloughane Par.)	T05	2672
41	TN0 08-014-	597193	698975	Enclosure	MUNNIA (Ballinarry Par., North Riding)	T05	2714
42	TN0 08-022-	598224	698578	Barrow - mound barrow	LISMAC RORY	T04	2738
43	TN0 08-055-	602196	701136	Ringfort - rath	CAHERHOEREIGHPALLAS (Loughkeen Par.)	T01	2761
44	TN0 08-012-	601664	699678	Ritual site - holy well	LOUGH KEEN	T01	2772
45	TN0 08-020-	597865	698577	Ringfort - rath	LISMAC RORY	T04	2850

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
46	TN0 05-018-	597811	704812	Concentric enclosure	LISBALL YARD	T06	2850
47	TN0 08-0580 01-	601669	699522	Church	LOUGH KEEN	T01	2871
48	TN0 08-0580 02-	601664	699480	Graveyard	LOUGH KEEN	T01	2894
49	TN0 08-024-	598762	698273	Enclosure	GURTEE N (Ballingarry Par., North Riding)	T04	2960
50	TN0 05-019-	598058	705016	Enclosure	RATH	T06	2971
51	TN0 07-007-	595498	700446	Enclosure	LISDUFF (Agliscloughane Par.)	T05	2997
52	TN0 08-019-	597603	698513	Enclosure	LISMAC RORY	T04	3013
53	TN0 07-035-	596847	698788	Enclosure	MUNNIA (Ballingarry Par., North Riding)	T05	3038
54	TN0 07-032-	596563	698944	Enclosure	MUNLUS K	T05	3057
55	TN0 08-	598817	698140	Enclosure	GURTEE N	T04	3091

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
	025- -				(Ballingarry Par., North Riding)		
56	TN0 04- 037- -	596418	704306	Burial ground	LISSERNE	T07	3101
57	TN0 04- 027- -	595712	703581	Enclosure	ABBEVILLE	T07	3134
58	TN0 08- 018- -	597042	698540	Enclosure	MUNNIA (Ballingarry Par., North Riding)	T05	3173
59	TN0 05- 015- -	598579	705336	Redundant record	ROSS (Dorrha Par.)	T06	3204
60	TN0 07- 013- -	595382	700116	Enclosure	LISDUFF (Aglishcloghane Par.)	T05	3227
61	TN0 05- 017- -	597722	705196	Moated site	LISBALL YARD	T06	3241
62	TN0 04- 024- -	596234	704388	Enclosure	LISSERNE	T07	3281
63	TN0 07- 031- -	596074	699023	Enclosure	MUNLUSK	T05	3304
64	TN0 08- 057- -	602032	699206	Redundant record	LOUGH KEEN	T01	3353

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
65	TN0 08-029-	599146	697878	Ringfort - rath	GARRANE (Ballingarry Par.)	T04	3360
66	TN0 04-026-	595303	703318	Ringfort - rath	ABBEVILLE	T07	3363
67	TN0 04-034-	594922	701884	Enclosure	KILGASK	T07	3418
68	TN0 08-037-	600030	697944	Ringfort - rath	BALLYMONA, LACKA (Loughkeen Par.)	T01	3442
69	TN0 05-014-	598158	705522	Enclosure	ROSS (Dorrha Par.)	T06	3443
70	TN0 05-0160-01-	598701	705593	Church	ROSS (Dorrha Par.)	T06	3455
71	TN0 05-0160-02-	598701	705593	Graveyard	ROSS (Dorrha Par.)	T06	3455
72	TN0 08-063-	600799	698147	Enclosure - large enclosure	LACKA (Loughkeen Par.)	T01	3465
73	TN0 08-026-	597336	698053	Ringfort - rath	LISBRYAN (Agliscloughane Par.), LISMACRORY	T05	3530

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
74	TN0 08-0360 01-	599554	697727	Enclosure	BALLYM ONA	T04	3562
75	TN0 05-033-	603012	701342	Ringfort - rath	CAHERH OEREIGH	T01	3569
76	TN0 08-028-	598403	697684	Moated site	BALLIN GARRY	T04	3581
77	TN0 05-032-	602927	702731	House - indeterminate date	TINLOUGH (Loughken Par.)	T02	3583
78	TN0 08-027-	598154	697725	Moated site	BALLIN GARRY	T04	3584
79	TN0 07-012-	595062	699938	Enclosure	LISDUFF (Agliscloughane Par.)	T05	3592
80	TN0 04-014-	596697	705073	Ringfort - rath	CULLAGH	T07	3598
81	TN0 08-0360 02-	599519	697684	Enclosure	BALLYM ONA	T04	3598
82	TN0 05-013-	597764	705632	Enclosure	LISBALL YARD	T06	3643
83	TN0 07-011-	594995	699786	Redundant record	CAPPAN AMUCK	T05	3718

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
84	TN0 04-046-	595301	704056	Fulacht fia	ABBEVILLE	T07	3742
85	TN0 08-0130 01-	603243	700899	Castle - tower house	CASTLE TOWN (Loughkeen Par.), KYLENAMUCK	T01	3825
86	TN0 05-012-	597833	705846	Ringfort - rath	ROSS (Dorrha Par.)	T06	3831
87	TN0 08-0130 02-	603252	700914	Bawn	CASTLE TOWN (Loughkeen Par.), KYLENAMUCK	T01	3833
88	TN0 04-0220 04-	595092	703963	Settlement deserted - medieval	ABBEVILLE	T07	3862
89	TN0 05-011-	597642	705844	Enclosure	LISBALL YARD	T06	3882
90	TN0 08-035-	599400	697351	Enclosure	BALLYMONA	T04	3910
91	TN0 04-0220 06-	595071	704163	Water mill - unclassified	ABBEVILLE	T07	3991
92	TN0 08-032-	598625	697235	Enclosure	BALLIN GARRY	T04	4005

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
93	TN0 04- 0220 05-	595084	704255	House - 17th century	ABBEVIL LE	T07	4034
94	TN0 04- 0220 03-	595062	704233	Redundant record	ABBEVIL LE	T07	4039
95	TN0 04- 0220 01-	595048	704222	Castle - tower house	ABBEVIL LE	T07	4044
96	TN0 04- 0220 02-	595047	704237	Bawn	ABBEVIL LE	T07	4054
97	TN0 08- 031- -	598585	697179	Enclosure	BALLIN GARRY	T04	4063
98	TN0 08- 033- -	598829	697155	Enclosure	BALLIN GARRY	T04	4075
99	TN0 07- 042- -	596897	697598	Ringfort - rath	LISBRYA N (Agliscl oghane Par.)	T05	4101
100	TN0 07- 030- -	594925	699125	Ringfort - rath	BALLYC ORMUC K	T05	4114
101	TN0 05- 003- -	598621	706254	Ringfort - rath	LELAGH	T06	4119
102	TN0 07- 0690 02-	594453	699909	Fulacht fia	BALLYH AUGH	T05	4164

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
103	TN0 07-0690 01-	594432	699944	Fulacht fia	BALLYH AUGH	T05	4170
104	TN0 04-032- -	594130	702736	Castle - unclassified	KILCAR REN	T07	4297
105	TN0 04-013- -	596432	705795	Enclosure	CULLAG H	T06	4356
106	TN0 04-023- -	594702	704283	Redundant record	ABBEVIL LE	T07	4364
107	TN0 04-021- -	594424	703902	Enclosure	LISSAGA DDA	T07	4410
108	TN0 07-041- -	595897	697738	Earthwork	CLOGHL EIGH (Agliscloughane Par.)	T05	4429
109	TN0 07-023- -	594332	699454	Redundant record	BALLYC ORMUC K	T05	4460
110	TN0 07-0340 01-	595282	698135	Ecclesiastical enclosure	CLOGHL EIGH (Agliscloughane Par.), KYL EBEG (Agliscloughane Par.)	T05	4494
111	TN0 07-0340 03-	595302	698115	Bullaun stone	CLOGHL EIGH (Agliscloughane	T05	4495

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
					Par.),KYL EBEG (Agliscloughane Par.)		
112	TN0 07-0340 02-	595292	698105	Children's burial ground	CLOGHL EIGH (Agliscloughane Par.),KYL EBEG (Agliscloughane Par.)	T05	4509
113	TN0 07-006-	593978	700188	Castle - tower house	BALLYH AUGH	T05	4523
114	TN0 07-024-	594332	699214	Enclosure	BALLYC ORMUC K	T05	4572
115	TN0 07-068-	593789	700843	Fulacht fia	BALLYH AUGH	T05	4575
116	TN0 07-033-	595109	698144	Ritual site - holy well	KYLEBE G (Agliscloughane Par.)	T05	4606
117	TN0 08-0300 01-	597456	696839	Castle - unclassified	RAHINA NE (Ballingarry Par., North Riding)	T04	4624
118	TN0 04-0070 03-	596879	706418	Bullaun stone	LISBALL YARD,LI SHEEN (Dorrha Par.)	T06	4690

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
119	TN0 08-0410 02-	602458	697738	Ecclesiastical enclosure	LACKA (Loughkeen Par.)	T01	4694
120	TN0 07-075-	596411	697145	Souterrain	RAHINA NE (Ballingarry Par., North Riding)	T05	4704
121	TN0 08-040-	601349	697035	Enclosure	LACKA (Loughkeen Par.)	T01	4704
122	TN0 08-034-	598572	696515	Ringfort - rath	BALLIN GARRY	T04	4726
123	TN0 08-038-	600502	696722	Enclosure	BALLYMONA	T01	4733
124	TN0 08-0410 01-	602487	697693	Children's burial ground	LACKA (Loughkeen Par.)	T01	4747
125	TN0 04-0070 02-	596755	706439	Ritual site - holy tree/bush	LISBALL YARD, LISHEEN (Dorrha Par.)	T06	4761
126	TN0 04-0070 01-	596749	706444	Ritual site - holy well	LISHEEN (Dorrha Par.)	T06	4768
127	TN0 07-029-	594399	698675	Enclosure	FEIGH EAST, LISHEEN (Agliscloughane Par.)	T05	4802

MAP ID	SMR	ITM E	ITM N	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
128	TN0 04- 006- -	596501	706393	Redundant record	LISBALL YARD	T06	4835
129	TN0 05- 008- -	601456	706342	Water mill - unclassified	SRADUFF	T02	4838
130	TN0 04- 0120 02-	594422	704713	Settlement deserted - medieval	CURRAG HGLASS (Lorrha Par.)	T07	4839
131	TN0 04- 0120 01-	594259	704587	Church	CURRAG HGLASS (Lorrha Par.)	T07	4901
132	TN0 07- 005- -	593636	699896	Ringfort - rath	BALLYH AUGH	T05	4936
133	TN0 08- 039- -	600483	696489	Enclosure	BALLYMONA	T01	4957
134	TN0 08- 0450 01-	598313	696293	Church	BALLIN GARRY	T04	4972
135	TN0 08- 0450 02-	598296	696288	Graveyard	BALLIN GARRY	T04	4979
136	TN0 05- 041- -	599664	707054	Moated site	GURTEEN (Dorrha Par.)	T06	4990

13.3.2.4.1

The Prehistoric Period

The prehistoric period is represented by a relatively low number of monuments (10) including barrows of varying types (6) and fulacht fia (4).

The barrows include bowl barrows, mound barrows, ring barrows and ditch barrows. Bowl barrows consist of a circular or oval raised area (generally over 1m above the external ground level) with an external fosse and sometimes an outer bank. The name 'bowl-barrow' refers to the mound element which is like an inverted bowl. They contain and/or cover burials and were in use from the Bronze Age to the Iron Age (c. 2400 BC - AD 400). Mound barrows consist of a circular or oval earthen or earth and stone mound with no external features. Mounds found in association with other barrow types are likely to be mound barrows. They are funerary in nature and contain and/or cover burials. Excavated examples have been dated to the Bronze and Iron Ages (c. 2400 BC - AD 400). Ring Barrows are a circular or oval raised area (generally up to 1m above the external ground level or level with it) enclosed by fosse(s) and outer bank(s), with or without an entrance. These are part of the Bronze/Iron Age burial tradition (c. 2400 BC - AD 400).

Fulacht fia generally comprise a horseshoe-shaped or kidney-shaped mound consisting of fire-cracked stone and charcoal-enriched soil built up around a sunken trough located near or adjacent to a water supply, such as a stream or spring, or in wet marshy areas. The first recorded use of the Irish term 'fulacht fiadh/fia' (cooking pit of the deer or of the wild) as relating to ancient cooking sites was in the 17th century. These are generally interpreted to have been associated with cooking and date primarily to the Bronze Age (c. 2400-500 BC).

13.3.2.4.2 **The Early Medieval Period**

The Early Medieval period is represented by enclosures, ringforts and souterrains which account for 66 of the 136 monuments within 5km of the nearest proposed turbine. Enclosures consist of an area defined by an enclosing element (e.g. bank, wall, fosse, scarp), or indicated as such cartographically, and occurring in a variety of shapes and sizes, possessing no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards. Enclosures with a diameter greater than 70m should be classed as Large Enclosure. Ringforts are a roughly circular or oval area surrounded by an earthen bank with an external fosse. Some examples have two (bivallate) or three (trivallate) banks and fosses, but these are less common and have been equated with higher status sites belonging to upper grades of society. They functioned as residences and/or farmsteads and broadly date from 500 to 1000 AD.

13.3.2.4.3 **Medieval Period**

Sixteen monuments within 5km of the nearest proposed turbine may be attributed to the medieval period. They comprise tower houses, unclassified castles, a hall house, bawns, a deserted medieval settlement and moated sites.

Moated sites, of which there are five within 5km of the nearest proposed turbine, comprise a square, rectangular or occasionally circular area, sometimes raised above the ground, enclosed by a wide, often water-filled, fosse, with or without an outer bank and with a wide causewayed entrance. They date to the late 13th/early 14th centuries and were primarily fortified residences/farmsteads of Anglo-Norman settlers though they were also built by Gaelic lords.

Also dating to the 13th/14th century are hall houses, one example of which is located within 1.6km of T1. Hall houses comprise a building, usually two storeys high with a first-floor entrance, which leads to a single undivided chamber/hall open to the roof and extending the length of the building. They date primarily to the 13th and 14th centuries in Ireland, often continuing to be occupied, in a modified form, throughout the medieval period.

Tower houses were a later development, primarily dating to the 15th and 16th centuries. They comprise a fortified residence in the form of a tower, usually four or five storeys high, and for the most part slightly more rectangular than square in plan. They were constructed by a lord or landholder and were often partially or completely enclosed by a bawn. The majority date to the 15th and 16th centuries AD.

13.3.2.4.4 **Monuments with Religious Associations**

Eighteen monuments within 5km of the nearest proposed turbine have religious associations and may date to a number of time periods. The monuments comprise churches, graveyards, burial grounds, ecclesiastical enclosures, a children's burial ground, holy wells, a holy tree, bullaun stones and a mass rock. Some of these monuments are found near to or in association with each other.

Holy wells comprise a well or spring, though in some unusual cases a natural rock basin, which usually bears a saint's name and is often reputed to possess miraculous healing properties. These may have their origins in prehistory but are associated with devotions from the medieval period (5th-16th centuries AD) onwards. Holy trees are often found in association with holy wells. They comprise a named tree or bush, sometimes associated with a particular saint, often considered to have miraculous properties. They are generally found in close proximity to holy wells and formed part of the associated patterns or rounds performed on certain days. They are known in Irish as 'bile', which translates as sacred tree, sometimes corrupted into the English words 'bell' or 'bellow'. These may have their origins in prehistory but are associated with devotions from the medieval period (5th-16th centuries AD) onwards.

The term 'bullaun' (from the Irish word 'bullán', which means a round hollow in a stone, or a bowl) is applied to boulders of stone or bedrock with hemispherical hollows or basin-like depressions, which may have functioned as mortars. They are frequently associated with ecclesiastical sites and holy wells and so may have been used for religious purposes. Other examples which do not appear to have ecclesiastical associations can be found in bedrock or outcrop in upland contexts, often under blanket bog, and are known as bedrock mortars. They date from the prehistoric period to the early medieval period (5th-12th centuries AD).

Two ecclesiastical enclosures are located within 5km of the nearest proposed turbine. They comprise a large oval or roughly circular area, usually over 50m in diameter, defined by a bank/banks and external fosse/fosses or drystone wall/walls, enclosing an early medieval church or monastery and its associated areas of domestic and industrial activity. They date to the early medieval period (5th-12th centuries AD).

Four churches, three graveyards and a burial ground are located within 5km of the nearest proposed turbine. In some cases the churches and graveyards are found in association with each other. They can be of any date from c. 500 AD onwards. Children's burial grounds, of which there are two, comprise an area of unconsecrated ground for the interment of unbaptised or stillborn children, often known under various Irish names: Cillín, Caldragh, Ceallúnach or Calluragh. The graves were generally marked by simple, low, upright stones or slabs almost invariably without any inscription or other carving. This burial practice may be medieval in origin and continued in Ireland until the 1960s.

The mass rock (TN005-040—) is located c. 845m to the north of the nearest proposed turbine, T6, on a tree-covered bog island. Mass rocks comprise a rock or earthfast boulder used as an altar or a stone-built altar used when Mass was being celebrated during Penal times (1690s to 1750s AD), though there are some examples which appear to have been used during the Cromwellian Period (1650s AD). Some of these rocks/boulders may bear an inscribed cross.

13.3.2.4.5 **Post Medieval Period**

Eight monuments which may be attributed to the post-medieval period are located within 5km of the nearest proposed turbine. They include three designed landscape features – tree rings, a seventeenth century house, two water mills and a windmill. Two of the tree rings (TN005-027— and TN005-034—) are located between 542m and 741m from the nearest proposed turbine, T2. According to the monument description the former has no surface expression, while the latter is confirmed as a landscape feature likely to date to the 19th century. Tree rings may be described as a wall, bank, fosse or an earthwork platform, or any combination of these, usually circular or oval in plan, used to define or enclose a cluster of ornamental trees. They date from the 17th to the 19th century AD.

The windmill (TN005-031—) is located c. 2.3km from the nearest proposed turbine, T1 and dates to the late 18th/early 19th century.

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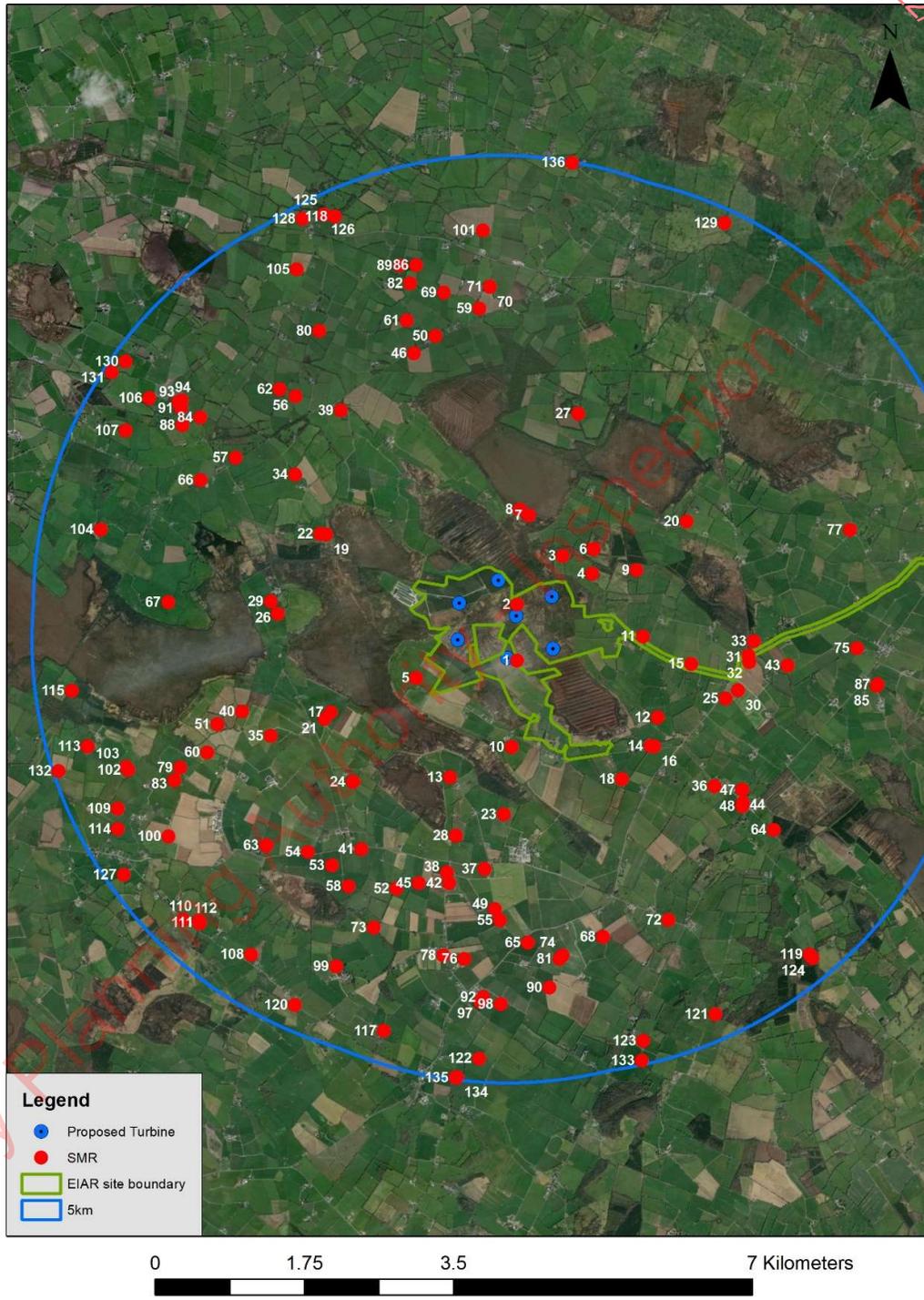


Figure 13-5: Recorded monuments within 5km of the nearest proposed turbine.

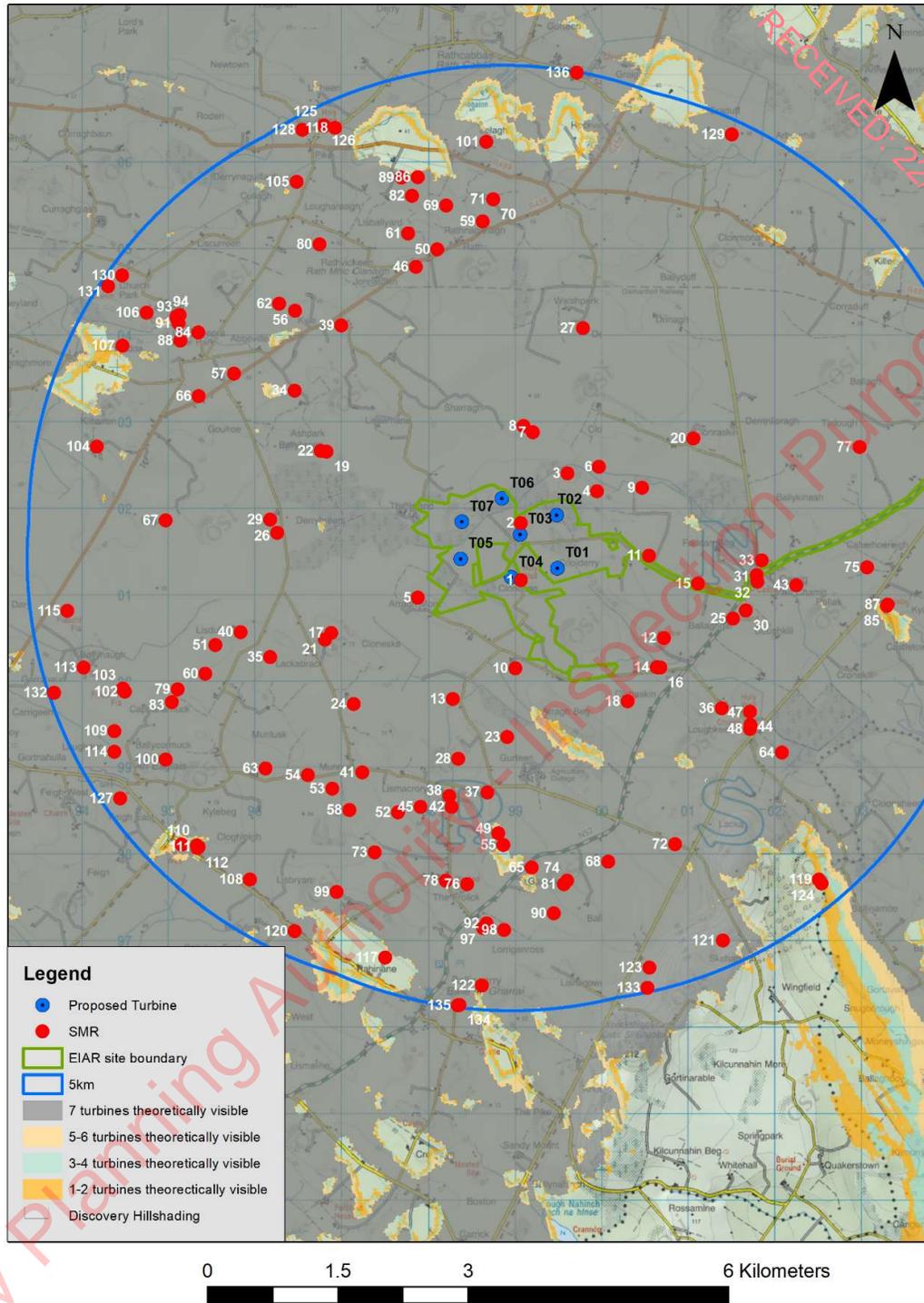


Figure 13-6: Recorded monuments within 5km of the nearest proposed turbine with ZTV showing theoretical visibility.

13.3.2.5 Excavations Database

The database of excavations carried out in Ireland (www.excavations.ie) was consulted for any such licensed work which took place on or adjacent to the Proposed Development site. Two entries were returned for the townlands of Faddan More and Sharragh. The entry for Faddan More relates to the discovery of an early medieval book of psalms (psalter) during peat harvesting in the bog. This important find was subsequently excavated by the National Museum of Ireland. The find spot for the

psalter is located outside and to the east of the Proposed Development study area boundary. The nearest proposed infrastructure to the find spot comprises a proposed new road which is situated c. 435m to the south-west. The location of the psalter find spot is shown on Figure 13-7 in relation to the Proposed Development.

2006:1856 - Faddan More, Tipperary

County: Tipperary Site name: Faddan More

Sites and Monuments Record No.: - Licence number: 06E0786, 06R141

Author: Maeve Sikora, Irish Antiquities Division, National Museum of Ireland, Kildare Street, Dublin 2.

Site type: Findspot of early medieval psalter

Period/Dating: –

ITM: E 599948m, N 701807m

In July 2006 an early medieval psalter was discovered during moss-peat harvesting in a bog at Faddan More, Co. Tipperary. An excavation of the find place was carried out in order to ascertain the circumstances of deposition and whether any other features or finds were present. Although the book had been removed from where it had originally been found, it was possible to determine the location where it had originally been deposited. Some pieces of loose leather, one of which appeared to be a strap, were noticed in the ground to the north of the section in which the book had been discovered, and a yellow hair-like substance was noticed on the ground surface in the area surrounding the strap. Initial results suggest that a number of pieces of fine leather lying disturbed to the north of the cavity may have been part of a leather bag, which may have contained the book. Extensive samples of the peat were taken from the area and are currently being analysed in the National Museum's Conservation Laboratory.

1997:558 - SHARRAGH, Tipperary

County: Tipperary Site name: SHARRAGH

Sites and Monuments Record No.: N/A Licence number: –

Author: Jane Whitaker, Irish Archaeological Wetland Unit, Department of Archaeology, University College Dublin

Site type: Road - unclassified togher

Period/Dating: Early Medieval (AD 400-AD 1099)

ITM: E 598017m, N 703471m

A brief investigation of a substantial wooden togher in the townland of Sharragh, Co. Tipperary, was carried out by the IAWU at the request of the NMHPS in August 1997. This togher was revealed during the mechanical backfilling of drains as part of the conservation process of Sharragh Bog by the National Parks and Wildlife Service (NPWS). The bog was in commercial peat production until its purchase in 1992 for conservation purposes by the NPWS.

Large timbers were partially exposed by mechanical excavator while removing a 0.8m depth of peat from an area measuring approximately 7m x 2m. A loose covering of peat remaining over the site was removed by hand. The timbers ranged from 0.1m to 0.26m in width and from 0.9m to 2.3m in length. They were laid transversely, edge to edge, on a substructure of longitudinal brushwood runners and were held in place with pegs, providing an even surface. The timbers were all oak and were a combination of roundwoods, half-split, radial-split and tangentially split planks. The pegs were of alder, ash and hazel, with diameters of 30–40mm.

Evidence of an earlier site was noted in the drain section underneath the wooden trackway. Below the timber togher there was 0.28m of peat, under which a gravel layer was visible. This gravel layer was approximately 2.8m wide and ranged from 0.16m to 0.24m in depth.

The site runs in a north-west/south-east direction and appears to be heading in the direction of a tree-covered dryland island in the bog. A number of intermediary drains between the investigation and the island were examined for additional sightings of the togher but no more sightings were identified.

The wooden togher has been dendrochronologically dated to AD 575±9 or later (Q9516). No further investigation is planned as the site was reburied by the NPWS within the conserved bog.

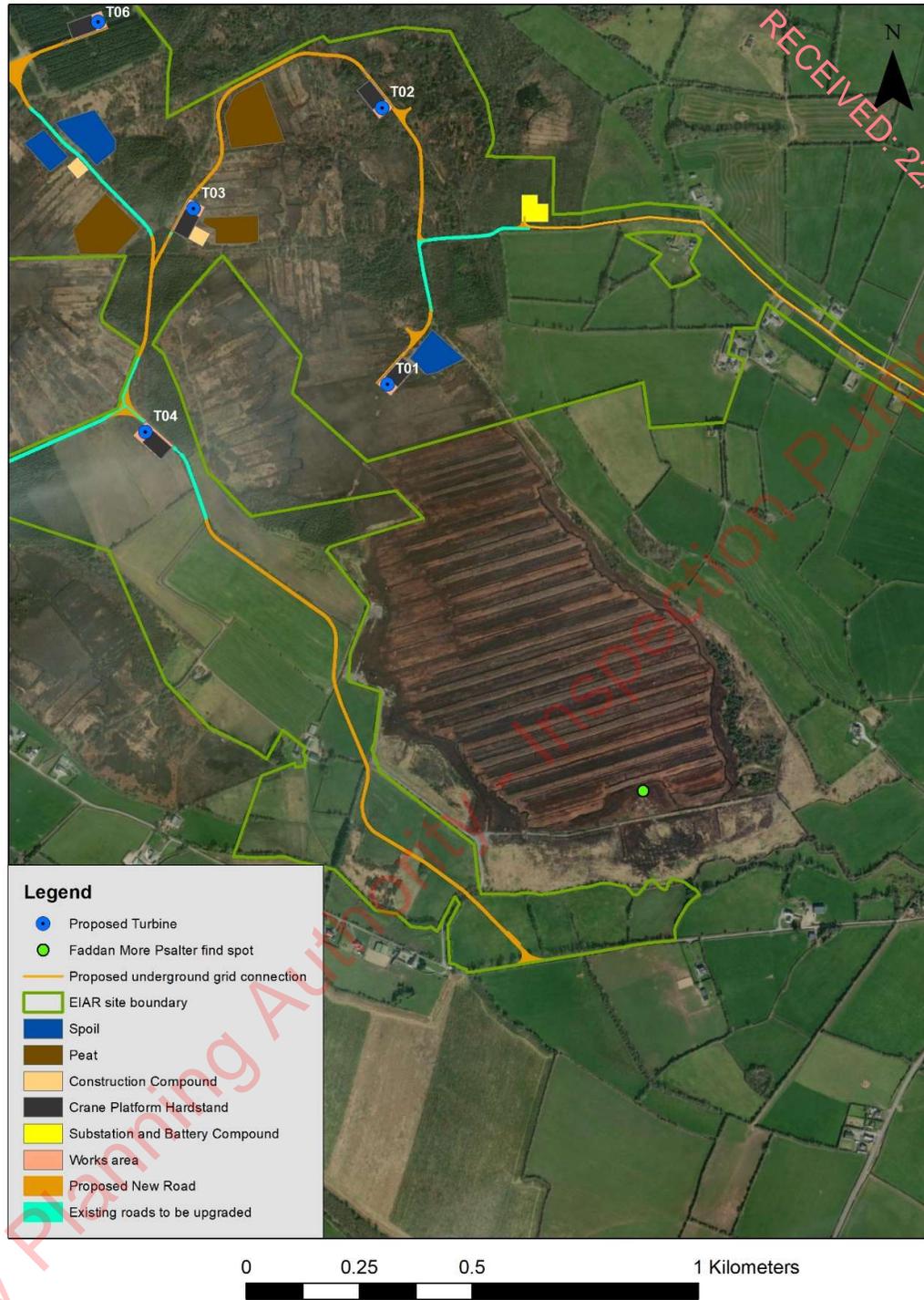


Figure 13-7: Location of Faddan More Psalter find spot in relation to the Proposed Development.

13.3.2.6 Topographical Files of the National Museum of Ireland

The topographical files of the National Museum of Ireland on www.heritagemaps.ie and in the National Museum of Ireland were consulted for archaeological finds from the townlands within or adjacent to the Proposed Development site boundary. Three finds are registered for the townland of Faddan More as listed in Table 13-6.

Table 13-6: Find spots listed in the NMI Topographical Files for Faddan More townland.

NMI RegisterNo	SimpleName	Component	Townland	FindPlace	County
1999:34	SATCHEL	Leather	FADDAN MORE	N/A	TIPPERARY
2002:53	Vessel	Wood	FADDAN MORE	N/A	TIPPERARY
2002:62	Plank	Wood	FADDAN MORE	Faddan More bog	TIPPERARY

Sharragh townland, Co. Tipperary: there are 0 stray finds listed in the database of the NMI topographical files

Arragh More townland, Co. Tipperary: there are 0 stray finds listed in the database of the NMI topographical files

Cloncorrig townland, Co. Tipperary: there are 0 stray finds listed in the database of the NMI topographical files

Coolderry townland, Co. Tipperary: there are 0 stray finds listed in the database of the NMI topographical files

13.3.2.7 Sub-Surface Archaeological Potential

Due to the extent of groundworks associated with the construction phase of the Proposed Development and the presence of peatland within the Proposed Development site boundary, it is possible that previously unrecorded sub-surface archaeological finds, features or deposits are located within the Proposed Development site. Bogs, both raised bogs and upland blanket peat, are regarded as areas of archaeological potential and may contain archaeological sites and finds both within and beneath the peat. The potential therefore exists that sub-surface archaeological sites or features, if present within the Proposed Development site, may be directly impacted by construction phase activities. Mitigation measures to ameliorate this potential impact are detailed in Section 13.4.2.7 below.

13.3.2.8 Archaeological Landscapes

Section 13.7.2 of Tipperary CDP states the following in relation to archaeological landscapes:

‘An archaeological landscape is a natural landscape that has been deliberately modified by a group (or groups) of people during a particular archaeological period (or periods). It provides context and meaning to individual archaeological sites and helps us to understand how our ancestors lived. Such landscapes have the potential to be of cultural, economic, social and/or environmental value.

International best practice, as outlined in the European Convention on the Protection of Archaeological Heritage (Valetta Convention) 1992 and the European Landscape Convention (Florence Convention) 2000 supports a landscape-based approach to archaeological protection. It is an objective of the Council to carry out an audit of archaeological landscapes in Tipperary over the lifetime of the Plan.’

No archaeological landscapes have been formally identified or designated in the CDP.

13.3.2.9 Protected Structures within 5km of the nearest proposed turbine

No Protected Structures are located within the proposed wind farm boundary. Protected Structures along the proposed grid connection route are dealt with in Section 13.3.3.3 below.

Thirty-six (36) protected structures are located within 5km of the nearest proposed turbine. They are shown on Figure 13-9 and listed in Table 13-7. The ZTV shows that the majority of the structures are located in areas where all seven turbines will theoretically be visible (Figure 13-10). Potential impacts and mitigation are addressed below in Section 13.4. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive at a level of potential effect on setting.

The nearest structures comprise Oak Park house (TRPS121) which is located c. 1.9km from T1 and the ruins of Derrylahan Park house (TRPS399) which is situated c. 2.2km from T6.

TRPS121	Oak Park, Clohaskin, Carrig, Birr	Clohaskin		Nenagh MD
TRPS399	Derrylahan, Rathcabbin	Walshpark		Nenagh MD

Figure 13-8: Extract from Tipperary CDP RPS showing entry for Oak Park and Derrylahan Park.

Table 13-7: RPS structures within 5km of the nearest proposed turbine.

RPS ID	STRUCTURE	LOCATION	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
TRPS121	Oak Park	Clohaskin	600722	699906	T01	1918
TRPS399	Derrylahan Park	Walshpark	599626	704183	T06	2204
TRPS544	Gurteen House	Gurteen (Ballingarry)	599121	698959	T04	2281
TRPS398	Derrylahan Park Cottage	Walshpark	599501	704330	T06	2300
TRPS524	Building	Ballykinash	601770	701391	T01	2328
TRPS525	House'	Ballykinash	601780	701314	T01	2338
TRPS526	Post box'	Ballykinash	601780	701275	T01	2338
TRPS523	Windmill'	Ballykinash	601809	701418	T01	2368
TRPS527	Carrig Church	Caherhoereigh	601884	701296	T01	2441

RPS ID	STRUCTURE	LOCATION	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
TRPS444	Carrig House	Doughkill, Carrig	601958	700998	T01	2538
TRPS1	Somerset	Abbeyville	596397	703840	T07	2765
TRPS545	Ivy Hall	Loughkeen	601680	699555	T01	2859
TRPS271	Loughkeen Church of Ireland	Loughkeen	601674	699456	T01	2917
TRPS270	Loughkeen Glebe	Loughkeen	601653	699327	T01	2987
TRPS8	Aglish Farmhouse	Aglish	595597	700010	T05	3081
TRPS2	Abbeyville House	Abbeyville	595502	703548	T07	3295
TRPS515	Ross House	Ross	598711	705578	T06	3440
TRPS397	Walshpark Lodge	Walshpark	599419	705575	T06	3491
TRPS232	Castletown House	Kylenamuck	602879	700181	T01	3625
TRPS4	Pub	Abbeyville	594888	703089	T07	3660
TRPS201	Firville	Kilgask	594708	702594	T07	3702
TRPS3	Lackeen House	Abbeyville	595080	704262	T07	4042
TRPS244	Lisbryan House & Lodge	Lisbryan	597049	697478	T05	4164
TRPS340	Rockview	Rockview	600361	706058	T02	4214
TRPS199	Kilcarren House & Lodge	Kilcarren	594134	702748	T07	4296
TRPS231	Aglish School	Kylebeg	594714	698847	T05	4447
TRPS325	Southpark	Rathnane	597454	696830	T04	4634
TRPS506	Post Box	Lisballyard	596583	706230	T06	4653
TRPS251	House	Lisnagower	599606	696624	T04	4659
TRPS370	Stonestown/ Baronne Court	Stonestown	603937	703295	T02	4704
TRPS9	Aglish Church	Aglish	594303	698877	T05	4769
TRPS48	Ballyina Lodge	Ballyina	595964	697257	T05	4805



RPS ID	STRUCTURE	LOCATION	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
TRPS252	House	Lisnagower	599948	696424	T04	4918
TPRS13	Arbour Hill	Arbourhill	602081	706127	T02	4948
TRPS406	Ballingarry Church of Ireland, Ballingarry, Roscrea	Ballingarry	598278	696310	T04	4960

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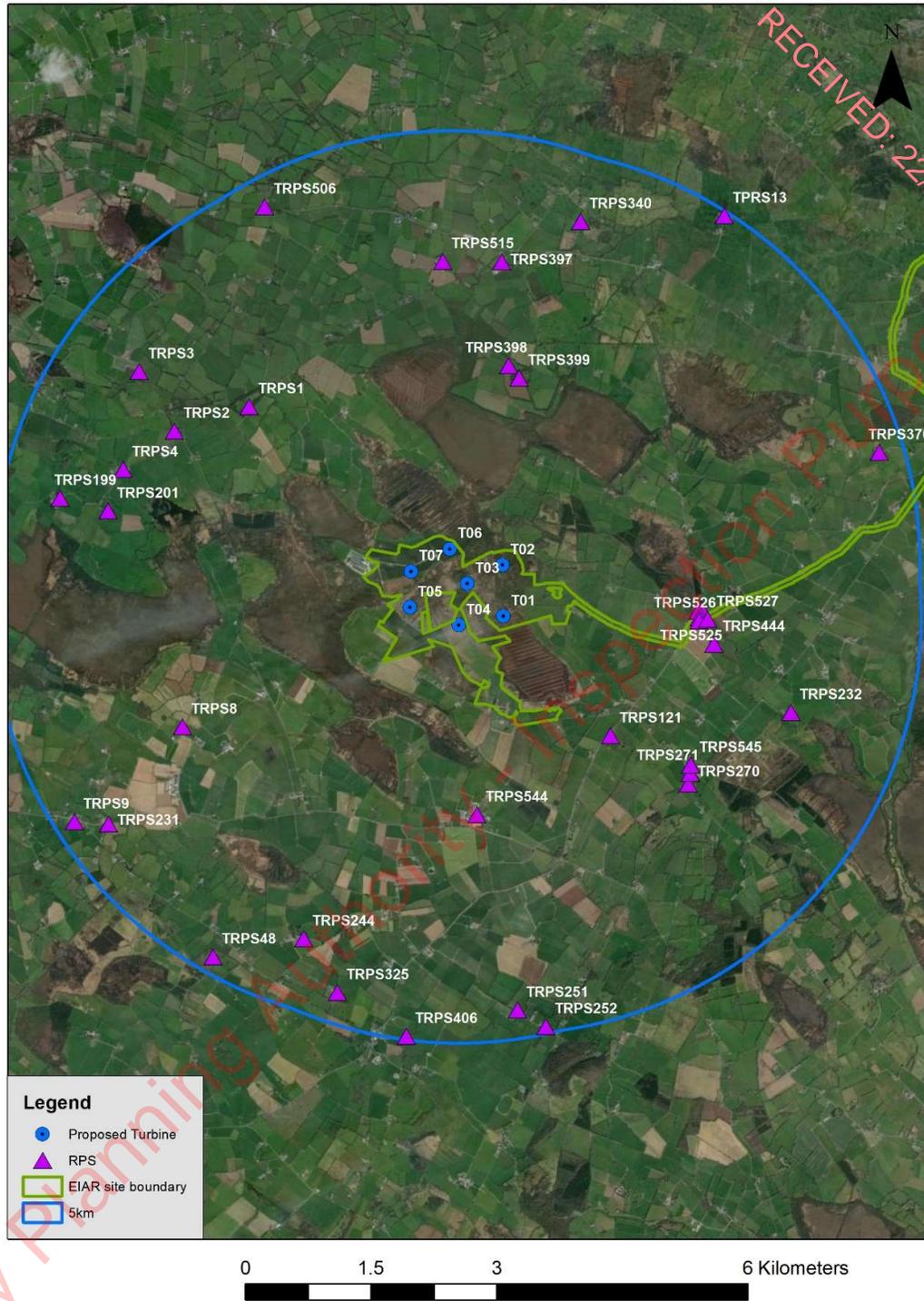


Figure 13-9: RPS structures located within 5km of the nearest proposed turbine.

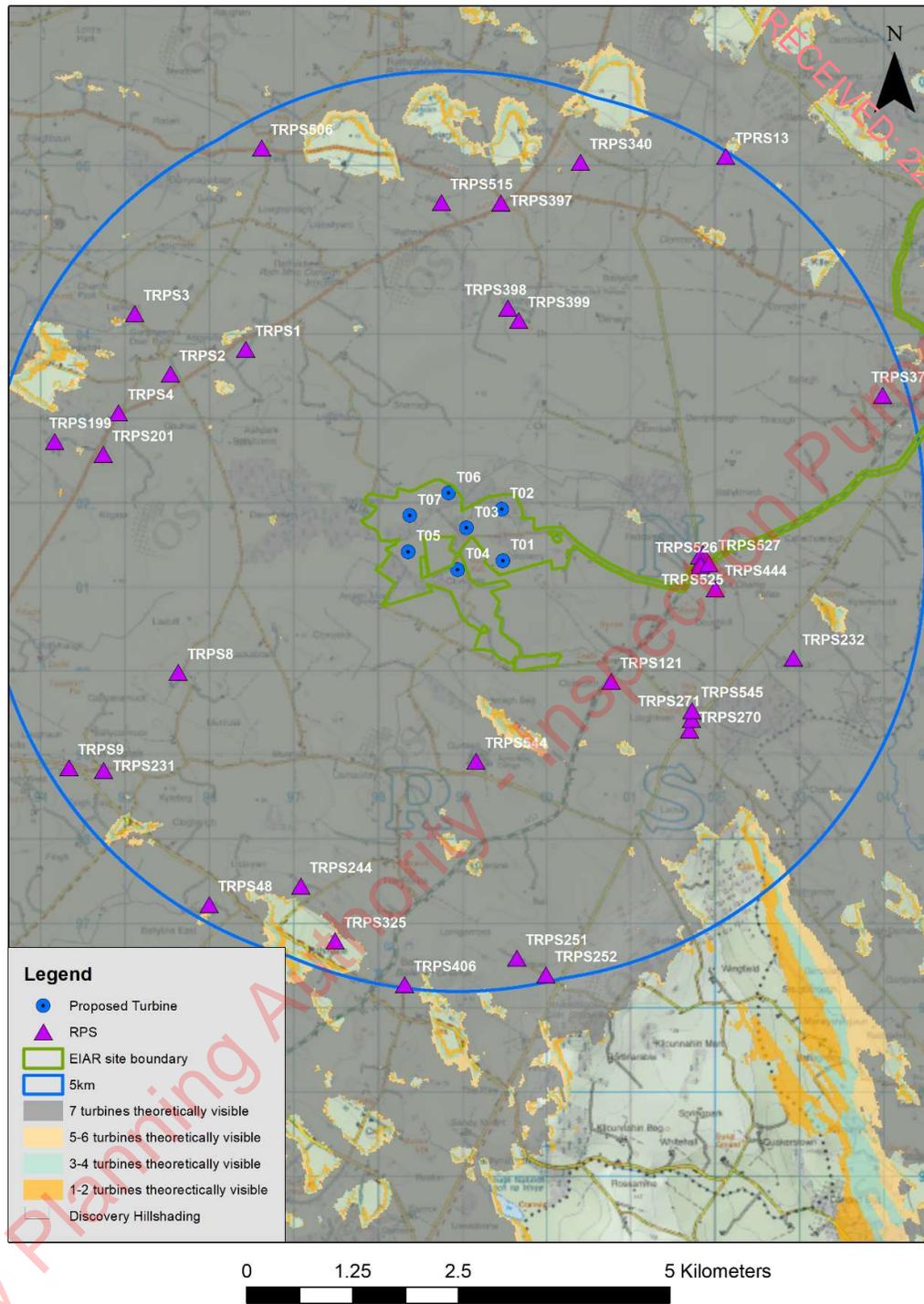


Figure 13-10: Protected Structures within 5km of the nearest proposed turbine with ZTV showing theoretical visibility.

13.3.2.10 NIAH Structures and Historic Gardens within 5km of the nearest proposed turbine

No NIAH structures or historic gardens are located within the proposed wind farm site. NIAH structures located along the proposed grid connection Options are dealt with in Section 13.3.3 below.

Twenty-one structures listed in the NIAH are located within 5km of the nearest proposed turbine and are listed in Table 13-8 and shown in Figure 13-11 below. The nearest structure is situated c. 2.3km from the nearest proposed turbine and comprises a kiln (Reg. 22400521). The remaining structures are all located in excess of 2.3km up to 4.9km from the nearest proposed turbine. The ZTV demonstrates theoretical visibility of the majority of the NIAH structures (Figure 13-12). Potential impacts on this aspect of the built heritage resource are addressed below in Section 13.4.

Eighteen historic gardens are located within 5km of the nearest proposed turbine (Table 13-9, Figure 13-11). Some of these are associated with the NIAH structures listed in Table 13-8, while others may have no surviving associated structures. Similarly, in some instances there may be no surviving garden features

Table 13-8: NIAH sites within 5km of the nearest proposed turbine.

NIAH Reg.	Date	Structure]	Townland	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
22400521	1800 - 1840	Kiln	BALLYKINASH	601771	701391	T01	2329
22400520	1800 - 1840	Mill (wind)	BALLYKINASH	601809	701418	T01	2368
22400524	1820 - 1830	Catholic Church of the Annunciation	CAHERHOEREIGH	601890	701290	T01	2448
22400801	1650 - 1700	Carrig House	DOUGHKILL	601966	700991	T01	2547
22400416	1870 - 1880	Somerset House	ABBEVILLE	596399	703847	T07	2768
22400802	1760 - 1800	Ivy Hall house	LOUGHKEEN	601698	699552	T01	2875
22400803	1820 - 1830	Loughkeen Church	LOUGHKEEN	601671	699484	T01	2897

NIAH Reg.	Date	Structure]	Townland	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
22400804	1825 - 1835	Loughkeen House	LOUGHKEEN	601671	699311	T01	3011
22400415	1670 - 1830	Abbeville House	ABBEVILLE	595504	703547	T07	3294
22400508	1780 - 1840	Ross House	ROSS (DORRHA PR)	598728	705573	T06	3434
22400509	1860 - 1870	Derrylahan Park gate lodge	WALSH PARK	599427	705576	T06	3493
22400417	1800 - 1830	RIC barracks	ABBEVILLE	594921	703092	T07	3630
22400414	1720 - 1740	Lackeen House	ABBEVILLE	595087	704266	T07	4039
22400510	1740 - 1760	Rockview House	ROCKVIEW (DORRHA PR)	600369	705980	T02	4139
22400806	1760 - 1790	Lisbryan House	LISBRYAN (BALLINGARRY PR, N.R.)	597068	697470	T05	4166
22400418	1800 - 1840	Kilcarren House	KILCARREN	594137	702751	T07	4294
22400807	1780 - 1790	South Park house	RAHINANE (BALLINGARRY PR, N.R.)	597463	696832	T04	4628
22400513	1825 - 1830	Baronne Court farmyard complex	STONESTOWN	603919	703290	T02	4684
22400705	1890 - 1895	Catholic Church of Saint Michael the Archangel	LISHEEN (AGLISHCLOGHANE PR)	594307	698881	T05	4764

NIAH Reg.	Date	Structure]	Townland	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
22400709	1780 - 1820	Ballylina Lodge house	BALLYLINA	595974	697245	T05	4811
22400810	1855 - 1860	Ballingarry Church	BALLINGARRY	598291	696303	T04	4965

Table 13-9: Historic gardens located within 5km of the nearest proposed turbine.

Site Name	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
Clonfinane House	599850	703333	T02	1447
Moat Ville	596651	700634	T05	1858
Oak Park	600650	699834	T01	1927
Gurteen House, Loughkeen	599150	698934	T04	2309
Derrylahon	599550	704333	T06	2318
Lismacropy House	597851	698934	T04	2526
Carrig House	601950	700934	T01	2539
Somerset House	596351	703733	T07	2723
Ivy Hall	601550	699534	T01	2772
Abbeville House	595451	703533	T07	3332
Ross House	598751	705633	T06	3494
Firville	594651	702533	T07	3747
Ballymona House	599750	697434	T04	3888
Lisbryan House	597051	697434	T05	4206
Kilcarren House	594151	702633	T07	4257
Sraduff House	600950	706232	T02	4545
Tinnakilly House	603849	703333	T02	4630
South Park	597351	696735	T04	4756



Figure 13-11: NIAH structures and historic gardens within 5km of the nearest proposed turbine.

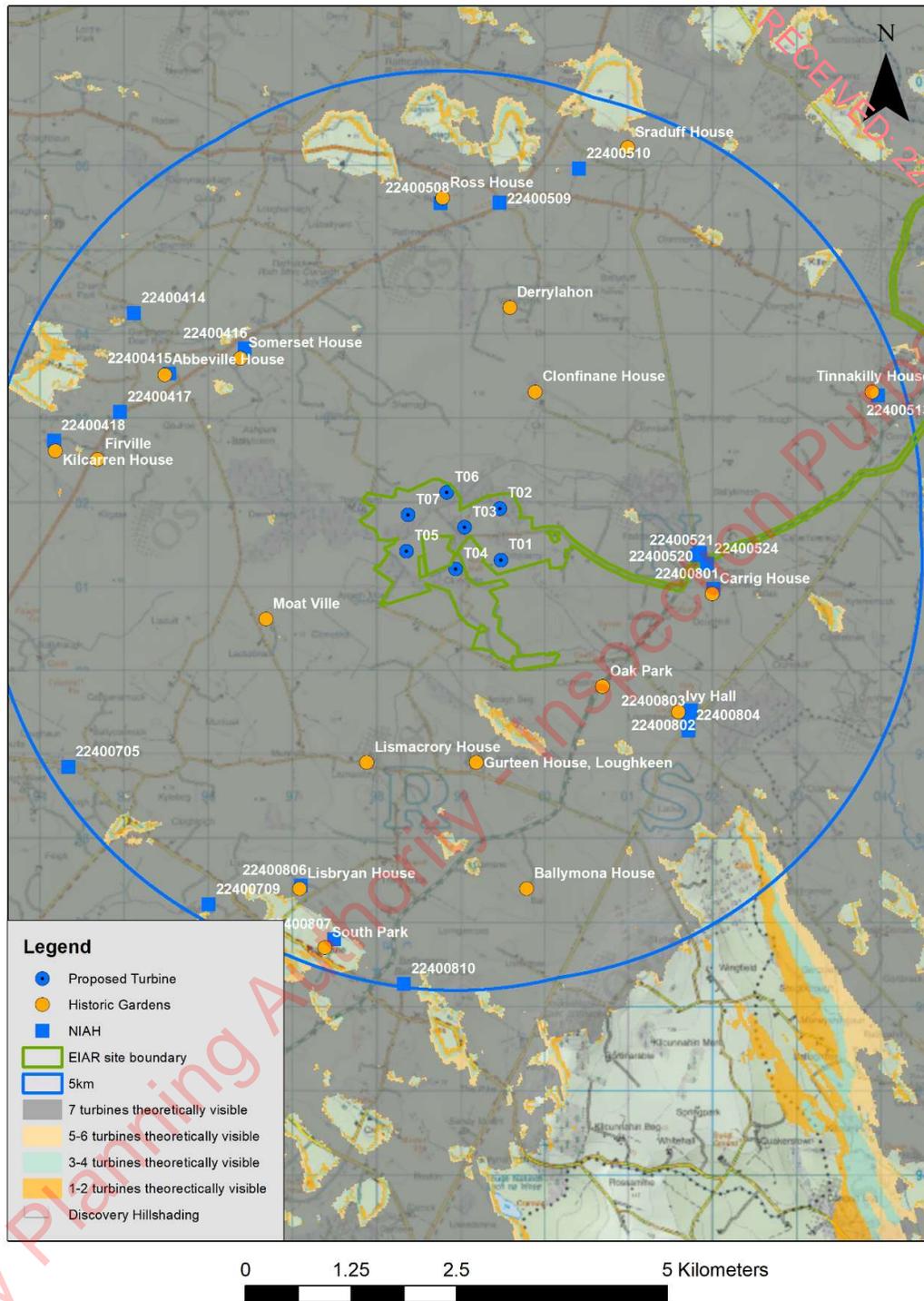


Figure 13-12: NIAH structures and historic gardens within 5km of the nearest proposed turbine with ZTV showing theoretical visibility.

13.3.2.11 Cartographic Evidence and Local Cultural Heritage

The available historic Ordnance Survey maps were consulted for any items of cultural heritage merit that may be located within the Proposed Development site. Field survey also assisted in determining if any local cultural heritage features were located within the Proposed Development site.

The Ordnance Survey came to Ireland in 1824 in order to carry-out a precise admeasurement of the country's 60,000 or so townlands as a preliminary to the larger task of reforming Ireland's local taxation system. The townland boundaries were demarcated by a Boundary Commission, and the Ordnance Survey had the task of measuring them. In addition to boundaries the maps are truly topographical in content. Drawn at the large scale of six inches-to-one-mile (1:10,560) it was important to mark all buildings, roads, streams, placenames, etc, that were required for valuation purposes. Ultimately the maps were used as a basis for the rateable valuation of land and buildings in what became known as Griffith's Valuation. Working from north to south, the survey began in Antrim and Derry in 1829 and was completed in Kerry in 1842. It was published as thirty-two county maps between 1832 and 1846, the number of sheets per county varied from 153 for County Cork to 28 for Dublin, each of the 1,994 sheets in the series depicting an area 21,000 by 32,000 feet on the ground. Each county was projected on a different central meridian and so the maps of adjacent counties do not fit neatly together at the edges. Map content stops at the county lines.

The early Ordnance Survey maps are an unrivalled source for the period immediately before the Great Irish Famine (1847-50) when the population was at the highest level ever recorded in Ireland. The first edition map (1829-41) for the area of the Proposed Development shows a variety of land within the Proposed Development study area boundary. Portions are depicted as largely open featureless ground, presumably boggy, with other areas depicted as divided into fields for agriculture with some associated small structures. One such structure (CH1) is still extant and is located immediately adjacent to the proposed road which extends to the south-east of T4 (Figure 13-13). Situated in a small thicket of trees it comprises the ruins of a stone-built structure which is located c. 5m south-west of the proposed access road. It is rectangular in plan c. 7m in length x 5m in width and the remains of low stone walls are visible with a large quantity of surrounding collapsed stone. It is also shown on the later second edition OS map.



Plate 13-10: Ruinous stone structure CH1 within Proposed Development site.

The well (TN008-002—) located within the Proposed Development site is named on both the first and second edition OS maps as 'Toberbrandy'. A lime kiln is also indicated on the second edition OS map

c. 30m west of the proposed road which extends south-east from T4 (Figure 13-14). No surface trace of the lime kiln is now apparent.

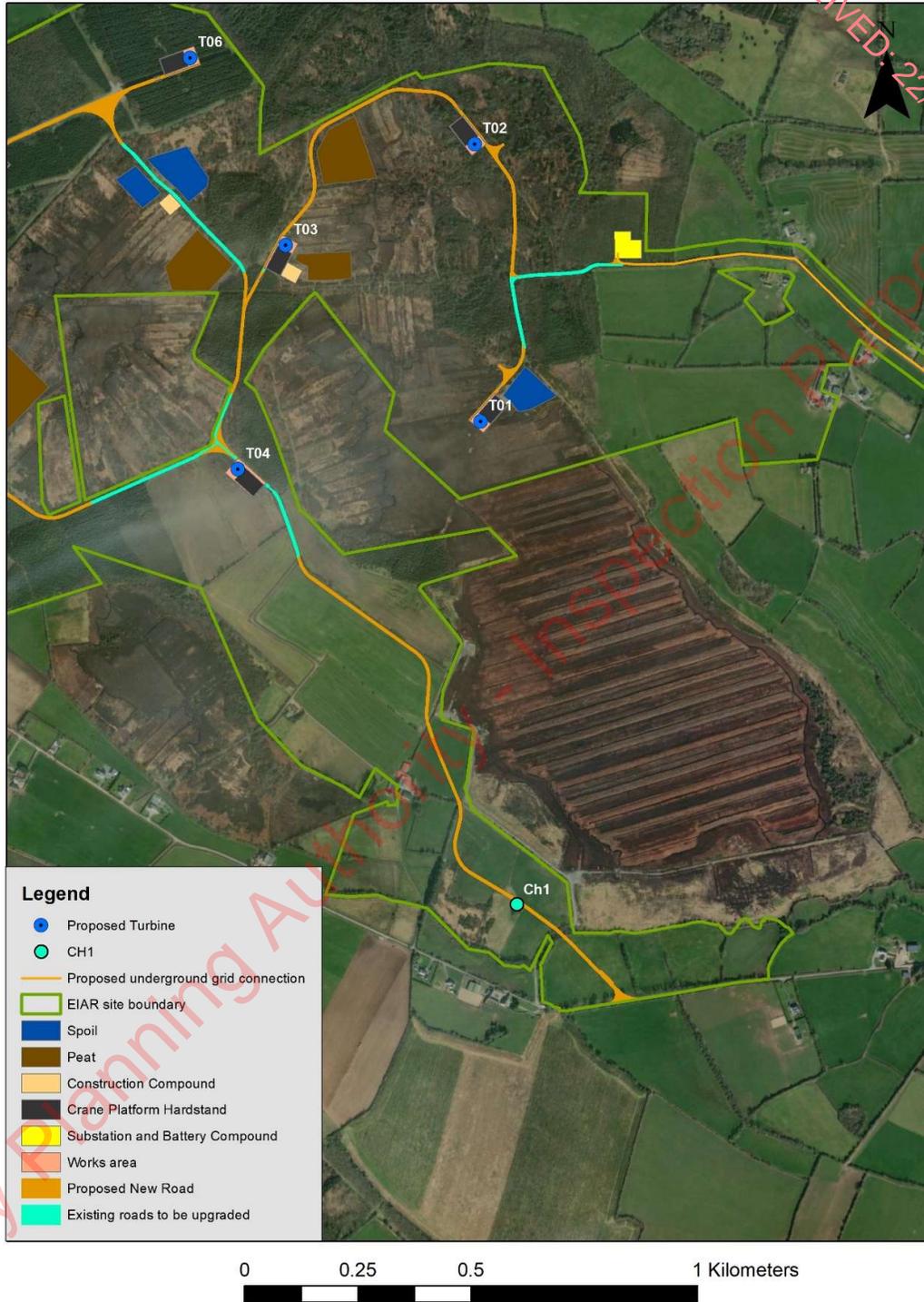


Figure 13-13: Stone structure CH1 adjacent to proposed new road.

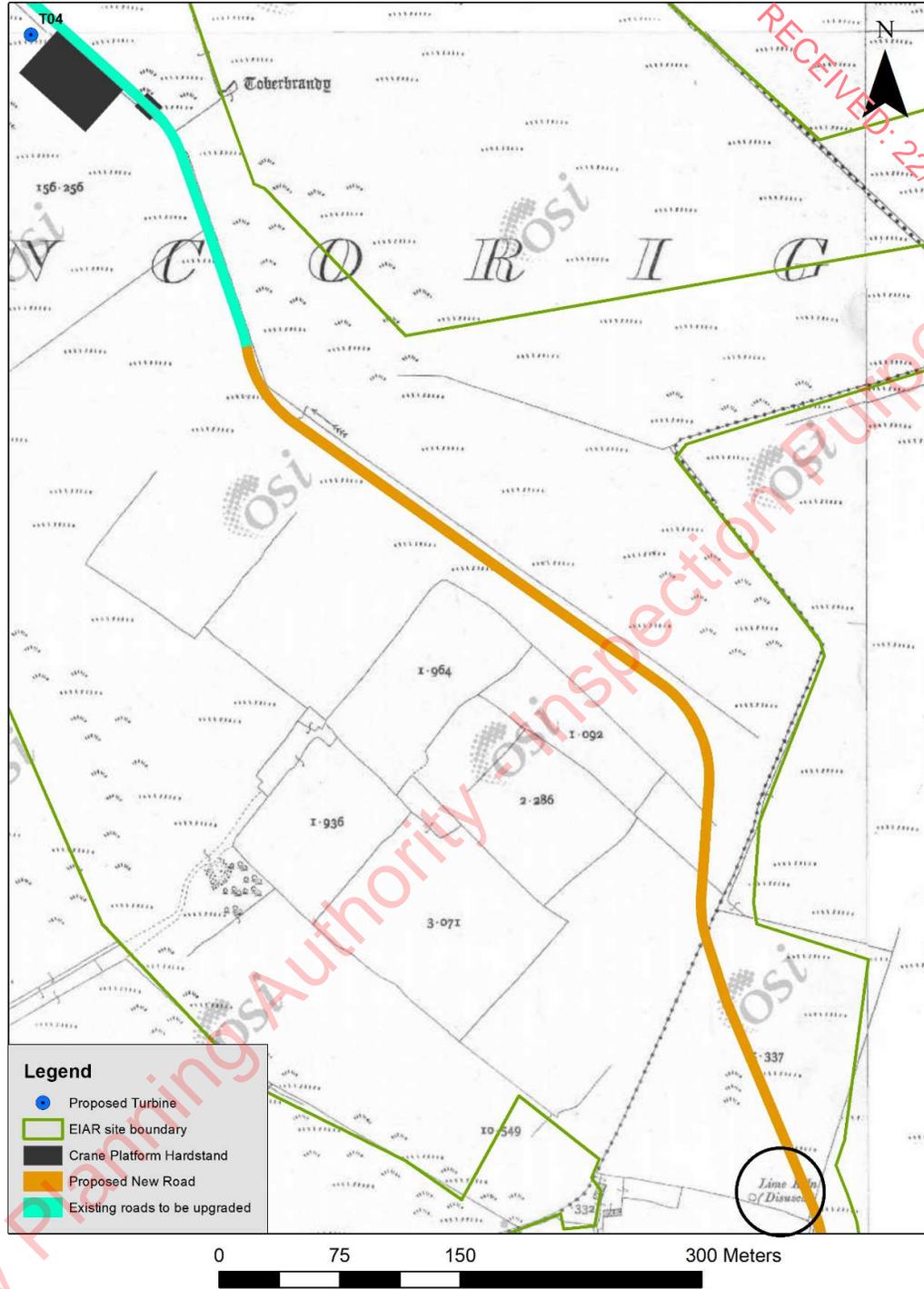


Figure 13-14: Toberbrandy and lime kiln (circled) on second edition OS background.

13.3.2.12 Townlands and administrative boundaries

Townlands and administrative boundaries may indicate the presence of archaeological features within a development site. Administrative counties are subdivisions of pre-established counties which were formed for administrative purposes in the nineteenth and twentieth centuries. Baronies are administrative units larger than civil parishes and originally established as the primary subdivision of counties by the British administration in Ireland. Irish baronies which were formed at the time of the Norman conquest were usually named either after Irish territories, or from places which had been of importance in pre-Norman times. Irish baronies came into existence at different periods. The division of Ireland into counties and baronies was a process which continued down to the reign of James I. The original baronies in Ireland were the domains of the Norman barons; in the final stage of development they were divisions of counties created merely for greater convenience of administration. The word barony is of feudal origin, and was applied to a tenure of a baron, that is, of one who held his land by military service, either directly from the king, or from a superior feudal lord who exercised royal privileges. The origin of the Irish barony (a division of land corresponding to the English hundred) is to be found in the grants of lands which were made to the barons of Leinster and the barons of Meath (Liam Price, 'Ráith Oinn', Éigse VII, lch. 186-7). Civil parishes are administrative units larger than townlands and based on medieval ecclesiastical parishes. Civil parishes, modern Catholic parishes and Church of Ireland parishes may differ in extent and in nomenclature. Counties are administrative units larger than baronies and originally established by the British administration in Ireland between the twelfth and the seventeenth centuries. Some of these were subsequently subdivided into smaller administrative county units.

Townlands are the smallest land units which were determined and established in the Irish administrative system in the first half of the nineteenth century. Many of the townlands were in existence prior to that. As a number of townlands are located within the Proposed Development site, townland boundaries between same are also present. Proposed infrastructure crosses the townland boundaries in a number of places. For example, the proposed road which extends south-east from T4 crosses the boundary between Clohaskin townland and Faddan More townland. In that instance an existing passageway extends long the boundary. Further to the north-west the same proposed road crosses the townland boundary between Faddan More and Cloncorrig. Here the townland boundary comprises an upstanding field boundary. In other places the divisions between townland are located in forestry or comprise streams/drains.

Townland names are a valuable source of information, not only on the topography, land ownership and land use within the landscape, but also on its history, archaeological monuments and folklore. Logainm.ie was utilised to ascertain the origin of the townland names within the proposed wind farm site (Table 13-10).

Table 13-10: Townlands within the proposed wind farm boundary and their meanings.

Townland	Logainm Meaning
Faddan More	Big watercourse or stream
Sharragh	No specific translation provided
Arragh More	Ploughed or tilled field
Cloncorrig	Plain of the meeting
Coolderry	Rear oak wood

Townland	Logainm Meaning
Clohaskin	A stone, a ditch
Lissernane	Ernan's fort

13.3.3 Proposed Underground Electrical Cabling Route

The proposed grid connection includes a 38kV on-site substation at Faddan More townland and a 38kV underground cabling route from the latter to the existing Dallow 110kV substation, Co. Offaly. The underground electrical cabling route is primarily located within the public road corridor.

Cultural heritage assets within 100m of either side of the underground electrical cabling route are included in the assessment in order to ascertain any potential effects and any required mitigation measures to alleviate or minimise such effects if identified. A photographic record of the Grid Connection underground electrical cabling route is presented in Appendix 13-1.

13.3.3.1 National Monuments

No National Monuments in State Care are located within 100m of the underground electrical cabling route. One monument subject to a Preservation Order (PO No. 43/1976) is located within 100m of the proposed route at Killeen townland (Figure 13-15). It comprises a castle – motte and bailey and is described in Section 13.3.2.2 above.



Plate 13-11: Motte and bailey (PO 43/1976) adjacent to the proposed underground grid connection route. (Photo courtesy of the National Monuments Service).



Plate 13-12: Proposed underground grid connection route where it extends past motte and bailey (PO 43/1976), looking S.

13.3.3.2 Recorded Monuments

Five recorded monuments are located within 100m of either side of the underground electrical cabling route and are presented in Table 13-11 and Figure 13-17 below. The measurements are based on the distance between the outermost element of the monument (identifiable from either aerial imagery or historic mapping) and the underground electrical cabling route. One of the monuments comprises the motte and bailey as discussed in Section 13.3.3.1 above.

The remaining four monument descriptions as provided on the HEV are reproduced below. The tree ring (TN005-029—) is 19th century in date, the enclosure (TN008-005—) is not visible at ground level, the castle (TN005-030001-) was demolished during a road widening scheme in the 1970s and the nearby ringfort (TN008-006—) was destroyed by land reclamation works in the 1950s.

TN005-029—

Class: Designed landscape - tree-ring

Townland: FADDAN MORE

Scheduled for inclusion in the next revision of the RMP: No

Description: Listed in SMR (1992) as an enclosure possible and in RMP (1998) as a tree ring possible.

Field inspection c.1995, established that this partially destroyed tree ring is of 19th century date.

Compiled by: Jean Farrelly and Caimin O'Brien

Date of upload/revision: 22 September 2008

TN008-005—

Class: Enclosure

Townland: BALLAGHGAR

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Situated on a low rise of ground in undulating countryside. An aerial photograph (GSIAP, M447/N 246) shows the faint outline of a circular enclosure. Not visible at ground level - field ploughed at time of visit.

*The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.
 Date of upload/revision: 22 September 2008*

TN005-030001-

Class: Castle - unclassified

Townland: DOUGHKILL

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Situated on a gentle sloping hill with rough marshy land to the N and pasture to the S. Described in the OS Letters as a small square structure (24ft x 24ft (7.3m x 7.3m); wall T 4ft 4in (1.3m)) built with hammer-dressed limestone, the walls of which stand 14ft (4.2m) high. A small round tower (int. diam. 6ft 2in (1.9m)) with a conical cap was attached to the SE corner standing to a height of 17ft (5.2m) (O'Flanagan 1930, vol. 2, 79). The castle was demolished during a road widening scheme in 1973 (FitzPatrick 1985, vol. 2, 80). No visible remains at ground level.

*The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.
 Date of upload/revision: 22 September 2008*

References:

- 1. O'Flanagan, Rev. M. (Compiler) 1930 Letters containing information relative to the antiquities of the county of Tipperary collected during the progress of the Ordnance Survey in 1840. Bray.*
- 2. FitzPatrick, E. 1985 An archaeological survey of castles in the barony of Lower Ormond, vols. 1-4. Unpublished typescript. National Monuments Section, Heritage and Planning Division, Department of the Environment, Heritage and Local Government, Dublin.*

TN008-006—

Class: Ringfort - rath

Townland: DOUGHKILL

Scheduled for inclusion in the next revision of the RMP: Yes

Description: Situated on flat pasture in undulating countryside with limited views in all directions. Wheeler (OPW 1955) described the site as a circular ringfort (int. diam. 50m) enclosed by an earthen bank (H 1m) with no external fosse visible. The site was destroyed during a land reclamation scheme in the late 1950s. An aerial photograph (CUCAP, ATC 74) shows clear outline of a large circular ringfort. Not visible at ground level.

*The above description is derived from 'The Archaeological Inventory of County Tipperary. Vol. 1 - North Tipperary' compiled by Jean Farrelly and Caimin O'Brien (Dublin: Stationery Office, 2002). In certain instances the entries have been revised and updated in the light of recent research.
 Date of upload/revision: 22 September 2008*

Table 13-11: Recorded monuments within 100m of the proposed underground electrical cabling route.

SMR NO.	ITM E	ITM N	CLASS	Townland	Distance to cable route (m)	Comments
TN008-005—	601064	701157	Enclosure	BALLAGHGAR	43m to centre point	Within Zone of Notification
TN008-006—	601749	701178	Ringfort - rath	DOUGHKILL	77m to western outer extent	N/A
TN005-029—	600497	701480	Designed landscape - tree-ring	FADDAN MORE	46m to southern outer extent	N/A
TN005-021—	604137	704526	Castle - motte and bailey	KILLEEN (Loughkeen Par.)	9m to western outer extent	Within Zone of Notification
TN005-030001-	601740	701256	Castle - unclassified	DOUGHKILL	24m	Within Zone of Notification

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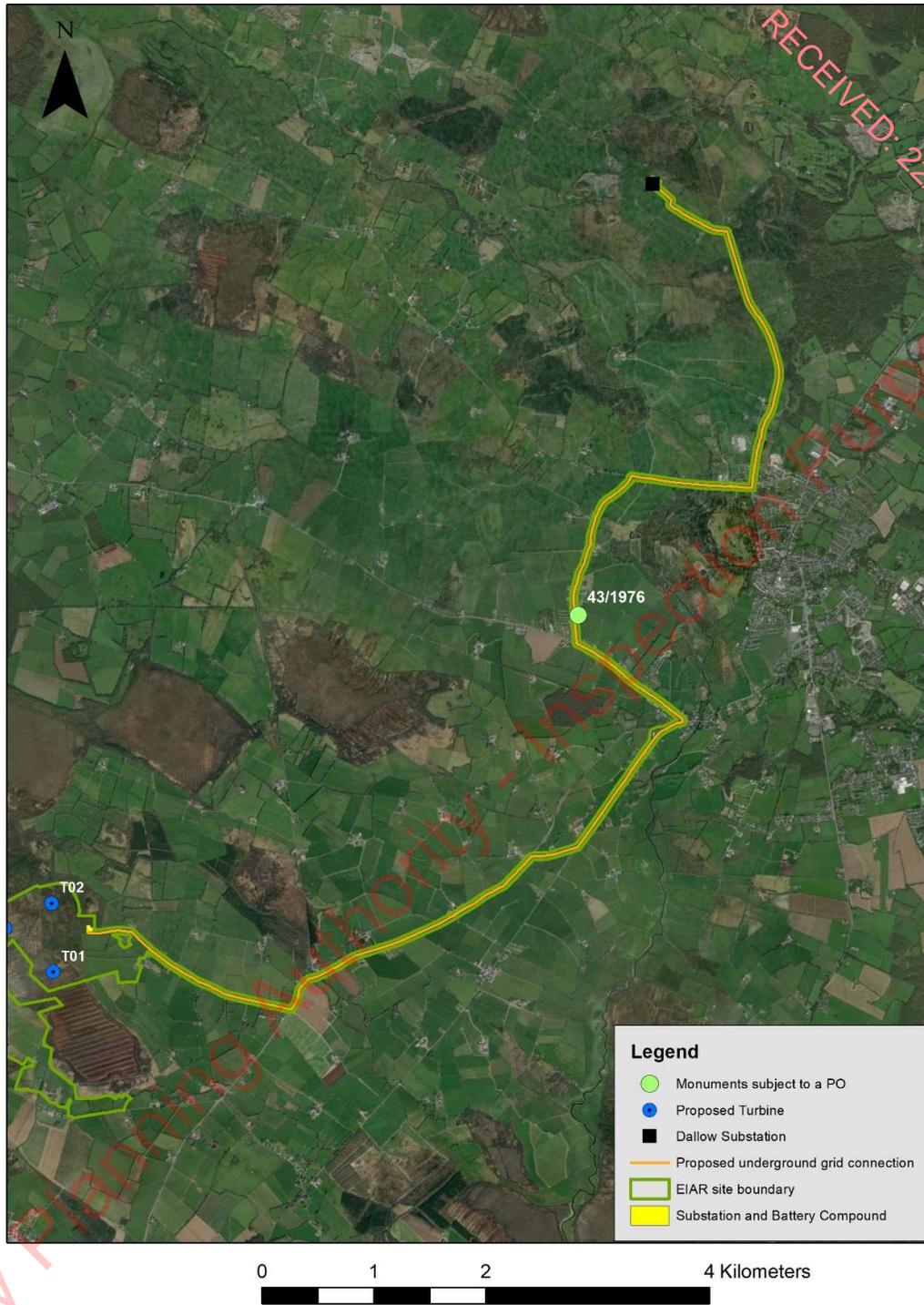


Figure 13-15: Monument subject to a PO along the proposed underground cabling route to Dallow substation.

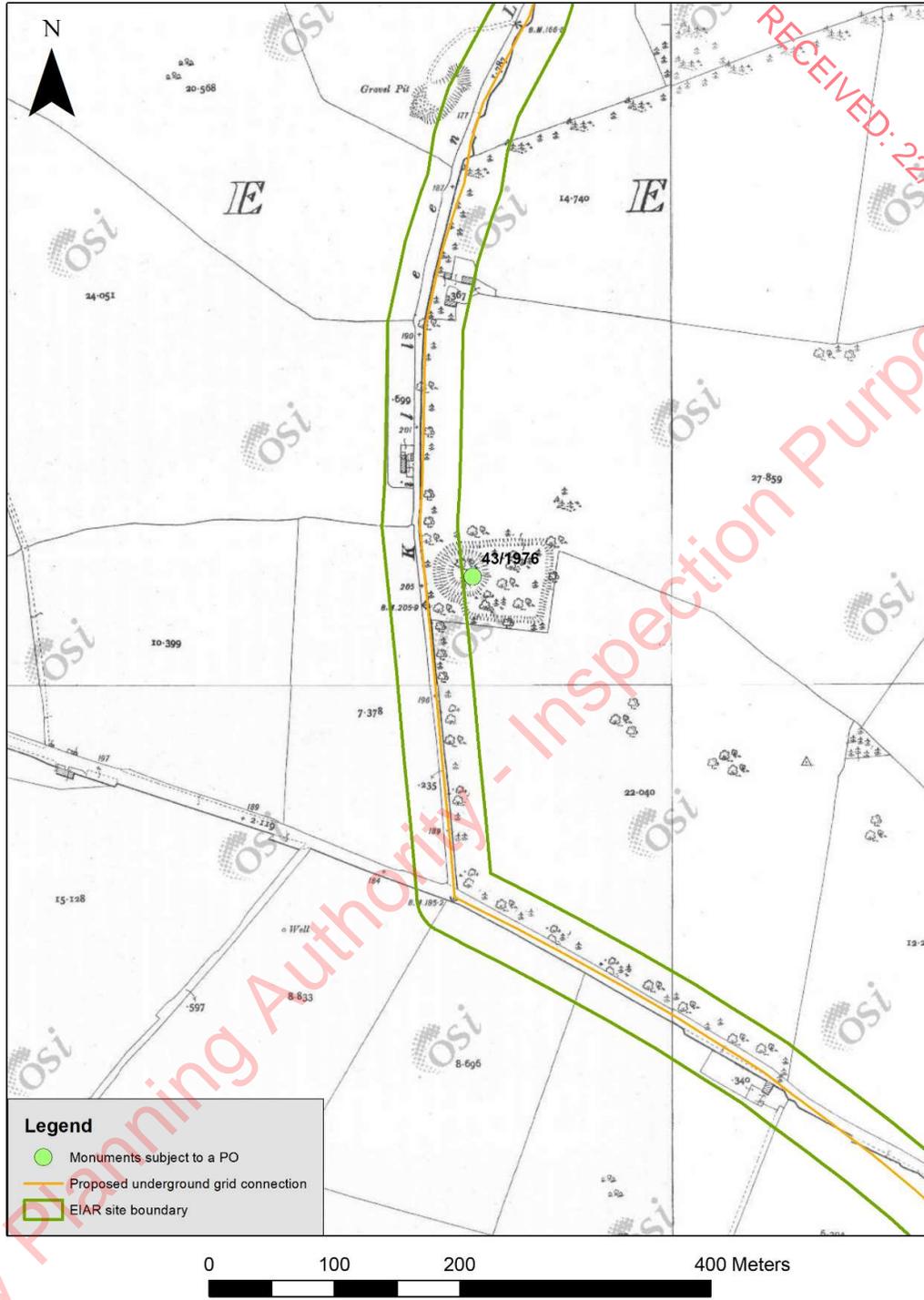


Figure 13-16: Motte and Bailey PO 43/1976 on second edition OS background.



Figure 13-17: Recorded monuments within 100m of the proposed underground electrical cabling route.

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Figure 13-18: Detail of recorded monuments TN008-005—, TN008-006—, TN005-029— and TN005-030001- and associated Zones of Notification within 100m of the proposed underground electrical cabling route.



Figure 13-19: Proposed underground electrical cabling route adjacent to motte and bailey TN005-021— and associated Zone of Notification.

13.3.3.3 Protected Structures

Eleven RPS structures are located within 100m of either side of the underground electrical cabling route and these are presented in Table 13-12 below. The structures are shown on Figure 13-20. Ten of the structures are located in County Tipperary, with one in County Offaly (RPS Ref. 49-8). Two (TRPS336 and TRPS519) comprise bridges which are located on the proposed grid connection route. The remaining structures are generally located at the roadside, with many on private property. Some of the Protected Structures are also included in the NIAH and are therefore described below in Section 13.3.3.4. A photographic record of the grid connection route is presented in Appendix 13-1.

Potential impacts and mitigation measures are detailed in Section 13.4.

Table 13-12: RPS within 100m of the underground electrical cabling route.

RPS NO.	NIAH REF	Structure	ITM E	ITM N	Distance to Grid	Comments
49-8	14935013	Tullynisk House Gate Lodge	605818	707085	Roadside	On Private Property
TRPS53	22400515	Castle View House	604971	703594	Roadside	On Private Property
TRPS336	22400514	Bridge	604873	703492	On grid route	
TRPS517	N/A	House	605101	705688	Roadside	On Private Property
TRPS518	N/A	The Shell Well	605158	705679	Roadside	On Private Property
TRPS519	22400527	Croghan Bridge	605314	705679	On grid route	
TRPS521	22400516	Terrace of houses	605164	703570	Roadside	
TRPS524	22400521	Corn drying kiln	601770	701391	Roadside	On Private Property
TRPS525	N/A	House	601780	701314	Roadside	
TRPS526	N/A	Post box	601780	701275	Roadside	
TRPS527	22400524	Carrig Church	601884	701296	Roadside	

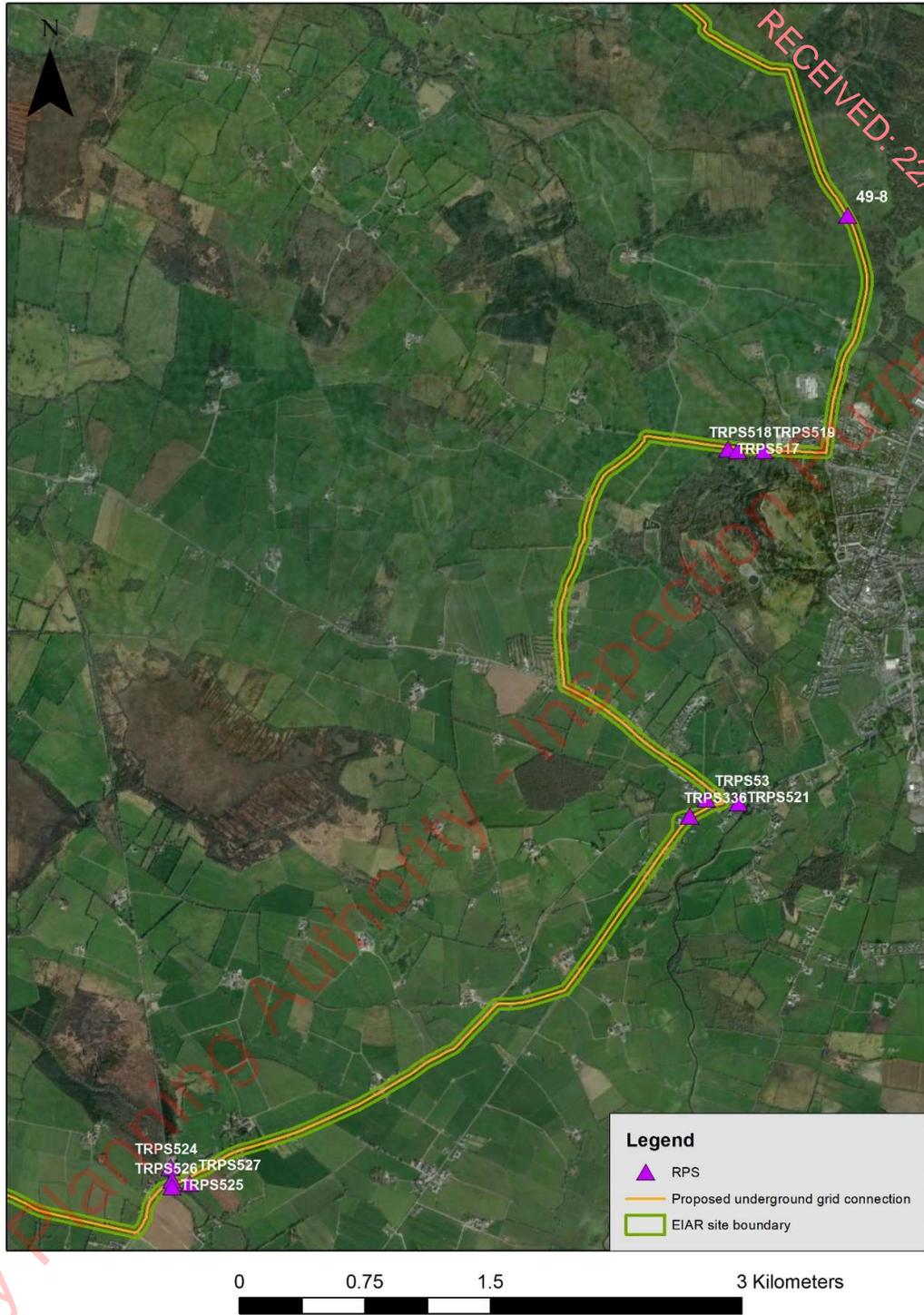


Figure 13-20: RPS structures within 100m of the proposed underground electrical cabling route.

13.3.3.4 NIAH

Seventeen structures listed in the NIAH are located within 100m of the proposed underground grid connection route. As outlined above, some of these structures are also listed in the RPS. Six of the structures are located in County Tipperary, with eleven in County Offaly and many of these are situated in the environs of Birr town. The NIAH structures are presented in Table 13-13 below.

Table 13-13: NIAH structures located within 100m of the proposed underground electrical cabling route.

NIAH REF	RPS Ref.	Type	Townland	County	ITM E	ITM N	Distance to grid
22400514	TRPS336	bridge	BALLYLOUGHNA NE	Tipperary	604872	703479	On grid route
22400515	TRPS53	house	BALLYLOUGHNA NE	Tipperary	604977	703586	
22400516	TRPS521	Terrace of houses	BALLYLOUGHNA NE	Tipperary	605165	703565	
22400521	TRPS524	kiln	BALLYKINASH	Tipperary	601771	701391	Roadside
22400524	TRPS527	church/chapel	CAHERHOEREIGH	Tipperary	601890	701290	Roadside
22400527	TRPS519	bridge	CROGHAN	Tipperary	605314	705683	On grid route
14935013	49-8	gate lodge	WOODFIELD OR TULLYNISK	Offaly	605835	707088	Roadside
14819276	N/A	worker's house	TOWNPARKS (BB. BY.)	Offaly	605581	705617	Roadside
14819282	N/A	post box	TOWNPARKS (BB. BY.)	Offaly	605683	705646	Roadside
14819283	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605681	705671	Roadside
14819284	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605681	705674	Roadside
14819286	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605683	705682	Roadside
14819285	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605682	705679	Roadside
14819288	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605686	705699	Roadside

NIAH REF	RPS Ref.	Type	Townland	County	ITM E	ITM N	Distance to grid
14819287	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605685	705691	Roadside
14819289	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605688	705710	Roadside
14819290	N/A	house	TOWNPARKS (BB. BY.)	Offaly	605688	705718	Roadside

All of the following descriptions are taken from www.buildingsofireland.ie.

13.3.3.4.1 **NIAH Reg. 22400521/RPS Ref. TRPS524**

Description

Detached three-bay two-storey building, possibly corn-drying kiln, built c.1820, having pitched stone roof with brick lining to interior. Exposed coursed rubble limestone walls having brick surrounds to openings. Two large openings to second floor now blocked up. Floor missing to interior. Fireplace to ground floor.

Appraisal

An interesting building, which is likely to have been associated with the windmill to the north, the original use of this building is unclear. With the ground floor fireplace and brick-lined roof it is possible that the building was a drying kiln for grain that was then ground in the adjacent windmill. It appears that it was also used as an RIC barracks at a later stage.



Plate 13-13: Kiln NIAH Reg. 22400521/RPS Ref. TRPS524.

13.3.3.4.2 **NIAH Reg. 22400524 / RPS Ref. TRPS527**

Description

Freestanding gable-fronted cruciform-plan Catholic church, dated 1825, having porches recently added to transepts. Pitched artificial slate roof with bellcote to entrance gable. Pebble-dash render to all walls except to ashlar limestone entrance front and to bellcote and corner buttresses of transepts. Carved stone date plaque to entrance front. Pointed-arch window openings having block-and-start cut-stone surrounds and replacement timber windows. Stained-glass window to south (altar) end. Cut-stone front door surround with hood-moulding, pinnacles and battlements having replacement timber battened doors. Exposed roof trusses and gallery with carved timber balustrade to interior. Timber and glazed entrance screen retaining original doors.

Appraisal

This church is representative of the architectural form employed for church building by the Catholic church following Catholic Emancipation. The gable-fronted church faces the road, and it presents a strong and notable contribution to the streetscape. The surviving interior features add artistic interest to the site.



Plate 13-14: Catholic Church of the Annunciation NIAH Reg. 22400524 / RPS Ref. TRPS527.

13.3.3.4.3 **NIAH Reg. 22400514 / RPS Ref. TRPS336**

Description

Single-arch rusticated limestone road bridge over disused railway, built 1868, with rusticated coping stones, string courses, and rusticated voussoirs to segmental arch and slightly-splayed shallow buttresses to ends of bridge.

Appraisal

A well-constructed bridge forming an integral part of the railway heritage of North Tipperary having been built as part of the Parsonstown (Bir) to Portumna Bridge railway line which was closed in 1878. Although the railway this bridge was built to serve has been closed for many years, the bridge continues in use as a road bridge and despite land infill has retained its original form.

13.3.3.4.4 NIAH Reg. 22400515 / RPS Ref. TRPS53*Description*

Detached three-bay two-storey house over half-basement, built c.1820. Hipped slate roof with rendered central chimneystacks. Rendered walls. Timber sliding sash six-over-six pane windows having stone sills and with replacement timber windows to basement and rear. Timber panelled door with sidelights and spoked fanlight in segmental-headed opening, approached by flight of steps. Single-storey recently-constructed garage to south elevation. Outbuilding having hipped slate roof to west. Rubble limestone walled garden to south.

Appraisal

A well-proportioned house with slate roof, small-pane sash windows and limestone steps up to front entrance help this house retain its original exterior character. An outbuilding and walled garden have also been retained in good condition, providing a context for the main house.

13.3.3.4.5 NIAH Reg. 22400516 / RPS Ref. TRPS521*Description*

Terrace of four two-storey houses, possibly formerly eight houses with two-bay ground and one-bay first floors, built c.1800. Now consisting of two two-bay houses, one five-bay and one six-bay house having pitched slate and artificial slate roofs and rendered chimneystacks. Smooth rendered and pebble-dashed walls. Small window openings having timber sliding sash windows, some six-over-three pane and two-over-two pane. Three square-headed door openings with recessed round-headed over-doors, having timber battened and replacement doors.

Appraisal

An interesting terrace of small houses built to accommodate the workers of Riverstown flour mill to the south. Originally a terrace of eight two-bay houses, but only two of the houses in the terrace are now their original size. Several timber sash windows with original glazing have been retained, helping to retain the character of the original terrace.

13.3.3.4.6 NIAH Reg. 22400527 / RPS Ref. TRPS519*Description*

Three-arch stone bridge, built c.1750, carrying local road over River Camcor. Random coursed stonework with ashlar arch rings. V-shaped cut-waters upstream and downstream. River bank accessed by stone steps. Modern railings mounted on upstream parapet.

Appraisal

Located on the boundary of Birr Demesne, this slightly-humpbacked bridge is simple in design and construction, reflecting its age and purpose. Linking counties Tipperary and Offaly, it carries traffic to and from Birr, thus performing a social function by facilitating the transport of people and goods.



Plate 13-15: Croghan Bridge (NIAH Reg. 22400527 / RPS Ref. TRPS519 (photo courtesy of www.buildingsofireland.ie).

13.3.3.4.7 **NIAH Reg. 14819276**

Description

Detached double-pile three-bay two-storey former head gardener's house, built c.1840, with extension and outbuilding to rear. Set within walled garden of Birr Castle demesne. Pitched slate roof with terracotta ridge tiles, rendered chimneystacks with terracotta pots and cast-iron rainwater goods. Rendered walls. Timber sash windows with stone sills. Round-headed door opening with timber spoked fanlight and timber battened door.

Appraisal

Situated adjacent to the Millennium Gardens and within the greater walled garden of Birr Castle demesne, this former head gardener's house, retains many architectural features. The homless six-over-six pane timber sash windows and the round-headed door opening with simple spoked fanlight are examples of such features which elevate this structure to one of importance. The retention of original fabrics is also worthy of note with the stone sills, slate roof, terracotta pots and cast-iron rainwater goods all remaining intact.

13.3.3.4.8 **NIAH Reg. 14819282**

Description

Wall-mounted cast-iron post box, erected c.1880, with VR royal cipher and crown motif above letter slot. Set in random coursed limestone wall. Maker's mark 'W.T. Allen & Co. London' to base.

Appraisal

This type of cast-iron post box, found throughout Ireland, is both socially and technically important. Dating to a time when the postal service was of great importance to the social interactions of the community and those further afield. This functional object has been enhanced by the high relief royal insignia which identifies the reign of Victoria (1837-1901). The London firm of founders, W.T. Allen & Co., was in operation from 1881-1955.

13.3.3.4.9 **NIAH Reg. 14819283-14819290**

These NIAH structures comprise a terrace of workers houses in Birr, Co. Offaly. An example of same from www.buildingsofireland.ie is provided below.

NIAH Reg. 14819283

Description

End-of-terrace two-bay single-storey worker's house with attic, built c.1870, and return rear. Set back from street. Pitched slate roof with terracotta ridge tiles, rendered chimneystack, timber bargeboards with finial to gable and cast-iron rainwater goods. Catslide roof to return. Pebbledashed walls with timber eaves course. Timber sash windows with painted sills. Square-headed door opening with replacement timber battened door with pitched canopy with decorative timber bargeboards and finial. Front site bounded by timber fence. Shared outhouse to rear site. Random coursed stone wall with piers and wrought-iron gate bounds rear site.

Appraisal

This structure is the first of a picturesque row of cottages located just outside the demesne of Birr Castle. This terrace of aesthetically pleasing cottages was built for the employees of the Birr Castle estate. The decorative bargeboards, door canopy and six-over-six timber sash windows set the pattern for the style and character of these houses which won a Royal Agricultural Society gold medal in the 1870s.



Plate 13-16: Proposed underground grid connection route with some of the workers houses (NIAH Reg. 14819283-14819290) on right of photo.

13.3.3.4.10 **NIAH Reg. 14935013 / RPS Ref. 49-8**

Description

Detached three-bay single-storey gate lodge, c.1810. Hipped slate roof with paired timber modillions at eave course. Rendered walls with square-headed door and window openings with timber casement lattice windows and stone sills. Set behind square-headed ashlar limestone gate piers with fluted capitals, plinth walls with spear-headed cast-iron railings and gates.

Appraisal

This highly crafted gate lodge forms part of a group of attendant structures within the Tullynisk House demesne. Annotated as Woodfield on the first edition of the Ordnance Survey map and as Woodville on the nineteenth-century second edition of the Ordnance Survey map, this country house is now

known as Tullynisk House. Belonging to the Rosse Estate at Birr, it is part of the architectural and historical heritage of the town.



Figure 13-21: NIAH structures within 100m of the underground grid connection towards south-west end of same.

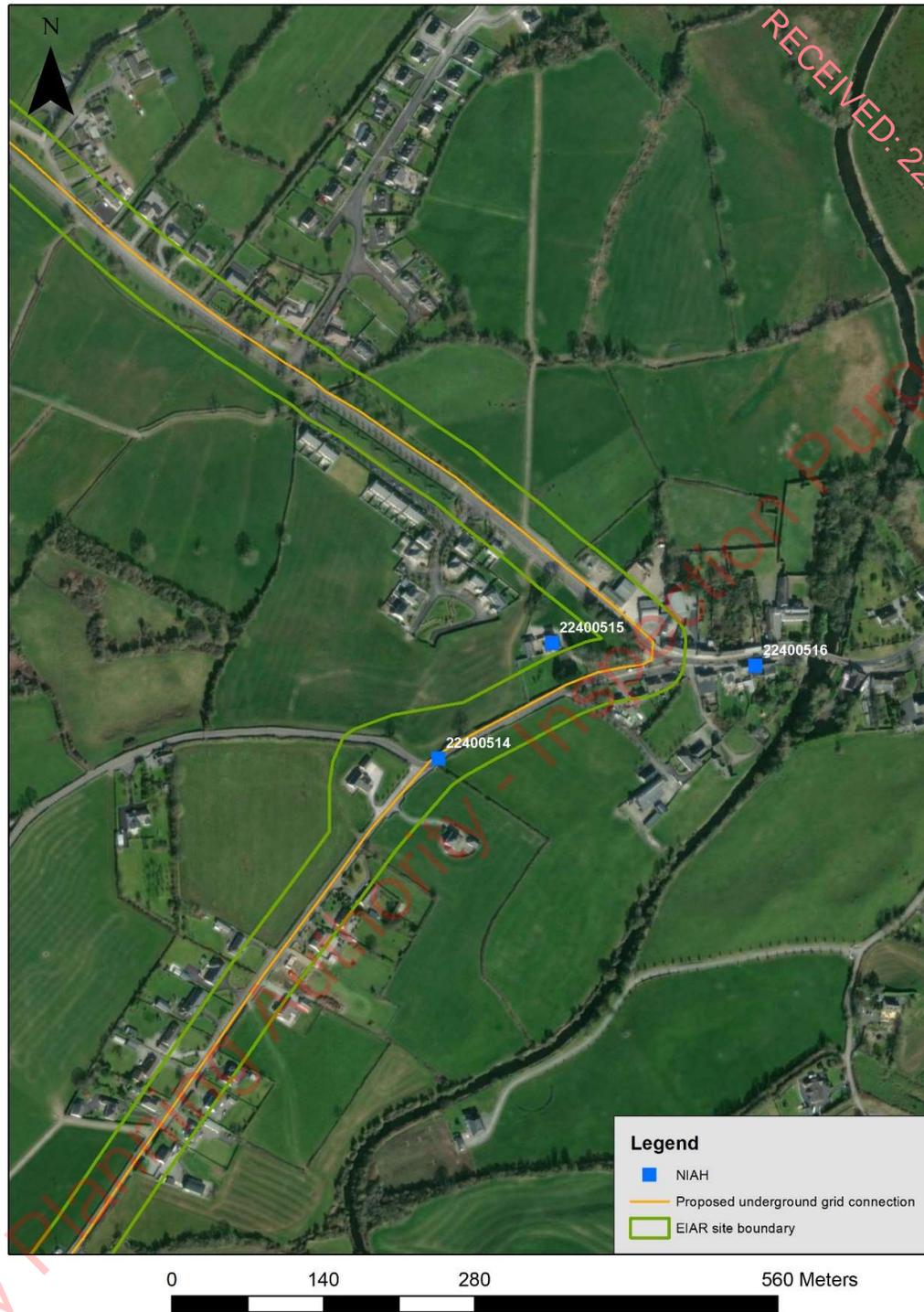


Figure 13-22: NIAH structures further to NE in Riverstown village.



Figure 13-23: NIAH structures in Birr and to north of same.

13.3.3.5 Cartographic Evidence and Local Cultural Heritage

The available historic Ordnance Survey maps were consulted for any items of cultural heritage merit that may be located along the proposed underground electrical cabling route other than those already included in the Record of Protected Structures or the NIAH. The route extends through the demesne for Woodfield House or Tullynisk and adjacent to the demesne for Dovegrove House, Tinnakilly

House, and Carrig House. It also extends through the demesne for an unnamed house at Faddan More townland. As the cable will be placed in the existing public road no impacts to these demesnes will occur.

The route also extends across a stone road bridge (CH2) at Carrig. The bridge is unnamed on the available historic mapping. Directional drilling will be utilised at all bridge crossings therefore direct impacts to bridge structures are not anticipated



Plate 17: Stone road bridge CH2 along proposed underground electrical cabling route at Carrig.

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Figure 13-24: Stone road bridge CH2 along proposed underground grid connection route at Carrig.

13.3.4

Proposed Turbine Delivery Route

It is proposed that large wind turbine components will be delivered to the Proposed Development, from Shannon Foynes Port, via the N69 national road, N18 national road, M7 Motorway, R435 Regional Road, R445 Regional Road, N62 National Road, N52 National Road, and the L5040 local road. The proposed turbine transport route from Shannon Foynes Port to the Proposed Development is

shown in Chapter 4 of the EIA It is proposed to access the Wind Farm Site a new proposed entrance off the local road to the south of the Proposed Development site.

A windscreen survey of the Proposed Turbine Delivery Route and associated pinch points was carried out as part of this assessment. The pinchpoints represent areas where there is either oversail over walls etc. or where there will be temporary works put in place to facilitate delivery (i.e., the stoning out of a grassy verge or portion of a roundabout/junction).

13.3.4.1 Pinchpoint at Riverstown, Co. Tipperary and Co. Offaly

Oversail will be required at bridge which is a recorded monument (OF035-069—/TN005-035—), a Protected Structure (Ref. TRPS522) and is also listed in the NIAH (Reg. 22400518). No potential direct impacts to the bridge are anticipated.



Plate 13-18: Bridge at Riverstown.

13.3.4.2 Pinchpoints at Roscrea, Co. Tipperary

The pinchpoints on the Proposed TDR at Roscrea are located within the Zone of Notification around the historic town, however, no ground works are proposed at either pinchpoint and no potential impacts are therefore identified.

13.3.4.3 Pinchpoint at Junction of N52-L1071, Riverstown, Co. Tipperary

Temporary works will be required at the junction of the N52-L1071 west of the village of Riverstown, Co. Tipperary. The works will take place in pasture to the north of the junction. No recorded monuments are located at or adjacent to the proposed works.

A stone railway bridge associated with a railway line which is no longer extant is located c. 10m south of the proposed temporary works. The bridge is a Protected Structure (TRPS336) and is also included in the NIAH (Reg. 22400514). The proposed temporary works will not directly impact on the bridge (see Section 13.4.2 below) and no works to the bridge itself are proposed. The temporary ground works will, however, extend across the line of the railway which was a branch of the Great Southern and Western Railway (Birr Branch). Both lines are no longer extant and the line in question adjacent to the junction at which the temporary works will take place is labelled as 'Disused Railway' on the second edition OS map. No above-ground elements of the railway line are visible in the field where the temporary works are proposed. See Section 13.4.2 for discussion of potential impacts and mitigation measures.

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Figure 13-25: Proposed junction accommodation works at Ballyloughnane to north of railway bridge TRPS336, NIAH Reg. 22400514.

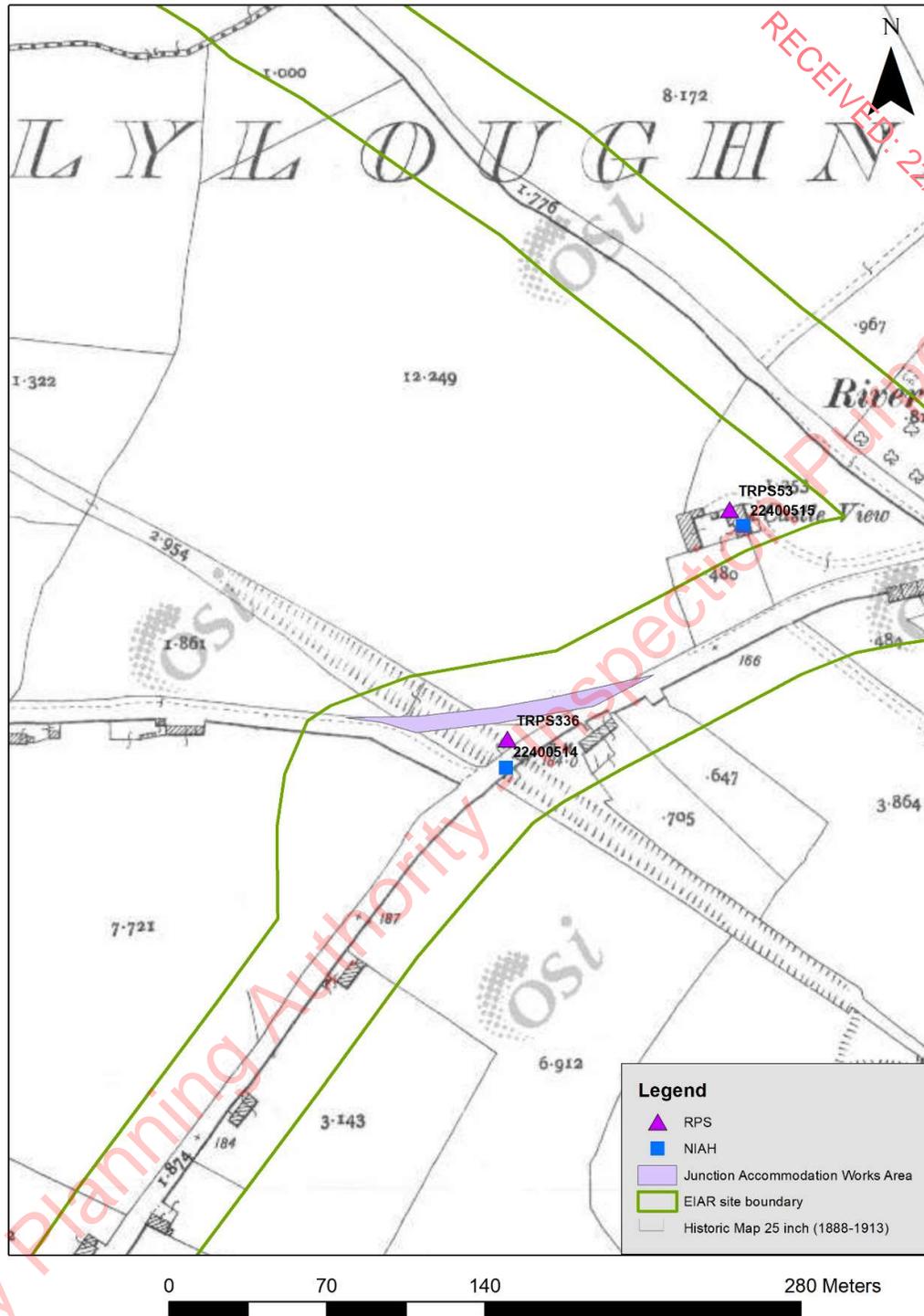


Figure 13-26: Proposed junction accommodation works at Ballyloughnane on 2nd edition OS background.

13.4 Likely Effects and Associated Mitigation Measures

13.4.1 Construction Phase Potential Impacts (Indirect)

Indirect effects, in terms of archaeology, architectural and cultural heritage are considered to be those effects which happen away from 'the Site'. This includes impacts on visual setting of any cultural heritage assets in the wider landscape. Since these effects are only possible once development is operational, they are considered operational effects and are therefore discussed in Section 13.4.3 below. No indirect effects were identified which would occur at the construction stage.

13.4.2 Construction Phase Potential Impacts (Direct)

Direct Impact refers to a 'physical impact' on a monument or site. The construction phase of a development may consist of earthmoving activities such as topsoil removal and excavation works as part of the construction phase. This may have a number of potential negative impacts on the known and potential archaeological heritage. These are outlined below with the suggested mitigation measures.

13.4.2.1 UNESCO World Heritage Sites and those on Tentative List

No UNESCO World Heritage Sites (WHS) of those on the Tentative list are located within 20km of the nearest proposed turbine. No direct effects to such assets are therefore identified.

13.4.2.2 National Monuments

Five National Monuments in State Care are located within 10km of the nearest proposed turbine. Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine. Two of these monuments are also National Monuments. One of the monuments subject to a preservation order Castle- motte and bailey (PO 43/1976) is located immediately adjacent to the proposed underground electrical cabling route. No potential direct impacts as a result of the proposed turbines or associated on-site wind farm infrastructure (proposed roads, compounds, substation etc) are identified given that the nearest National Monument is situated c. 2.6km from the nearest proposed turbine (Nat. Mon. No. 348 Lismacrorry Mounds).

As outlined above, the castle – motte and bailey (PO 43/1976) is located immediately east of the proposed underground electrical cabling route at Killeen townland. The cable route extends through the Zone of Notification for the monument c. 9m to the west of the outer extent of the motte as indicated on the second edition OS map.

Pre mitigation Effect

Ground works associated with the construction of the underground electrical cabling route has the potential to uncover sub-surface archaeological features or deposits associated with the adjacent motte and bailey. In the absence of mitigation measures a potential direct, negative and permanent impact to such features, if they exist, would occur.

Proposed mitigation measures

- Cable trench should be placed on the west side of the public road where it extends past the motte and bailey.
- Archaeological monitoring of all ground works within the Zone of Notification for the motte and bailey under licence from the National Monuments Service (NMS). A report on the

monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.

Residual Effect

Any archaeological sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.3 Recorded Monuments within the Wind Farm Site

Two recorded monuments (TN008-002— well) and TN005-025— enclosure) are located within the proposed Wind Farm Site. The well is situated c. 117m south-east of T4 and c. 33m east of an existing road due for upgrade. The enclosure TN005-025— is situated c. 129m north of T3 and c. 24m west of the proposed new road between T3 and T2 .

Pre mitigation Effect

While direct impacts to the monuments as a result of ground works associated with the Proposed Development are not identified, accidental damage as a result of the tracking of plant and machinery is possible in the absence of appropriate mitigation. The accidental damage, should it occur would potentially be direct, negative and permanent.

Proposed mitigation measures

- A 20m buffer zone will be maintained around the monuments for the duration of the construction stage of the development. The buffer should comprise durable temporary fencing with 'keep out' signage. The requirement for the buffer zone and associated signage should be included in the CEMP.
- No ground works or storage of materials or tracking of machinery will take place within the buffer zones.
- Archaeological monitoring of all ground works associated with the Proposed Development will be carried out under licence from the National Monuments Service (NMS). A report on the monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.

Residual Effect

Any archaeological sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.4 Recorded Monuments within 5km of the nearest proposed turbine

A total of one hundred and thirty-six (136) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the two monuments located within the wind farm site boundary as discussed above. Since the majority of these monuments are located at a remove from the Wind Farm Site, no direct effects to the monuments will occur. Operational effects are addressed in Section 13.4.3.3 below.

13.4.2.5 Recorded Monuments along the Grid Connection Underground Electrical Cabling Route

Five recorded monuments are located within 100m of either side of the underground electrical cabling route. One of the monuments comprises the motte and bailey as discussed in Section 13.4.2.2 above. The monuments are located between 9m and 77m from the proposed underground grid connection route, the nearest being the motte and bailey.

Pre mitigation Effect

No monuments will be directly impacted by underground electrical cabling route as they are located off the public road. There are a number of instances where the underground electrical cabling route intersects the Zone of Notification (ZoN) for some monuments and therefore mitigation measures will be implemented during construction works in order to avoid any negative effects arising during construction.

Proposed mitigation measures

- Archaeological monitoring will be carried out along the relevant sections of the underground grid connection electrical cabling route where the latter extends through the ZoN for monuments TN008-005—, TN005-021—, TN005-030001- as shown on Figure 13-18 and Figure 13-19 above.
- A report on the monitoring should be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.

Residual Effect

Any archaeological sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.6 Recorded Monuments along the Transport Delivery Route

Ground works associated with the Transport Delivery Route (TDR) are proposed for two locations; 1. within the Wind Farm site boundary and 2. at the junction of the N52-L1071 west of the village of

Riverstown, Co. Tipperary. No recorded monuments are located where proposed works along the TDR will occur therefore no direct impacts to same as a result of the works are identified.

13.4.2.7 Sub-surface Archaeological Potential

Due to the extent of groundworks associated with the construction phase of the Proposed Development and the presence of peatland within the Proposed Development site boundary, it is possible that previously unrecorded sub-surface archaeological finds, features or deposits are located within the Proposed Development site. Bogs, both raised bogs and upland blanket peat, are regarded as areas of archaeological potential and may contain archaeological sites and finds both within and beneath the peat. The potential therefore exists that sub-surface archaeological sites or features, if present within the Proposed Development site, may be directly impacted by construction phase activities.

Pre mitigation Effect

The potential impact on sub-surface archaeological finds and features, should they exist, as a result of ground works associated with the construction stage of the Proposed Development are likely to be direct, negative and permanent in the absence of appropriate mitigation measures.

Proposed mitigation measures

- Pre-development archaeological testing of the proposed turbine bases, hardstands, proposed roads, compounds, substation site and any other Proposed Development components within the Wind Farm Site will be carried out under licence from the National Monuments Service. This is in order to identify any archaeological features at the earliest stage possible in the project to allow time to deal with any requirements such as preservation in situ (redesign / avoidance) or preservation by record (archaeological excavation). Testing within forested areas may only be possible once clear-felling has taken place.
- A report on the testing will be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the testing.
- Archaeological monitoring of all groundworks during the construction stage of the Proposed Development by a licensed archaeologist.
- A report on the monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the monitoring.

Residual Effect

Any archaeological sites/features, if detected, during testing and/or monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.8 Protected Structures within the Proposed Wind Farm Site

No Protected Structures subject to statutory protection are located within the Proposed Wind Farm Site therefore no potential direct impacts to this resource are identified.

13.4.2.9 Protected Structures within 5km of the nearest proposed turbine

Thirty-six (36) protected structures are located within 5km of the nearest proposed turbine at distances ranging between c. 1.9km and 4.9km. The nearest structures comprise Oak Park house (TRPS121) which is located c. 1.9km from T1 and the ruins of Derrylahan Park house (TRPS399) which is situated c. 2.2km from T6. No direct impacts to these structures as a result of ground works associated with the Proposed Development are identified.

13.4.2.10 Protected Structures within 100m of the Grid Connection Underground Electrical Cabling Route

Eleven RPS structures are located within 100m of either side of the underground electrical cabling route. The majority of these comprise roadside structures and direct impacts to same as a result of ground works associated with the cable trench are not anticipated. Two bridges, Croghan Bridge, (Ref. TRPS519) and a railway bridge (Ref. TRPS336) are located on the proposed underground electrical cabling route. Directional drilling will be utilised at both bridge crossings therefore direct impacts to either bridge structure are not anticipated. Given that the railway bridge is located on the line of a disused railway some mitigation is recommended in order to ensure that accidental damage does not occur to any associated railway infrastructure/features should they exist at this location.

Pre mitigation impact

The excavation of entry and exit pits for the directional drilling adjacent to the disused railway at Protected Structure TRPS336 has the potential to impact directly on adjacent railway features should they exist.

Proposed mitigation measures

- Archaeological monitoring of the excavation of the directional drilling entry and exit pits adjacent to Protected Structure TRPS336 railway bridge.
- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.

Residual Effects

Any sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.11 Protected Structures and NIAH Structures along the Transport Delivery Route

Ground works associated with the Transport Delivery Route (TDR) are proposed at two locations; 1. within the Wind Farm site boundary and 2. at the junction of the N52-L1071 west of the village of Riverstown, Co. Tipperary. No Protected Structures or NIAH structures are located in the vicinity of the proposed works within the Wind Farm site boundary therefore no potential direct impacts to such structures at this location are identified.

A railway bridge which is a Protected Structure (Ref. (TRPS336) and is also included in the NIAH (Reg. 22400514) is located c. 10m south of the proposed temporary works at the junction of the N52-L1071 west of the village of Riverstown. No works to the bridge itself will take place therefore no direct impacts to same are identified. The proposed temporary works will traverse the line of the associated railway which is no longer extant and of which no upstanding remains are apparent in the field through which the works extend. Given that the proposed works traverse the line of a disused railway some mitigation is recommended in order to ensure that damage does not occur to any associated railway infrastructure/features should they exist at this location.

Pre mitigation impact

Ground works at the location of the disused railway adjacent to Protected Structure TRPS336 has the potential to impact directly on sub-surface railway features should they exist.

Proposed mitigation measures

- Archaeological monitoring of the ground works where they extend across the disused railway adjacent to Protected Structure TRPS336 railway bridge.
- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.

Residual Effects

Any sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.2.12 NIAH structures within the Wind Farm Site

No structures listed in the NIAH are located within the Wind Farm Site, therefore no direct impacts to this resource are identified.

13.4.2.13 NIAH structures within 5km of the nearest proposed turbines

Twenty-one structures listed in the NIAH are located within 5km of the nearest proposed turbine. Given that these structures are located at distances ranging between 2.3km and 4.9km from the nearest proposed turbine, no direct impacts to this resource will occur. Similarly, eighteen historic gardens are

located within 5km of the nearest proposed turbine at distances ranging between 1.4km and 4.7km. No direct impacts to this aspect of the cultural heritage resource are identified.

13.4.2.14 NIAH structures within 100m of the Grid Connection Underground Electrical Cable Route

Seventeen structures listed in the NIAH are located within 100m of the proposed underground grid connection route. The majority of these features comprise roadside structures such as houses, a church, a post box, etc to which no direct impacts will occur as a result of the ground works associated with the excavation of the cable trench. The two bridges (TRPS519 and TRPS336) discussed above in Section 13.4.2.10 are also NIAH structures and the mitigation proposed above will apply to the railway bridge (NIAH Reg. 22400514/TRPS336).

13.4.2.15 Features of Local Cultural Heritage Merit

A ruinous rectangular structure (CH1) which is indicated on both editions of the historic OS mapping was noted within the Proposed Wind Farm Site during field inspection. It is located immediately adjacent to the proposed access road which will extend from the proposed site entrance in a north-westerly direction towards T4. It is not included in the NIAH or Record of Protected Structures and is regarded as a feature of local cultural heritage merit, most likely dating to the early-mid 19th century.

The available historic Ordnance Survey maps were consulted for any items of cultural heritage merit that may be located along the proposed underground electrical cabling route other than those already included in the Record of Protected Structures or the NIAH. The route extends through the demesne for Woodfield House or Tullynisk and adjacent to the demesne for Dovegrove House, Tinnakilly House, and Carrig House. It also extends through the demesne for an unnamed house at Faddan More townland. As the cable will be placed in the existing public road no impacts to these demesnes will occur.

The route also extends across a stone road bridge (CH2) at Carrig. The bridge is unnamed on the available historic mapping. Directional drilling will be utilised at all bridge crossings therefore direct impacts to bridge structures are not anticipated

Pre mitigation impact

Given the proximity of the proposed access road to the ruinous rectangular structure CH1 accidental damage could occur to same as a result of the movement of machinery. The potential impact would be direct, significant and permanent.

Proposed mitigation measures

- Protective fencing should be placed around the thicket of trees within which the structure CH1 is located for the duration of the construction stage of the Proposed Development. The fencing should be durable with keep out signage. The requirement for the protective fencing and associated signage should be included in the CEMP.

Residual Effects

The fencing will ensure that accidental damage does not occur to the structure CH1 during the construction stage of the Proposed Development. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Imperceptible.

Significance of Effects

The overall significance of effects will be Imperceptible.

13.4.3 Operational Phase Potential Impacts (Indirect)

Indirect impacts are where a feature or site of archaeological, architectural heritage merit or their setting is located in close proximity to a proposed development. Indirect impacts here are mainly concerned with impacts on setting of cultural heritage sites.

Impacts on settings of sites may arise when a development is proposed immediately adjacent to a recorded monument or cluster of monuments. While the Proposed Development may not physically impact on a site, it may alter the setting of a monument or group of monuments. There is no standardised industry-wide approach for assessing the degree of impact to the setting of a monument. For purposes of assessing visual impact on setting, the uniqueness of the monuments, the potential interrelationships of monuments, the inter-visibility of monuments, visual dominance and whether a setting is altered or unaltered can be used to assess impact. The nature and dominance of the Proposed Development is also taken into consideration and the topography within which the Proposed Development is located. Operational effects are considered largely as a result of the proposed turbines rather than for example proposed temporary construction compounds or the Grid Connection etc which would not be dominant in the wider landscape setting in general. The assessment of impacts on visual setting was undertaken using both the Zone of Theoretical Visibility (ZTV) map in the Landscape and Visual Impact Assessment (LVIA), as presented in Chapter 14 of this EIA, and also photomontage / wireline technology from specific cultural heritage assets. The ZTV is a bare-ground model which does not take screening vegetation into account.

13.4.3.1 UNESCO World Heritage Sites and those on Tentative List

No UNESCO World Heritage Sites (WHS) of those on the Tentative list are located within 20km of the nearest proposed turbine. No potential effects to the setting of such sites as a result of the Proposed Development are therefore identified.

13.4.3.2 National Monuments

Five National Monuments in State Care are located within 10km of the nearest proposed turbine. Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine. Two of these monuments are also National Monuments.

13.4.3.2.1 National Monument 348 Lismacropy Mounds

Pre-mitigation Effect

The ZTV indicates that the mounds at Lismacropy are located in an area where all seven of the proposed turbines will theoretically be visible. A photowire of the proposed turbines from the nearest public road to the National Monuments shows some visibility of turbines but also demonstrates how existing screening will limit views of the structures. A change to the wider setting of the mounds at Lismacropy as a result of the proposed turbines is acknowledged, however, no impacts to their immediate setting will occur. The mounds are located c. 2.6km to the nearest proposed turbine and may be considered low-visibility monuments. In this regard the potential effect to their wider setting is regarded as Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.3.2.2 **National Monument 378 Lackeen Castle**

Pre-mitigation Effect

This tower house is located just over 4km to the north-west of T7. The ZTV indicates that the monument is located in an area in which seven of the proposed turbines will theoretically be visible. A photowire taken from the adjacent public road shows some visibility of turbines but also demonstrates how existing screening will limit views of the structures. Given the distance of the tower house from the proposed turbines a change to its immediate setting will not occur, however, a change to the wider setting in which the monument is located is acknowledged. In this regard the potential effect to the wider setting of this monument is regarded as Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.3.2.3 **National Monuments 357, 361 and 673 Lorrha Friary, Priory and Church**

The National Monuments at Lorrha are located between 6.9km and 7.2km to the north-west of the nearest proposed turbine, T7. The national monuments at Lorrha are located in an area where the ZTV suggests limited to no visibility of the proposed turbines. A photowire of the proposed turbines from Church TN004-010008- at Lorrha (Nat. Mon. No. 673) demonstrates no visibility of the proposed turbines. In this regard no potential visual effects to the National Monuments as a result of the proposed turbines will occur.

13.4.3.2.4 **Preservation Order No. 43/1976 Castle – motte and bailey**

This motte and bailey is located c. 5.3km north-east of T2. It is situated in an area where the ZTV demonstrates theoretical visibility of all seven proposed turbines. The monument is located adjacent to a public road and is covered in trees. Given the distance of the motte and bailey from the proposed turbines a change to its immediate setting will not occur, however, a change to the wider setting in which the monument is located is acknowledged. In this regard the potential effect to the wider setting of this monument is regarded as Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

Table 13-14: Table of Impacts on National Monuments within 10km of the nearest proposed turbine.

Nat. Mon. No.	SMR NO.	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)	Potential Effect	Significance of Effects
348	TN00 8-021- -, TN00 8-022- -	Lismacro ry Mounds	Lismacro ry	T04	2680	Indirect visual	Not significant
378	TN00 4- 02200 1-	Lackeen Castle	Abbeville	T07	4026	Indirect visual	Not Significant
673	TN00 4- 01000 8-	Lorrha Church	Lorrha	T07	6936	Indirect visual	N/A
357	TN00 4- 01000 6-	Lorrha Priory	Lorrha	T07	7027	Indirect visual	N/A
361	TN00 4- 01000 1-	Lorrha Friary	Lorrha	T07	7280	Indirect visual	N/A
PO No. 43/19 76	TN00 5-021- -	Castle – motte and bailey	Killeen	T02	5366	Indirect visual	Not Significant

13.4.3.3 Recorded Monuments within the Proposed Wind Farm Site

Two recorded monuments (TN008-002— well and TN005-025— enclosure) are located within the proposed Wind Farm Site. The well is situated c. 117m south-east of T4 and c. 33m east of an existing road due for upgrade. The enclosure TN005-025— is situated c. 129m north of T3 and c. 24m west of the proposed new road between T3 and T2. The ZTV demonstrates theoretical visibility of all seven turbines from both monuments. It should be noted, however, that the well was not readily apparent and is a low visibility monument. Similarly, the enclosure is located in a tree-covered area and was not readily discernible on the ground.

Pre-mitigation impact

The proposed turbines have the capacity to impact on the setting of the monuments, however, field assessment shows that the well and enclosure are not readily visible at ground level. In this regard, since the monuments are barely discernible, the turbines are not capable of effecting the settings since the monuments have little/no above ground expression.

Mitigation Measures

It is not necessary to provide mitigation measures since the monuments are not readily visible at ground level.

Residual Impact

Since no mitigation measures are being proposed there will be no residual impacts.

Significance of Effects

The overall significance of effects is such that no significant impacts on the setting of the monuments will take place. The overall significance of effects is regarded as Not Significant.

Table 13-15: Table of potential impacts on recorded monuments within the Proposed Wind Farm Site according to distance and number of turbines visible.

SMR	CLASDESC	Townland	Turbine	Distance (m)	Category	ZTV (No of Turbines Visible)	Potential Significance of Effects	Mitigation	Residual Effect
TN008-002—	Well	CLON CORIG	T04	117	0-1km	7	Significant	None	Not readily discernible – No significant impacts on setting
TN005-025—	Enclosure	FADD AN MORE	T03	129	0-1km	7	Significant	None	Not readily discernible –

SMR	CLASSDESC	Townland	Turbine	Distance (m)	Category	ZTV (No of Turbines Visible)	Potential Significance of Effects	Mitigation	Residual Effect
									No significant impacts on setting

13.4.3.4 Recorded Monuments within 5km of the nearest proposed turbine

A total of one hundred and thirty-six (136) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the two monuments located within the wind farm site boundary discussed above. The ZTV shows that 130 of the 136 monuments are located in areas where seven turbines will theoretically be visible.

Pre-mitigation Effect

The monuments within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 130 of the 136 monuments are located in areas where seven turbines will theoretically be visible.

Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table below are based on the **worst case scenario** in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether. Furthermore, many of these monuments may not be readily discernible in the landscape which further ameliorates effects on setting.

Table 13-16: Table of potential effects on setting of recorded monuments within 5km of the nearest proposed turbine.

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
1	TN008-002-	Well	CLONC ORIG	T04	117	7	Not significant
2	TN005-025-	Enclosure	FADDAN MORE	T03	129	7	Not Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
3	TN0 05-026-	Earthwork	FADDAN MORE	T02	496	7	Significant
4	TN0 05-027-	Designed landscape - tree-ring	FADDAN MORE	T02	542	7	Significant
5	TN0 08-001-	Enclosure	ARRAGH MORE	T05	666	7	Significant
6	TN0 05-034-	Designed landscape - tree-ring	CLONFINANE	T02	741	7	Significant
7	TN0 05-040-	Mass-rock	CLONFINANE	T06	845	7	Significant
8	TN0 05-039-	Road - unclassified together	SHARRAGH	T06	871	7	Not Significant
9	TN0 05-028-	Redundant record	FADDAN MORE	T02	1038	7	Not Significant
10	TN0 08-003-	Enclosure	ARRAGH BEG	T04	1052	7	Significant
11	TN0 05-029-	Designed landscape - tree-ring	FADDAN MORE	T01	1064	7	Significant
12	TN0 08-004-	Barrow - bowl-barrow	FADDAN MORE	T01	1471	7	Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
13	TN0 08-056-	Enclosure	GURTE EN (Ballingarry Par., North Riding)	T04	1558	7	Significant
14	TN0 08-0100 02-	Enclosure	CLOHA SKIN	T01	1618	7	Significant
15	TN0 08-005-	Enclosure	BALLA GHGAR	T01	1631	7	Significant
16	TN0 08-0100 01-	Castle - hall-house	CLOHA SKIN	T01	1650	7	Significant
17	TN0 07-010-	Enclosure	CLONES KA	T05	1721	7	Significant
18	TN0 08-009-	Enclosure	CLOHA SKIN	T01	1737	7	Significant
19	TN0 04-0330 01-	Enclosure - large enclosure	ASHPA RK	T07	1758	7	Significant
20	TN0 05-024-	Enclosure	CLONR ASKIN	T02	1809	7	Significant
21	TN0 07-009-	Mound	CLONES KA	T05	1822	7	Significant
22	TN0 04-	Redundant record	ASHPA RK	T07	1822	7	Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	033002-						
23	TN008-017-	Enclosure	GURTEEN (Loughkeen Par.)	T04	1844	7	Significant
24	TN008-054-	Enclosure	LISMACRORY	T05	2080	7	Moderate
25	TN008-008-	Barrow - ditch barrow	BALLAGHGAR	T01	2109	7	Moderate
26	TN004-036-	Enclosure	DERRYBREEN	T07	2132	7	Moderate
27	TN005-023-	Redundant record	WALSH PARK	T06	2176	7	Moderate
28	TN008-016-	Ringfort - rath	GURTEEN (Ballingarry Par., North Riding)	T04	2182	7	Moderate
29	TN004-035-	Enclosure	DERRYBREEN	T07	2212	7	Moderate
30	TN008-007-	Barrow - ring-barrow	DOUGH KILL	T01	2229	7	Moderate
31	TN005-030001-	Castle - unclassified	DOUGH KILL	T01	2299	7	Moderate

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
32	TN0 08-006-	Ringfort - rath	DOUGH KILL	T01	2312	7	Moderate
33	TN0 05-031-	Windmill	BALLYK INASH	T01	2359	7	Moderate
34	TN0 04-028-	Barrow - ring-barrow	ASHPA RK	T07	2450	7	Moderate
35	TN0 07-014-	Mound	LACKA BRACK (Agliscl oghane Par.)	T05	2472	7	Moderate
36	TN0 08-011-	Enclosure	LOUGH KEEN	T01	2491	7	Moderate
37	TN0 08-023-	Enclosure	GURTE EN (Ballingar ry Par., North Riding)	T04	2498	7	Moderate
38	TN0 08-021-	Barrow - mound barrow	LISMAC RORY	T04	2624	7	Moderate
39	TN0 04-025-	Enclosure	LISSERN ANE	T07	2656	7	Moderate
40	TN0 07-008-	Moated site	LISDUFF (Agliscl oghane Par.)	T05	2672	7	Moderate
41	TN0 08-	Enclosure	MUNNI A	T05	2714	7	Moderate

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	014-		(Ballingarry Par., North Riding)				
42	TN008-022-	Barrow - mound barrow	LISMAC RORY	T04	2738	7	Moderate
43	TN008-055-	Ringfort - rath	CAHER HOEREI GH,PALLAS (Loughkeen Par.)	T01	2761	7	Moderate
44	TN008-012-	Ritual site - holy well	LOUGH KEEN	T01	2772	7	Moderate
45	TN008-020-	Ringfort - rath	LISMAC RORY	T04	2850	7	Moderate
46	TN005-018-	Concentric enclosure	LISBALL YARD	T06	2850	7	Moderate
47	TN008-058001-	Church	LOUGH KEEN	T01	2871	7	Moderate
48	TN008-058002-	Graveyard	LOUGH KEEN	T01	2894	7	Moderate
49	TN008-024-	Enclosure	GURTEN (Ballingarry Par., North Riding)	T04	2960	7	Moderate
50	TN005-	Enclosure	RATH	T06	2971	7	Moderate

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	019-						
	-						
51	TN0 07-007-	Enclosure	LISDUFF (Agliscl oghane Par.)	T05	2997	7	Moderate
52	TN0 08-019-	Enclosure	LISMAC RORY	T04	3013	7	Slight
53	TN0 07-035-	Enclosure	MUNNI A (Ballingar ry Par., North Riding)	T05	3038	7	Slight
54	TN0 07-032-	Enclosure	MUNLU SK	T05	3057	7	Slight
55	TN0 08-025-	Enclosure	GURTE EN (Ballingar ry Par., North Riding)	T04	3091	7	Slight
56	TN0 04-037-	Burial ground	LISSERN ANE	T07	3101	7	Slight
57	TN0 04-027-	Enclosure	ABBEVI LLE	T07	3134	7	Slight
58	TN0 08-018-	Enclosure	MUNNI A (Ballingar ry Par., North Riding)	T05	3173	7	Slight

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
59	TN0 05-015-	Redundant record	ROSS (Dorrha Par.)	T06	3204	7	Slight
60	TN0 07-013-	Enclosure	LISDUFF (Agliscl oghane Par.)	T05	3227	7	Slight
61	TN0 05-017-	Moated site	LISBALL YARD	T06	3241	7	Slight
62	TN0 04-024-	Enclosure	LISSERNE	T07	3281	7	Slight
63	TN0 07-031-	Enclosure	MUNLU SK	T05	3304	7	Slight
64	TN0 08-057-	Redundant record	LOUGH KEEN	T01	3353	7	Slight
65	TN0 08-029-	Ringfort - rath	GARRANE (Ballinarry Par.)	T04	3360	7	Slight
66	TN0 04-026-	Ringfort - rath	ABBEVILLE	T07	3363	7	Slight
67	TN0 04-034-	Enclosure	KILGASK	T07	3418	7	Slight
68	TN0 08-037-	Ringfort - rath	BALLY MONA, LACKA (Loughkeen Par.)	T01	3442	7	Slight

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
69	TN0 05-014-	Enclosure	ROSS (Dorrha Par.)	T06	3443	7	Slight
70	TN0 05-0160 01-	Church	ROSS (Dorrha Par.)	T06	3455	7	Slight
71	TN0 05-0160 02-	Graveyard	ROSS (Dorrha Par.)	T06	3455	7	Slight
72	TN0 08-063-	Enclosure - large enclosure	LACKA (Loughkeen Par.)	T01	3465	7	Slight
73	TN0 08-026-	Ringfort - rath	LISBRY AN (Agliscl oghane Par.), LIS MACRO RY	T05	3530	7	Slight
74	TN0 08-0360 01-	Enclosure	BALLY MONA	T04	3562	7	Slight
75	TN0 05-033-	Ringfort - rath	CAHER HOEREI GH	T01	3569	7	Slight
76	TN0 08-028-	Moated site	BALLIN GARRY	T04	3581	7	Slight
77	TN0 05-032-	House - indeterminate date	TINLOUGH (Loughkeen Par.)	T02	3583	7	Slight
78	TN0 08-	Moated site	BALLIN GARRY	T04	3584	7	Slight

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	027- -						
79	TN0 07- 012- -	Enclosure	LISDUFF (Agliscl oghane Par.)	T05	3592	7	Slight
80	TN0 04- 014- -	Ringfort - rath	CULLA GH	T07	3598	7	Slight
81	TN0 08- 0360 02-	Enclosure	BALLY MONA	T04	3598	7	Slight
82	TN0 05- 013- -	Enclosure	LISBALL YARD	T06	3643	7	Slight
83	TN0 07- 011- -	Redundant record	CAPPA NAMUC K	T05	3718	7	Slight
84	TN0 04- 046- -	Fulacht fia	ABBEVI LLE	T07	3742	7	Slight
85	TN0 08- 0130 01-	Castle - tower house	CASTLE TOWN (Loughke en Par.),KY LENAM UCK	T01	3825	6	Slight
86	TN0 05- 012- -	Ringfort - rath	ROSS (Dorrha Par.)	T06	3831	7	Slight
87	TN0 08- 0130 02-	Bawn	CASTLE TOWN (Loughke en Par.),KY	T01	3833	7	Slight

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
			LENAMUCK				
88	TN004-022004-	Settlement deserted - medieval	ABBEVILLE	T07	3862	7	Slight
89	TN005-011-	Enclosure	LISBALLYARD	T06	3882	7	Slight
90	TN008-035-	Enclosure	BALLYMONA	T04	3910	7	Slight
91	TN004-022006-	Water mill - unclassified	ABBEVILLE	T07	3991	7	Slight
92	TN008-032-	Enclosure	BALLINGARRY	T04	4005	7	Not significant
93	TN004-022005-	House - 17th century	ABBEVILLE	T07	4034	7	Not Significant
94	TN004-022003-	Redundant record	ABBEVILLE	T07	4039	7	Not Significant
95	TN004-022001-	Castle - tower house	ABBEVILLE	T07	4044	7	Not Significant
96	TN004-022002-	Bawn	ABBEVILLE	T07	4054	7	Not Significant
97	TN008-	Enclosure	BALLINGARRY	T04	4063	7	Not Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	031-						
98	TN0 08-033-	Enclosure	BALLIN GARRY	T04	4075	7	Not Significant
99	TN0 07-042-	Ringfort - rath	LISBRY AN (Agliscl oghane Par.)	T05	4101	7	Not Significant
100	TN0 07-030-	Ringfort - rath	BALLYC ORMUC K	T05	4114	7	Not Significant
101	TN0 05-003-	Ringfort - rath	LELAG H	T06	4119	7	Not Significant
102	TN0 07-0690 02-	Fulacht fia	BALLYH AUGH	T05	4164	7	Not Significant
103	TN0 07-0690 01-	Fulacht fia	BALLYH AUGH	T05	4170	7	Not Significant
104	TN0 04-032-	Castle - unclassified	KILCAR REN	T07	4297	7	Not Significant
105	TN0 04-013-	Enclosure	CULLA GH	T06	4356	7	Not Significant
106	TN0 04-023-	Redundant record	ABBEVI LLE	T07	4364	7	Not Significant
107	TN0 04-	Enclosure	LISSAG ADDA	T07	4410	7	Not significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
	021-						
108	TN0 07-041-	Earthwork	CLOGH LEIGH (Agliscl oghane Par.)	T05	4429	7	Not Significant
109	TN0 07-023-	Redundant record	BALLYC ORMUC K	T05	4460	7	Not significant
110	TN0 07-0340 01-	Ecclesiastical enclosure	CLOGH LEIGH (Agliscl oghane Par.),KY LEBEG (Agliscl oghane Par.)	T05	4494	3	Not significant
111	TN0 07-0340 03-	Bullaun stone	CLOGH LEIGH (Agliscl oghane Par.),KY LEBEG (Agliscl oghane Par.)	T05	4495	7	Not Significant
112	TN0 07-0340 02-	Children's burial ground	CLOGH LEIGH (Agliscl oghane Par.),KY LEBEG (Agliscl oghane Par.)	T05	4509	7	Not Significant
113	TN0 07-006-	Castle - tower house	BALLYH AUGH	T05	4523	7	Not Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
114	TN0 07-024-	Enclosure	BALLYCORMUCK	T05	4572	7	Not Significant
115	TN0 07-068-	Fulacht fia	BALLYHAUGH	T05	4575	7	Not Significant
116	TN0 07-033-	Ritual site - holy well	KYLEBEG (Aglisheoghane Par.)	T05	4606	4	Not Significant
117	TN0 08-0300 01-	Castle - unclassified	RAHINANE (Ballingarry Par., North Riding)	T04	4624	0	Imperceptible
118	TN0 04-0070 03-	Bullaun stone	LISBALLYARD, LISHEEN (Dorrha Par.)	T06	4690	7	Not Significant
119	TN0 08-0410 02-	Ecclesiastical enclosure	LACKA (Loughkeen Par.)	T01	4694	1	Not Significant
120	TN0 07-075-	Souterrain	RAHINANE (Ballingarry Par., North Riding)	T05	4704	7	Not Significant
121	TN0 08-040-	Enclosure	LACKA (Loughkeen Par.)	T01	4704	7	Not Significant
122	TN0 08-034-	Ringfort - rath	BALLINGARRY	T04	4726	7	Not Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
123	TN0 08-038-	Enclosure	BALLY MONA	T01	4733	7	Not significant
124	TN0 08-0410 01-	Children's burial ground	LACKA (Loughkeen Par.)	T01	4747	2	Not Significant
125	TN0 04-0070 02-	Ritual site - holy tree/bush	LISBALL YARD, LISHEEN (Dorrha Par.)	T06	4761	7	Not significant
126	TN0 04-0070 01-	Ritual site - holy well	LISHEEN (Dorrha Par.)	T06	4768	7	Not significant
127	TN0 07-029-	Enclosure	FEIGH EAST, LISHEEN (Agliscl oghane Par.)	T05	4802	7	Not significant
128	TN0 04-006-	Redundant record	LISBALL YARD	T06	4835	7	Not Significant
129	TN0 05-008-	Water mill - unclassified	SRADUFF	T02	4838	7	Not Significant
130	TN0 04-0120 02-	Settlement deserted - medieval	CURRAGHLASS (Lorrha Par.)	T07	4839	7	Not Significant
131	TN0 04-0120 01-	Church	CURRAGHLASS (Lorrha Par.)	T07	4901	7	Not Significant

MAP ID	SM R	CLASS	TD.	Turbine ID	Distance to turbine(m)	No. of turbines theoretically visible	Theoretical Significance of Effects
132	TN0 07-005-	Ringfort - rath	BALLYH AUGH	T05	4936	7	Not Significant
133	TN0 08-039-	Enclosure	BALLY MONA	T01	4957	7	Not Significant
134	TN0 08-0450 01-	Church	BALLIN GARRY	T04	4972	7	Not Significant
135	TN0 08-0450 02-	Graveyard	BALLIN GARRY	T04	4979	7	Not Significant
136	TN0 05-041-	Moated site	GURTE EN (Dorrha Par.)	T06	4990	7	Not Significant

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate the potential effects on setting.

Residual Impact

Since no mitigation measures are being proposed the residual impact will be the same as those identified in the table of Potential Effects.

Significance of Effects

The overall significance of effects will be Slight - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether. Furthermore, some monuments may not be readily visible in the landscape which further ameliorates potential effects on setting. Additionally many of these monuments are located on private land which are not formally accessible to the public.

13.4.3.5 Protected Structures within the Proposed Wind Farm Site

No Protected Structures subject to statutory protection are located within the Proposed Wind Farm Site.

13.4.3.6 Protected Structures within 5km of the nearest proposed turbine

Thirty-six (36) protected structures are located within 5km of the nearest proposed turbine at distances ranging between c. 1.9km and 4.9km. The nearest structures comprise Oak Park house (TRPS121) which is located c. 1.9km from T1 and the ruins of Derrylahan Park house (TRPS399) which is situated c. 2.2km from T6. The structure locations within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that all but one RPS structure are located in areas where the proposed seven turbines will theoretically be visible.

Pre-mitigation Effect

Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table below are based on a theoretical model and therefore the worst case scenario in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model, and in reality the potential effect is likely to be less than that identified.

Table 13-17: Potential visual effects on RPS structures within 5km of the nearest proposed turbine.

RPS ID	Structure	Location	Turbine	Distance to turbine (m)	No. of Turbines Visible	Potential effect
TRPS121	Oak Park	Clohaskin	T01	1918	7	Significant
TRPS399	Derrylahan Park	Walshpark	T06	2204	7	Moderate
TRPS544	Gurteen House	Gurteen (Ballingarry)	T04	2281	7	Moderate
TRPS398	Derrylahan Park Cottage	Walshpark	T06	2300	7	Moderate
TRPS524	Building	Ballykinash	T01	2328	7	Moderate
TRPS525	House'	Ballykinash	T01	2338	7	Moderate
TRPS526	Post box'	Ballykinash	T01	2338	7	Moderate
TRPS523	Windmill'	Ballykinash	T01	2368	7	Moderate
TRPS527	Carrig Church	Caherhoereigh	T01	2441	7	Moderate
TRPS444	Carrig House	Doughkill, Carrig	T01	2538	7	Moderate
TRPS1	Somerset	Abbeyville	T07	2765	7	Moderate
TRPS545	Ivy Hall	Loughkeen	T01	2859	7	Moderate
TRPS271	Loughkeen Church of Ireland	Loughkeen	T01	2917	7	Moderate

RPS ID	Structure	Location	Turbine	Distance to turbine (m)	No. of Turbines Visible	Potential effect
TRPS270	Loughkeen Glebe	Loughkeen	T01	2987	7	Moderate
TRPS8	Aglish Farmhouse	Aglish	T05	3081	7	Slight
TRPS2	Abbeyville House	Abbeyville	T07	3295	7	Slight
TRPS515	Ross House	Ross	T06	3440	7	Slight
TRPS397	Walshpark Lodge	Walshpark	T06	3491	7	Slight
TRPS232	Castletown House	Kylenamuck	T01	3625	7	Slight
TRPS4	Pub	Abbeyville	T07	3660	7	Slight
TRPS201	Firville	Kilgask	T07	3702	7	Slight
TRPS3	Lackeen House	Abbeyville	T07	4042	7	Not Significant
TRPS244	Lisbryan House & Lodge	Lisbryan	T05	4164	7	Not Significant
TRPS340	Rockview	Rockview	T02	4214	7	Not Significant
TRPS199	Kilcarren House & Lodge	Kilcarren	T07	4296	7	Not Significant
TRPS231	Aglish School	Kylebeg	T05	4447	7	Not Significant
TRPS325	Southpark	Rathnane	T04	4634	0	Imperceptible
TRPS506	Post Box	Lisballyard	T06	4653	7	Not Significant
TRPS251	House	Lisnagower	T04	4659	7	Not Significant
TRPS370	Stonestown/ Baronne Court	Stonestown	T02	4704	7	Not Significant
TRPS9	Aglish Church	Aglish	T05	4769	7	Not Significant
TRPS48	Ballyina Lodge	Ballyina	T05	4805	7	Not Significant
TRPS252	House	Lisnagower	T04	4918	7	Not Significant

RPS ID	Structure	Location	Turbine	Distance to turbine (m)	No. of Turbines Visible	Potential effect
TPRS13	Arbour Hill	Arbourhill	T02	4948	7	Not Significant
TRPS406	Ballingarry Church of Ireland, Ballingarry, Roscrea	Ballingarry	T04	4960	7	Not Significant

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential effect.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Imperceptible - Significant.

Significance of Effects

The overall significance of effects will be Imperceptible - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.4.3.7 Protected Structures and NIAH Structures on the Proposed Transport Delivery Route

A railway bridge which is a Protected Structure (Ref. TRPS336) and is also included in the NIAH (Reg. 22400514) is located c. 10m south of the proposed temporary works along the proposed TDR at the junction of the N52-L1071 west of the village of Riverstown. The proposed works will involve the stoning of an area in a field to the north of the Protected Structure to facilitate turbine delivery along the route. The area will be re-instated once the delivery phase is completed.

Given the low visibility nature of the proposed works and their temporary nature no significant visual effects to the Protected Structure (Ref. TRPS336, NIAH Reg. 22400514) will occur. For the duration of the delivery period of the project the potential visual effects are regarded as Imperceptible while no potential visual effects are likely once re-instatement has taken place.

13.4.3.8 NIAH Structures and Historic Gardens within 5km of the nearest proposed turbine

Twenty-one structures listed in the NIAH are located within 5km of the nearest proposed turbine. The nearest structure is situated c. 2.3km from the nearest proposed turbine and comprises a kiln (Reg. 22400521). The remaining structures are all located in excess of 2.3km up to 4.9km from the nearest proposed turbine. The ZTV demonstrates theoretical visibility of the majority of the NIAH structures.

Eighteen historic gardens are located within 5km of the nearest proposed turbine. Some of these are associated with the NIAH structures listed in Table 13-8 above, while others may have no surviving associated structures. Similarly, in some instances there may be no surviving garden features. The ZTV

demonstrates theoretical visibility of the majority of the historic gardens within the 5km study area (Figure 13-12).

Pre-mitigation Effect

The NIAH structure and garden locations within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 20 of the 21 NIAH structures and 17 of the 18 historic gardens are located in areas where all of the proposed seven turbines may theoretically be visible. Both the distance to the nearest turbine and the number of turbines visible from each NIAH structure are used to arrive a level of potential effect on setting (Table 13-18 and Table 13-19). Potential effects on setting as detailed in the tables below are based on the **worst-case scenario** in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less than that identified.

Table 13-18: Potential visual effects on NIAH structures within 5km of the nearest proposed turbine.

NIAH Reg.	Structure]	Townland	Turbine No.	Distance To Turbine (m)	No. of Turbines Visible	Potential effect
22400521	Kiln	BALLYKINASH	T01	2329	7	Moderate
22400520	Mill (wind)	BALLYKINASH	T01	2368	7	Moderate
22400524	Catholic Church of the Annunciation	CAHERHOEREIGH	T01	2448	7	Moderate
22400801	Carrig House	DOUGHKILL	T01	2547	7	Moderate
22400416	Somerset House	ABBEVILLE	T07	2768	7	Moderate
22400802	Ivy Hall house	LOUGHKEEN	T01	2875	7	Moderate
22400803	Loughkeen Church	LOUGHKEEN	T01	2897	7	Moderate
22400804	Loughkeen House	LOUGHKEEN	T01	3011	7	Slight
22400415	Abbeville House	ABBEVILLE	T07	3294	7	Slight
22400508	Ross House	ROSS (DORRHA PR)	T06	3434	7	Slight

NIAH Reg.	Structure]	Townland	Turbine No.	Distance To Turbine (m)	No. of Turbines Visible	Potential effect
22400509	Derrylahan Park gate lodge	WALSH PARK	T06	3493	7	Slight
22400417	RIC barracks	ABBEVILLE	T07	3630	7	Slight
22400414	Lackeen House	ABBEVILLE	T07	4039	7	Not Significant
22400510	Rockview House	ROCKVIEW (DORRHA PR)	T02	4139	7	Not Significant
22400806	Lisbryan House	LISBRYAN (BALLINGARRY PR, N.R.)	T05	4166	7	Not Significant
22400418	Kilcarren House	KILCARREN	T07	4294	7	Not Significant
22400807	South Park house	RAHINANE (BALLINGARRY PR, N.R.)	T04	4628	0	Imperceptible
22400513	Baronne Court farmyard complex	STONESTOWN	T02	4684	7	Not Significant
22400705	Catholic Church of Saint Michael the Archangel	LISHEEN (AGLISHCLOGHAN E PR)	T05	4764	7	Not Significant
22400709	Ballylina Lodge house	BALLYLINA	T05	4811	7	Not Significant
22400810	Ballingarry Church	BALLINGARRY	T04	4965	7	Not Significant

Table 13-19: Potential visual effects on historic gardens within 5km of the nearest proposed turbine.

Site Name	Turbine No.	Distance To Turbine (m)	No. of turbines visible	Potential effect
Clonfinane House	T02	1447	7	Significant
Moat Ville	T05	1858	7	Significant

Site Name	Turbine No.	Distance To Turbine (m)	No. of turbines visible	Potential effect
Oak Park	T01	1927	7	Significant
Gurteen House, Loughkeen	T04	2309	7	Moderate
Derrylahon	T06	2318	7	Moderate
Lismacrory House	T04	2526	7	Moderate
Carrig House	T01	2539	7	Moderate
Somerset House	T07	2723	7	Moderate
Ivy Hall	T01	2772	7	Moderate
Abbeville House	T07	3332	7	Slight
Ross House	T06	3494	7	Slight
Firville	T07	3747	7	Slight
Ballymona House	T04	3888	7	Slight
Lisbryan House	T05	4206	7	Not Significant
Kilcarren House	T07	4257	7	Not Significant
Sraduff House	T02	4545	7	Not Significant
Tinnakilly House	T02	4630	7	Not Significant
South Park	T04	4756	0	Imperceptible

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual impact will be Imperceptible - Significant.

Significance of Effects

The overall significance of effects will be Imperceptible - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.4.3.9 Features of Local Cultural Heritage Merit

One structure (CH1) of local cultural heritage merit is located within the Proposed Wind Farm Site and is situated adjacent to the proposed road which extends from the proposed wind farm entrance in a north-westerly direction to T4. It is situated in a small thicket of trees and comprises the ruins of a small rectangular stone-built structure which is shown on the first and second edition OS maps.

Pre-mitigation Effect

The structure is not included in the Record of Protected Structures or the NIAH and is considered to be of low architectural merit albeit of local cultural heritage value. It is situated c. 1km south of T1 and 1.1km south-east of T4. The wider setting of the structure will change as a result of the Proposed Development, however, given the separation between it and the nearest proposed turbine the significance of impacts is regarded as Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual impact will be Not Significant.

Significance of Effects

The overall significance of effects is regarded as Not Significant.

13.5 Cumulative Impacts

Cumulative impact is defined as ‘The addition of many small impacts to create one larger, more significant, impact’ (EPA 2022). Cumulative effects encompass the combined effects of multiple developments or activities on a range of receptors. In this case, the receptors are the archaeological monuments and architectural/cultural heritage sites in the vicinity of the Proposed Development. The potential cumulative impacts between and the Proposed Development the other projects described in Chapter 2 of the EIAR, hereafter referred to as the other projects, have been considered in terms of impacts on archaeology and cultural heritage.

The projects considered in relation to the potential for in combination impacts arising from construction, operational and decommissioning phases of the Proposed Development and for which all relevant data was reviewed include those listed below:

13.5.1 All extant planning applications within 20km

A list of all extant planning applications within 20km of the Proposed Development was considered in terms of cumulative effects. The majority of these applications comprise agricultural and residential developments such as single dwelling houses, and agricultural buildings. Such developments if located

in proximity to archaeological monuments or other cultural heritage assets may have the potential to directly or indirectly impact on such features. It is considered, however, that the planning authority would have regard to the protection of any known or unknown cultural heritage sites through the requirement for assessments or implementation of appropriate mitigation measures through the planning process or the discharge of conditions attached to a grant of planning permission, where relevant.

Many of the extant applications are relatively small and localised in nature.

13.5.2 Other Wind Farms

Five other existing or permitted wind farms are located within 20km of the Proposed Development. These wind farms are located as separate clusters to the southeast (Carrig and Skehanagh) and northeast (Meenwuan, Derrinlough, and Cloghan) of the Proposed Development. The wind farms were considered cumulatively with the Proposed Development and in particular with regard to potential cumulative visual effects.

Table 13-20: Wind farms within 20km of the Proposed Development.

Pl. Ref.	Wind Farm	Decision	Status	No. of Turbines
5123496	Carrig	Granted (Conditional) 28/06/2001	Operational	3
5123495	Skehanagh	Granted (Conditional) 28/06/2001	Operational	5
1544	Meenwuan	Granted (Conditional) 22/04/2015	Operational	4
ABP-306706-20	Derrinlough	Granted (Conditional) 26/08/2021	Permitted – pre-construction	21
14188	Cloghan	Granted (Conditional) 07/10/2014	Operational	9

13.5.3 Cumulative Impacts (Direct Impacts – Construction stage)

The addition of other projects to the Proposed Development project was considered in order to assess Cumulative Impacts. These included all other wind farms within 20km of the Proposed Development. Direct effects for the Proposed Development are considered to be confined to within the EIAR site boundary and relate to construction effects.

13.5.3.1 Cumulative impacts (direct) considering other windfarms within 20km

13.5.3.1.1 Cumulative effects to UNESCO World Heritage sites (tentative) National Monuments in State Care, Recorded Monuments, NIAH and RPS

No UNESCO World Heritage Sites, National Monuments in State Care, RPS structures or NIAH sites are located within the footprint of the Proposed Development and therefore no direct effects on this resource were identified when considering the Proposed Development alone. When the Proposed Development is added to other projects therefore, it does not result in direct cumulative effects since none were identified in the first place. The aforementioned cultural heritage assets are located away from the site and therefore are not capable of being directly impacted by the Proposed Development. No cumulative effects will occur therefore.

13.5.3.1.2 Cumulative effects to Recorded Monuments

Two recorded monuments (TN008-002— well) and TN005-025— enclosure) are located within the proposed Wind Farm Site. Five recorded monuments are located within 100m of either side of the proposed underground electrical cabling route. The monuments within the Wind Farm Site will not be directly impacted and mitigation measures when implemented will ensure no accidental damage to same. Similarly, along the proposed underground electrical cabling route the implementation of appropriate mitigation measures will ensure no direct effects to this aspect of the Cultural Heritage resource.

Cumulative direct effects could potentially occur when all the projects are considered together, however due to effective mitigation measures being implemented, no significant cumulative effects will occur.

13.5.3.1.3 Cumulative effects on potential sub-surface archaeology

Potential direct effects identified at the construction stage of the Proposed Development are those which may occur to hitherto unknown sub-surface archaeological finds, features or deposits. This potential effect was identified as being permanent, negative and significant. After the mitigation measures are implemented, however, these potential effects will be Not Significant. The overall significance of effects is therefore Not Significant.

The same potential construction stage effect could be identified for the other wind farm projects since groundworks could impact on hitherto unknown archaeological, finds, features or deposits or other cultural heritage assets. In this regard there could potentially be a cumulative effect when the Proposed Development is added to the other wind farm sites. Mitigation measures seek to alleviate such negative effects if not remove the effect altogether and therefore there will be no significant cumulative effects on sub-surface remains.

If the mitigation measures prescribed in this EIAR are implemented then cumulative direct effects to unknown sub-surface archaeology will not occur, regardless of the other projects within 20km of the Proposed Development.

13.5.4 Cumulative Effects (Indirect Impact on Setting)

Indirect impacts on setting occur at the operational stage of the development (when turbines are operational). In this regard in order to assess overall cumulative effects on archaeology and cultural heritage, the Proposed Development is considered in the context of the Operational and Proposed wind farms within 20km.

13.5.4.1 UNESCO World Heritage sites (tentative)

No UNESCO World Heritage Sites (WHS) or those on the Tentative list are located within 20km of the nearest proposed turbine. No potential effects to the setting of such sites as a result of the Proposed Development are therefore identified. No potential cumulative effects will therefore occur to this aspect of the Cultural Heritage resource when considering the Proposed Development with the other existing and proposed wind farms within 20km.

13.5.4.2 National Monuments in State Care

Five National Monuments in State Care are located within 10km of the nearest proposed turbine. Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine. Two of these monuments are also National Monuments.

The ZTV indicates that the mounds at Lismacroy are located in an area where all seven of the proposed turbines will theoretically be visible. A photowire of the proposed turbines from the nearest public road to the National Monuments shows some visibility of turbines but also demonstrates how existing screening will limit views of the structures. The mounds are located c. 2.6km to the nearest proposed turbine and may be considered low-visibility monuments. In this regard the potential effect to their wider setting is regarded as Not Significant. When considered cumulatively with other wind farms within 20km the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the operational and proposed turbines of the other wind farms. In this regard there is potential for cumulative impacts to the wider setting of the Lismacroy mounds, however, the Meenwuan, Cloghan and Derrinlough wind farms are at a considerable distance to the north-east (between c. 12km-15km from the Proposed Development) and the Carrig and Skehanagh turbines are c. 4-5km to the south-east. In this regard potential cumulative effects to setting are not regarded as significant. No cumulative effects to the immediate setting of the monuments is identified.

Lackeen Castle tower house is located just over 4km to the north-west of T7. The ZTV indicates that the monument is located in an area in which seven of the proposed turbines will theoretically be visible. A photowire taken from the adjacent public road shows some visibility of turbines but also demonstrates how existing screening will limit views of the structures. The potential effect to the wider setting of this monument is regarded as Not Significant. When considered cumulatively with other wind farms within 20km the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the operational and proposed turbines of the other wind farms. In this regard there is potential for cumulative impacts to the wider setting of the tower house, however, the Meenwuan, Cloghan and Derrinlough wind farms are at a considerable distance to the north-east (between c. 12km-15km from the Proposed Development) and the Carrig and Skehanagh turbines are c. 4-5km to the south-east. In this regard potential cumulative effects to setting are not regarded as significant. No cumulative effects to the immediate setting of the monument is identified.

The National Monuments at Lorrha are located between 6.9km and 7.2km to the north-west of the nearest proposed turbine, T7. The national monuments at Lorrha are located in an area where the ZTV suggests limited to no visibility of the proposed turbines. A photowire of the proposed turbines from Church TN004-010008- at Lorrha (Nat. Mon. No. 673) demonstrates no visibility of the proposed turbines. In this regard no potential visual effects to the National Monuments as a result of the proposed turbines will occur. Since no visual effects are identified no potential cumulative visual effects will occur.

The motte and bailey subject to a Preservation Order (43/1976) is located c. 5.3km north-east of T2. It is situated in an area where the ZTV demonstrates theoretical visibility of all seven proposed turbines. The monument is located adjacent to a public road and is covered in trees. Given the distance of the motte and bailey from the proposed turbines a change to its immediate setting will not occur, however, a change to the wider setting in which the monument is located is acknowledged. In this regard the potential effect to the wider setting of this monument is regarded as Not Significant. When considered

cumulatively with other wind farms within 20km the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the operational and proposed turbines of the other wind farms. In this regard there is potential for cumulative impacts to the wider setting of the motte and bailey, however, the Meenwuan, Cloghan and Derrinlough wind farms are at a considerable distance to the north-east (between c. 12km-15km from the Proposed Development) and the Carrig and Skehanagh turbines are c. 4-5km to the south-east. In this regard potential cumulative effects to setting are not regarded as significant. No cumulative effects to the immediate setting of the monument is identified.

13.5.4.3 Recorded Monuments (5km)

A total of one hundred and thirty-six (136) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the two monuments located within the wind farm site boundary. The ZTV shows that 130 of the 136 monuments are located in areas where seven turbines will theoretically be visible. The overall significance of effects on recorded monuments within 5km will be Slight – Significant (Table 13-16). In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether. Furthermore, some monuments may not be readily visible in the landscape which further ameliorates potential effects on setting. When considered cumulatively with the other operational and proposed wind farms it should be noted that only the operational three Carrig Wind Farm turbines and the five Skehanagh Wind Farm turbines are within the 5km study area. The ZTV demonstrates that these turbines may all be theoretically visible in addition to the proposed seven turbines. In this regard there is potential for cumulative impacts to the wider setting of recorded monuments within 5km, however, no significant effects are identified and no potential cumulative effects to the immediate setting of such monuments will occur.

13.5.4.4 Protected Structures and NIAH (5km)

Thirty-six (36) protected structures are located within 5km of the nearest proposed turbine at distances ranging between c. 1.9km and 4.9km. Twenty-one structures listed in the NIAH and eighteen historic gardens are located within 5km of the nearest proposed turbine. The overall significance of effects on such structures will be Imperceptible – Significant (Table 13-17 and Table 13-18). In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether. When considered cumulatively with the other operational and proposed wind farms it should be noted that only the operational three Carrig Wind Farm turbines and the five Skehanagh Wind Farm turbines are within the 5km study area. The ZTV demonstrates that these turbines may all be theoretically visible in addition to the proposed seven turbines. In this regard there is potential for cumulative impacts to the wider setting of Protected Structures, NIAH structures and historic gardens within 5km, however, no significant effects are identified and no potential cumulative effects to the immediate setting of such structures and features will occur.

13.6 Do Nothing Scenario

If the Proposed Development were not to proceed, no changes would be made to the current land-use practice of low intensity agriculture and commercial forestry. It is not anticipated that the Do Nothing Scenario would have any negative effects on the existing environment in terms of archaeology, architectural and cultural heritage. Land use would continue without the need for mitigation measures.

13.7 Decommissioning Phase

There will be no significant potential impacts on the archaeological, architectural and cultural heritage environment during the decommissioning of the Proposed Development. Any potential direct impacts will already have been resolved through mitigation measures during the construction phase.

Conclusion

This Cultural Heritage chapter was prepared by Tobar Archaeological Services Ltd. It presents the results of an archaeological, architectural and cultural heritage impact assessment of the Proposed Development. The assessment was based on desktop research, field surveys, GIS based mapping, ZTV and was also assisted by photowire images from certain assets. A detailed examination of the available baseline data was undertaken in addition to a comprehensive site inspection. The latter comprised a walk-over survey of the proposed Wind Farm Site and any proposed infrastructure therein and a windscreen survey of the proposed underground electrical cabling route and pinchpoints along the proposed TDR. Two recorded monuments are located within the proposed Wind Farm Site, however, they are not located in the footprint of any proposed infrastructure. Mitigation measures are recommended in order to prevent any accidental damage to these monuments.

Where potential impacts have been identified, such as to potential sub-surface archaeology, appropriate mitigation measures have been recommended in order to minimise any such impacts. Recommended mitigation includes pre-development archaeological testing of the proposed wind farm infrastructure (turbine bases, hardstands, compounds, new roads, etc) and archaeological monitoring during the construction stage of the project.

Potential indirect effects on the setting of any UNESCO World Heritage Sites and those on a Tentative List within 20km, National Monuments within 10km, recorded monuments within 5km and RPS/NIAH structures within 5km were included in order to assess potential effects on setting in the wider landscape. No UNESCO WHS or those on a Tentative List are located within 20km of the nearest proposed turbine. The ZTV demonstrates theoretical visibility of all seven proposed turbines from the majority of cultural heritage assets within 5km and from some National Monuments within 10km. Both the distance to the nearest turbine and the number of turbines visible from each cultural heritage asset were used to arrive a level of potential effect on setting. Potential effects on setting are based on the **worst case scenario** in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less. Furthermore, many of these monuments may not be readily discernible in the landscape which further ameliorates effects on setting.

All cultural heritage assets within 100m of either side of the proposed underground electrical cabling route were assessed for potential impacts to same. No direct impacts to the recorded archaeological, architectural or cultural heritage resource as a result of the proposed grid connection route have been identified. Mitigation measures are recommended where deemed appropriate and include archaeological monitoring of ground works in specified areas along the proposed route. An assessment of potential impacts as a result of pinch points along the proposed Turbine Delivery Route was also carried out. No direct or indirect impacts to the recorded archaeological or cultural heritage resource were identified. Mitigation measures have been recommended where appropriate and include archaeological monitoring of ground works at specified areas along the proposed route.

An assessment of potential cumulative effects was also undertaken taking into consideration other extant planning applications and operational and proposed wind farms within 20km. While some potential cumulative visual effects to the wider setting of cultural heritage assets is possible when considered with the operational and proposed wind farms, no significant cumulative impacts have been identified and no cumulative effects to the immediate setting of cultural heritage assets will occur.

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