

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 construction, operation and decommissioning of the proposed Knockshanvo Wind Farm referred to as the Proposed Development (i.e. proposed Wind Farm and proposed Grid Connection), located at Knockshanvo and adjacent townlands in Co. Clare.

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 and a field inspection of the Proposed Development footprint and EIAR Study Boundary (the Site) (as defined in Chapter 1, Figure 1.1). An assessment of potential effects, including cumulative effects, is presented.

For the purposes of this EIAR:

- Where the 'Proposed Development' is referred to, this relates to all the project components described in detail in Chapter 4 of this EIAR i.e. Wind Farm Site and Grid Connection.
- Where 'the Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green in Figure 1-1a and Figure 1-1b in Chapter 1. The EIAR Site Boundary represents the primary area of study and not necessarily areas where proposed works will occur as part of the Proposed Development.
- Where the 'Wind Farm Site' is referred to, this refers to turbines and associated foundations and hard-standing areas, meteorological mast, junction accommodation works, access roads, temporary construction compounds, 110kV electrical substation, underground cabling, borrow pits, amenity works, biodiversity enhancement areas, temporary transition compound, site drainage, tree felling and all ancillary works.
- Where 'Grid Connection' is referred to, this refers to the underground 110kV electrical cabling and all associated site development works connecting the Wind Farm Site to the existing Ardnacrusha 110kV electrical substation.

A detailed description of the Proposed Development is provided in Chapter 4 of this EIAR.

For the purposes of this assessment the 'Study Area' refers to the distances considered for the various aspects of the Cultural Heritage Resource as detailed in Table 13-1 (see Section 13.2.5 below).

13.1.1 Proposed Development

The Proposed Development will comprise of 9 No. turbines with a tip height range of 179.5 metres to 185 metres and all associated foundations and hardstanding areas, access roads and entrance(s) including upgrade of existing site roads and provision of new roads, [underground electrical cabling \(33kV\)](#) 110kV electrical substation and wind farm control building(s), borrow pit(s), electrical cabling for 110kV grid connection, temporary construction compounds, a permanent meteorological mast, amenity works, biodiversity enhancement areas, temporary transition compound, tree felling, site drainage and upgrades to roads along the turbine delivery route. A full description of the Proposed Development is available in Chapter 4 of this EIAR.

The Grid Connection includes for underground 110kV electrical cabling from the proposed onsite 110kV electrical substation within the Wind Farm Site to the Ardnacrusha 110kV electrical substation in the townlands of Castlebank and Ballykeelaun, County Clare. The underground cable route measures approximately 9.2 km in length, located within existing forestry tracks and the public road corridor.

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

13.1.2 Location and Topography

The Wind Farm Site is located approximately 3 km south of Broadford, 3.5km southeast of Kilkishen, and 4km northeast of Sixmilebridge, Co. Clare. The Grid Reference co-ordinates for the approximate centre of the site are E554266 N669733. The site is accessed via local roads from the R465 Regional Road, which travels in a north-south direction between Broadford and Ardnacrusha, the R471 Regional Road which travels east-west between Sixmilebridge and Clonlara and the Crag Local Road, which travels in a northeast-southwest direction between Sixmilebridge and Broadford. The Wind Farm Site itself is served by a number of existing forestry roads.

Current land-use on the Wind Farm Site comprises coniferous forestry, biodiversity areas under Coillte management and third party lands currently being used for agricultural and forestry. Current land-use along the Grid Connection comprises of public road corridor and coniferous forestry. Land-use in the wider landscape comprises a mix of agriculture, low density residential and commercial forestry.

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 Guidance and Legislation

13.1.4.1 Guidance

The assessment of the potential effects of the Proposed Development on cultural heritage has been carried out in accordance with the various planning policies and strategy guidance detailed in Section 1.3 in Chapter 1 of this EIAR and the following:

- Architectural Heritage Protection Guidelines for Planning Authorities (Department of Arts, Heritage and the Gaeltacht, 2011).
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (Environmental Protection Agency (EPA), 2003).
- Guidelines on the information to be contained on the Environmental Impact Assessment Report (EPA, 2022).
- Department of Arts, Heritage, Gaeltacht and the Islands, 1999, Framework and Principles for the Protection of the Archaeological Heritage, 1999.
- Guidance on Setting and the Historic Environment, Historic Environment Division, February 2018.
- European Commission (2002). Assessment of plans and projects significantly affecting Natura 2000 sites. Publications Office of the European Union, Luxembourg.

- European Commission (2020). Guidance document on wind energy developments and EU nature legislation. Publications Office of the European Union, Luxembourg.
- Planning and Development Act 2000 (as amended).
- NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority, Ireland.
- EPA (2022). Guidelines on the information to be contained in Environmental Impact Assessment reports. Environmental Protection Agency, Johnstown Castle Estate, Wexford.
- DoHPLG (2018). Guidelines for planning authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. Department of Housing, Planning and Local Government, Government of Ireland, Dublin.
- Clare County Council. Clare County Development Plan 2023-2029.

13.1.4.2 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 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 RMP 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'.

13.1.4.3 Granada Convention

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

The National Inventory of Architectural Heritage (NIAH) 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.

13.1.4.4 Clare County Development Plan 2023-2029

The Clare County Development Plan 2023-2029 (CCDP) was adopted by the Elected Members of Clare County Council at a Special Meeting on 9th March 2023. The CCDP came into effect 6 weeks from the date of adoption, on 20th April 2023. The relevant policies and objectives of Clare County Council regarding archaeology and built heritage were consulted in the CCDP and include the following:

13.1.4.4.1 Architectural heritage including Industrial and vernacular heritage

This section includes all relevant policies and objectives insofar as the Proposed Development is concerned.

'CDP16.1 It is an objective of Clare County Council: a) To ensure the protection of the architectural heritage of County Clare through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding of historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the county; and b) To ensure that the archaeological and architectural heritage of the county is not damaged either

through direct destruction or by unsympathetic developments. c) To support and promote architectural vernacular skills training and facilities in the county.'

'CDP16.2 It is an objective of Clare County Council: a) To protect, as set out in the Record of Protected Structures, all structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest; and b) To review the Record of Protected Structures periodically and add structures of special interest as appropriate, including significant elements of industrial, maritime or vernacular heritage and any twentieth century structures of merit.'

'CDP16.3 It is an objective of Clare County Council: To protect and preserve buildings and features of industrial heritage such as mills, bridges, lighthouses and harbours, amongst others. Proposals for refurbishment works to, or redevelopment/conversion of, these sites will be subject to a full architectural and archaeological assessment together with an ecological assessment with respect to the presence of protected species.'

'CDP16.4 It is an objective of Clare County Council: a) To seek the retention, appreciation and appropriate revitalisation of the vernacular heritage of County Clare, in towns, villages and rural areas, by discouraging the replacement of good quality vernacular buildings with modern structures and by protecting vernacular buildings where they contribute to the character of an area or settlement and/or where they are rare examples of a structure type; b) To support proposals to refurbish vernacular structures that are in a sub-standard or derelict condition, provided that: I. Appropriate traditional building materials and methods are used to carry out repairs to the historic fabric; II. 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 III. Direction for the design is taken from the historic building stock of the area, though it can be expressed in contemporary architectural language; and (c) To ensure that visitor pressures from tourism associated with built and cultural heritage do not impact negatively on the capacity of local services (including water, waste water) or facilities such as car parking.'

'CDP16.7 It is an objective of Clare County Council: a) To advocate for greater financial assistance, including the Built Heritage Investment Scheme and the Historic Structures Fund, for the maintenance and improvement of architectural heritage in County Clare; b) To support community initiatives and projects regarding preservation, presentation and access to archaeological heritage and underwater cultural heritage, provided such are compatible with appropriate conservation policies and standards, having regard to the guidance and advice of The Department of Housing, Local Government and Heritage c) To provide advice and guidance to community groups, owners and occupiers with regards to the maintenance and repair of buildings and structures of architectural heritage importance and to promote initiatives by the Council, the Heritage Council, local communities, heritage property owners and other stakeholders pursuing the maintenance and improvement of the architectural heritage; and d) To undertake a risk assessment of the Archaeological and Architectural Heritage and Cultural Assets in the county to assess the vulnerability and the risk to the historical environment from the impacts of climate change and to help build resilience to these important assets.'

13.1.4.4.2 **Archaeological Heritage**

This section includes all relevant policies and objectives insofar as the Proposed Development is concerned.

'CDP16.8 It is an objective of Clare County Council: a) To safeguard sites, features and objects of archaeological interest generally; b) To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally; c) In securing such preservation, to have regard to the advice and recommendations of the Department of the Culture, Heritage and the Gaeltacht; d) To have regard to the government publication Framework and Principles for the Protection of the Archaeological Heritage 1999 in relation to protecting sites, features

and objects of archaeological interest; and e) To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare.'

'CDP16.9 It is an objective of Clare County Council: To protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places.'

'CDP16.10 It is an objective of Clare County Council: To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places.'

'CDP16.11 It is an objective of Clare County Council: To ensure that decisions relating to development (including infrastructure associated with broadband, telecommunications, renewable energy, major road/rail infrastructure, flood relief schemes and other services) which may have implications for Recorded Archaeological Monuments/Sites, Zones of Archaeological Potential or undiscovered archaeology, are informed by an appropriate level of archaeological investigation undertaken by qualified persons and the case of flood relief schemes have regard to archaeological Guidelines for Flood Relief Schemes (DHLGH and OPW2022).'

'CDP16.12 It is an objective of Clare County Council: To support the Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage 2019, as published by the Department of Culture, Heritage and the Gaeltacht and any subsequent guidance or plans for dealing with climate change and archaeological heritage. The Council shall seek to: a) Promote awareness and the appropriate adaptation of Ireland's built and archaeological heritage to deal with the effects of climate change; b) Identify the built and archaeological heritage in Local Authority ownership and areas at risk from climate change including, but not necessarily restricted to, the Record of Monuments and Places, Protected Structures and architectural conservation areas designated in the Development Plan; c) Undertake climate change vulnerability assessments for the historic structures and sites in its area, subject to resources and funding; d) Develop disaster risk reduction policies addressing direct and indirect risks to the built and archaeological heritage in its area; e) Develop resilience and adaptation strategies for the built and archaeological heritage in its area; f) Develop the skills capacity within the Local Authority to address adaptation/mitigation/emergency management issues affecting historic structures and sites in order to avoid inadvertent loss or damage in the course of climate change adaptation or mitigation works.'

'CDP16.12 It is an objective of Clare County Council: a) To raise awareness of and improve practice in relation to archaeology in County Clare; and b) To promote the care and conservation of historic graveyards throughout the county. Within the lifetime of the Plan it is an objective to prepare conservation plans for a number of historical church and graveyard sites, with the objective of identifying necessary works required to address the decay of the fabric of the sites.'

'CDP16.13 It is an objective of Clare County Council a) To protect, preserve and promote the archaeological value of underwater archaeological sites in rivers, lakes, coastal, marine, intertidal and sub tidal environments; and b) To support the further exploration of the underwater archaeology of County Clare, including the San Marcos project, and any subsequent projects that may arise during the lifetime of this Plan.'

13.1.4.4.3 Cultural Heritage

This section includes all relevant policies and objectives insofar as the Proposed Development is concerned.

'CDP16.14 It is an objective of Clare County Council: (a) To conserve and enhance its cultural identity and enable access to both culturally-distinct areas and facilities for cultural experiences; (b) To advocate for investment in infrastructure and initiatives that develop the role of arts, heritage and culture and employment opportunities in these sectors in County Clare including funding streams outlined in 'Project Ireland 2040 Investing in our Culture, Language and Heritage 2018- 2027'; (c) To assist in the delivery of actions under arts, heritage and cultural strategies in the county; (d) To ensure that decisions

relating to investment in arts, cultural and heritage infrastructure/facilities are informed by an appropriate level of environmental assessment; and (e) To develop a vibrant cultural and creative sector in County Clare as a key enabler of enterprise growth, innovation, regeneration, place-making and community development, health and wellbeing and support measures under Culture 2025, Creative Ireland Strategy 2017-2022 and the Action Plan for Rural Development.'

'CDP16.15 It is an objective of Clare County Council a) To facilitate further development of and extensions to museum, heritage centres and archives across the county; b) To ensure that the County Museum's collections and associated information are accessible to the public; c) To promote a wider appreciation and understanding of the unique natural, cultural and archaeological heritage of the County; d) To recognise and support the role of private and community facilities in making heritage artefacts and information available to the public; and (e) To support the development of a network of community arts and cultural hubs.'

'CDP16.17 It is an objective of Clare County Council: a) To provide for the linguistic and cultural heritage of the county through the provision of support for organisations involved in the continued promotion and preservation of the Irish language and culture and the normalising of the use of Irish; b) To work in a positive and encouraging way to create and maintain a bilingual environment in the county, and to ensure the availability of opportunities for the use of spoken and written Irish. (c) To support the implementation of the Language Plan for the Irish Language Network in Ennis.

CDP16.18 It is an objective of Clare County Council To support and facilitate the gathering, recording, preservation and promotion of folklore and oral cultural heritage in the county and to work closely with groups such as Cuimhneamh an Chláir to realise their objectives.'

The undertaking of this Cultural Heritage assessment of the Proposed Development is in accordance with Clare County Council's aforementioned policies and objectives on archaeological, architectural and cultural heritage.

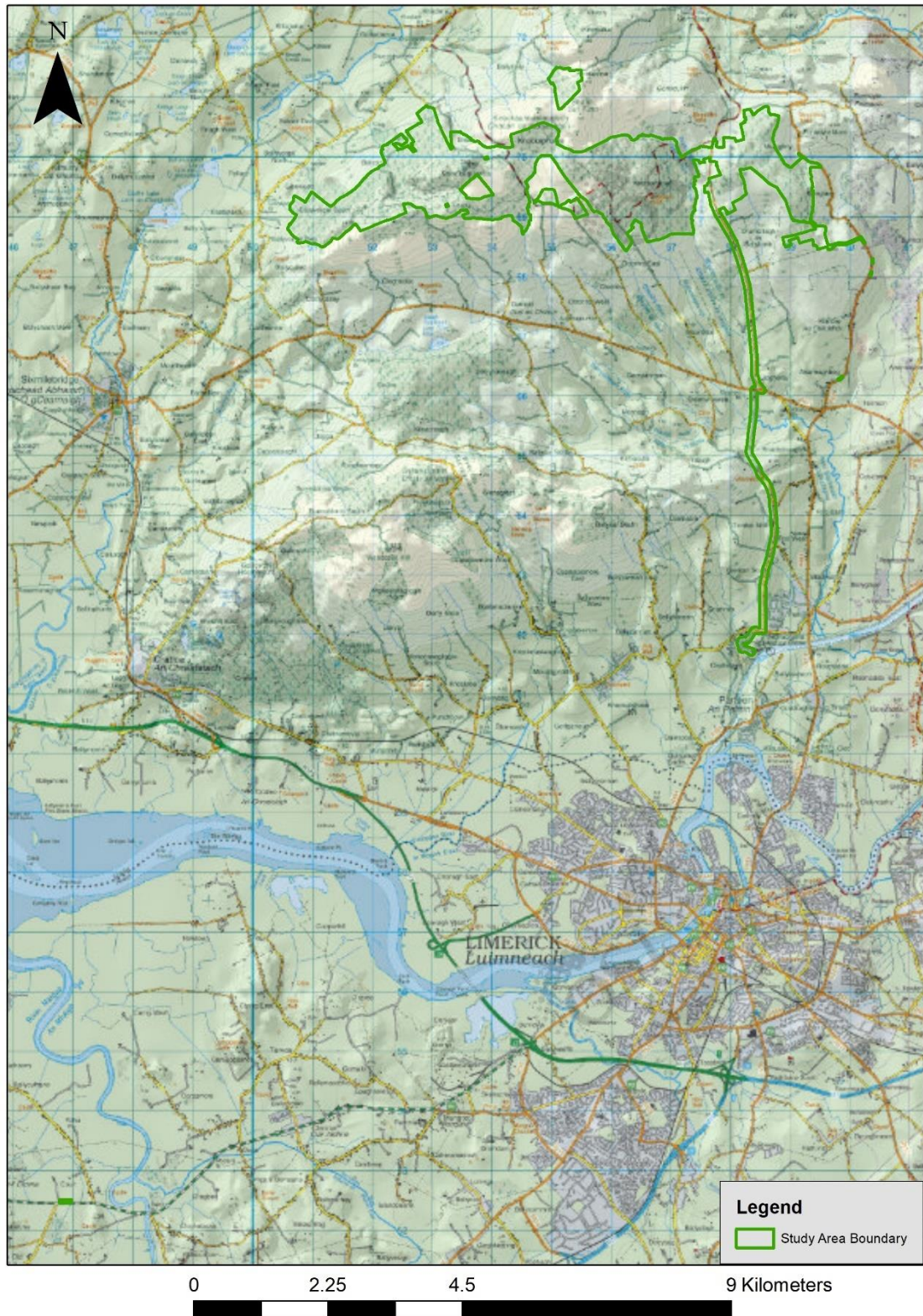


Figure 13-1 Site location map.

13.1.5 Statutory Consultations

13.1.5.1 Clare County Council

The scoping response received from Clare County Council requested a full assessment of ‘the potential for direct and indirect impacts on the cultural heritage assets of the area to be adequately assessed within the EIAR’.

13.1.5.2 Dept. of Housing Local Government and Heritage

The scoping response received from the Development Applications Unit of the Department of Housing, Local Government and Heritage (DHLGH) stated the following in relation to archaeology.

‘The National Monuments Service of the Department of Housing, Local Government and Heritage has reviewed the ‘Environmental Impact Assessment Scoping Report’ for the proposed Knockshanvo Wind Farm. The information provided is not sufficiently detailed to allow for a full assessment of the archaeological implications of this proposal, however the Department wishes to advise that, as part of EIA requirements, your client is obliged to retain the services of a Consultant Archaeologist to carry out an Archaeological Impact Assessment (AIA) as part of the overall Cultural Heritage Impact Assessment of the proposed development, which should be integrated into the finalised Environmental Impact Assessment Report (EIAR). In this regard, the Department awaits the results of the Cultural Heritage Impact Assessment (CHIA) and full EIAR for the scheme before commenting further.

Further to the above, and by way of general archaeological advice, please note that, whilst the proposed development site (PDS) may or may not contain within it known or subsurface Recorded Monuments and/or Archaeological sites that may require assessment as part of the overall CHA, the PDS itself is located within a wider area of known archaeological settlement and activity (the Department initial review of the Record of Monuments and Places, www.archaeology.ie and cartographic sources). All of these Recorded Monuments, both within and outside the PDS, are subject to statutory protection in the Record of Monuments and Places, established under section 12 of the National Monuments Act 1930-2014. Therefore the CHIA should include an assessment of the possible effects of the proposal on the wider archaeological landscape. It is of importance that the study area for the CHIA should be of sufficient size and extent to support this.

The Department advises that the CHIA should incorporate a robust desk-study supported by a comprehensive field inspection as well as a visual impact assessment (to assist in identifying any possible impacts to the setting of sites or monuments).

In this respect it should be noted that, in addition to site-specific vulnerabilities to impact on setting, many monument types – for example prehistoric monuments such as Standing Stone Alignments, Standing Stone Rows, Single Standing Stones, as well as some megalithic tombs – are often considered to represent a wide area of associated archaeological settlement and activity. As a result, the bunding/stockpiling of materials, intrusion into viewsheds, etc., may have a negative visual impact on such monuments and may diminish or interrupt alignment views and alter key aspects of their original function and layout. The Visual Impact Assessment should:

- *Set out the key characteristics of the monument(s) and its surroundings that contribute to its setting and the degree to which this setting is integral to the significance and appreciation of the monument.*
- *Assess the effects of the development – both positive and negative – on these key characteristics. The development should be considered in terms of its location and siting relative to the monument as well as its form, appearance and permanence.*
- *Be supported by appropriate illustrations of the monument, its setting and the development.*

- *The Department further advises that the following is also carried out as part of the overall CHIA to ensure a comprehensive assessment of the proposed development:*
- *The desk-study and field inspection regime should inform:*
 - *Targeted non-intrusive advance geophysical survey or prospection (such as Ground Penetrating Radar Survey);*
 - *Targeted advance archaeological test excavation.*
- *Any and all intrusive advance investigations (such as, but not limited to, ground investigations for soils/geology/hydrogeology) carried out as part of the EIA and/or design process should be subject to a programme of archaeological monitoring by a suitably qualified archaeologist licensed under the National Monuments Act.*

The results of these investigations should inform the EIA process and be incorporated within the EIA Report. The Department is happy to provide further advice and clarification, as and if required, in relation to the preparation of suitably comprehensive assessments as outlined above, with particular regard to the scope and locations for any advance non-intrusive prospection or advance test excavation that would be appropriate to inform the assessment of this proposed scheme.

Notwithstanding the above, the Department awaits the submission of this assessment before commenting further.'

The points raised in the scoping responses are addressed in this assessment in Sections 13.3, 13.4 and 13.5.

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 Clare
- National Monuments in State Care County Limerick
- National Monuments in State Care County Tipperary
- The Topographical Files of the National Museum of Ireland
- First edition Ordnance Survey maps (Tailte Éireann)

- Second edition Ordnance Survey maps (Tailte Eireann)
- Aerial photographs (copyright of Tailte Eireann)
- 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 SMR and RMP for County Clare. 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 (Historic Environment Viewer (HEV)) which may be accessed at www.heritagedata.maps.arcgis.com was also consulted. The datasets of monuments as provided on the HEV are updated on a regular basis. For the purposes of this assessment the HEV was last accessed on the 14th March 2024.

A review of all National Monuments in State Care and those subject to Preservation Orders in Counties Clare, Limerick and Tipperary was also undertaken as part of the assessment. The list of National Monuments (*National Monuments in State Care: Ownership & Guardianship Clare – 4th March 2009*) and those subject to a preservation order (*Preservation Orders All Counties – 1st February 2010*) as provided on the National Monuments website (www.archaeology.ie) was last accessed on the 14th March 2024.

13.2.2.2 Cartographic Sources and Aerial Photography

The 1st (1829-41), 2nd (1897-1913) and 3rd (1830s -1930s) edition OS maps for the area were consulted, as was Tailte Eireann 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 Site these files, as available on Heritage Maps (www.heritagemaps.ie), were consulted for each townland within and immediately adjacent to the Site.

13.2.2.4 Archaeological Inventory Series

Information on archaeological sites is available 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 and the HEV.

13.2.2.5 Record of Protected Structures

The CCDP was 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 CCDP also outlines policies and objectives relating to the protection of the archaeological, historical and architectural heritage landscape of County Clare. The dataset for the Clare Record of Protected Structures and Limerick Record of Protected Structures was 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 online at www.excavations.ie and includes excavations from 1985 to 2023. This database was consulted on the 11th January 2024 as part of the desktop research for this assessment to establish if any archaeological excavations had been carried out within or near to the 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 (www.buildingsofireland.ie) 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 Project in January 2024. The 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 Site.

13.2.3 Field Inspection

The Site was subject to a walk-over survey and windscreen survey over two days in June 2023 which was carried out by Tobar Archaeological Services Ltd. A photographic and descriptive record was made of the Site and any features of interest therein. The photographic record is included as Appendix 13-1 of this EIAR. All SMR sites within the 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, however, dense forestry cover is present in areas of the Site. Mitigation in the form of additional walk-over surveys post clear-felling of forestry is proposed in Section 13.4 in this regard.

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) and described in section 1.7 of Chapter 1. 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 Effect

- Direct effects 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 effects 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 effects arise when the addition of many impacts create a larger, more significant impact.
- Residual effects 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 effects on visual setting (indirect effects)

A standardised approach was utilised for the assessment of effects of visual setting (indirect effects) according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. The assessment of effects 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 13 of this EIAR, and also photomontages / Photowires 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 cable route and other components of the Proposed Development are not deemed to be as visually prominent as the proposed turbines. Other potentially visually prominent components such as the proposed 110kV electrical substation is also considered in terms of potential visual effects.

While direct physical effects to a site or monument can easily be assessed in quantitative terms, the assessment of effects 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 effects on setting are regarded as appropriate and are based on professional judgement.

The proposed turbine range was assessed as per the methodology outlined in Chapter 14 LVIA section 14.1.3.3. The photomontages produced in EIAR Volume 2: Photomontage Booklet to demonstrate the turbine envelope range were also utilised. As noted in Chapter 14 'as demonstrated by the turbine ranges presented in the Photomontage Booklet, irrespective of which combination of hub height and blade length within the range outlined in this application is installed on-site, the significance of residual landscape and visual effects will not be altered.'

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 (Table 13-2):

1. **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).
2. **Number of turbines visible on ZTV.** Each increment is also numbered from 1-3 with 1 being the least severe (i.e. 1-3 turbines visible) and 3 being the most severe (7-9 turbines visible).

The number values are then multiplied to arrive at a potential effect (from Imperceptible 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)	1-3 (1)	4-6 (2)	7-9 (3)	
Distance of asset to turbine				
4-5km (1)	1	2	3	
3-4km (2)	2	4	6	
2-3km (3)	3	6	9	
1-2km (4)	4	8	12	
0-1km (5)	5	10	15	
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 previously unrecorded archaeological monuments were noted within the Site during the walk-over survey. One item of cultural heritage merit (CH1) which comprises a ruinous stone structure was noted within the Site but is not located within the footprint of any proposed infrastructure (see Section 0 below). 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. Section 13.3.3 addresses the proposed Wind Farm, Section 13.3.4 address the proposed Grid Connection and Section 13.3.5 addresses the minor accommodating works on the proposed turbine delivery route. Cultural heritage includes items such as buildings, farmhouses, gates, bridges, piers, and stone field boundaries.

13.3.3 Proposed Wind Farm Site

The proposed Wind Farm includes all proposed infrastructural elements such as proposed roads, compounds, borrow pits, hardstands, turbines, etc. The study areas referred to in the following sections are defined in Table 13-1 above.

13.3.3.1 UNESCO World Heritage Sites and those on Tentative List

No UNESCO World Heritage Sites (WHS) or those on the Tentative list are located within 20km of the nearest proposed turbine. The nearest WHS (Tentative list) comprises the royal site of Cashel, Co. Tipperary which is situated c. 56km to the south-east.

13.3.3.2 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. No

National Monuments or those subject to a Preservation Order are located within the proposed Wind Farm Site. No National Monuments are located within 10km of the nearest proposed turbine, with the nearest National Monuments located just over 11km to the east at Killaloe, to the south in Limerick City and to the south-west in Bunratty. The National Monuments in Killaloe comprise St Molua's Church (Nat. Mon. No. 279) and St Flannan's Church (Nat. Mon. No. 6) while the National Monument in Limerick comprises King John's Castle (Nat. Mon. No. 288). Bunratty Castle (Nat. Mon No. 478) is situated c. 11.8km to the south-west. The ZTV suggests no theoretical visibility of the proposed turbines from the monuments in Killaloe and theoretical visibility of 3-6 turbines from King John's Castle. A photowire produced from the nearby Thomond Bridge demonstrates visibility of portions of three proposed turbines in the distant skyline from this location. The ZTV also demonstrates theoretical visibility of 7-9 proposed turbines from Bunratty Castle.

Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine and are shown on Figure 13-2. The monuments are listed and described below.

Table 13-3 Monuments subject to a Preservation Order within 10km of the nearest proposed turbine

PO No.	SMR NO.	ITM E	ITM N	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)
8/1973	CL043-085001 -; CL043-085002 -	547582	668934	Castle	MOUNTCASHEL	T01	5745
2/1973	CL053-041—	556641	662368	Ringfort	BALLYCANNAN	T07	6675
4/1992	CL043-017001 -; CL043-017002 -	546343	674279	Castle (Site of)	DEERPARK NORTH	T02	8232

13.3.3.2.1 PO 8/1973 Castle

The monument subject to a Preservation Order (No. 8/1973) at Mountcashel comprises a tower house (CL043-085002-) located c. 5.7km west of the nearest proposed turbine, T1. It is described on the Historic Environment Viewer (HEV) as follows.

CL043-085002- : Castle - tower house : BALLYMULCASH, MOUNTCASH

Description: The following items have been uploaded: CL043-085002_01.pdf Details from Risteárd Ua Cróinín and Martin Breen, The Castles and Tower-houses of Co. Clare (unpublished report). Uploaded courtesy of R. Ua Cróinín and M. Breen. CL043-085002_01.jpg View of SE elevation. CL043-085002_02.jpg NE elevation. Doorway at ground level hidden by trees. CL043-085002_02.jpg SW elevation. Revised by: Mary Tunney Date of revised upload: 12 March 2019 This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 8/1973).

The ZTV indicates that the tower house is located in an area where 1-3 turbines will theoretically be visible (Figure 13-3).

Potential effects and mitigation are addressed below in Section 13.4.

13.3.3.2.2 **PO 2/1973 Ringfort**

The ringfort at Ballycannan townland is located c. 6.6km to the south of the nearest proposed turbine, T7. It is described on the HEV as follows:

CL053-041— : Ringfort - rath : BALLYCANNAN

Description: Situated on a slight W-facing slope in very wet rough pasture. The E portion was damaged in antiquity by the construction of the roadway which curves out slightly to allow for the monument. A subcircular ringfort (diam. c. 50m NNW-SSE; c. 45m SSW-NNE) defined by a bank and fosse. The interior and exterior of the site is under very heavy vegetation. The bank is best preserved towards the N (With 3.5m; H 2.5-3m) and the fosse only survives along the SW sector (With 3m; D 0.5m). A gap (With 6m) at N may be original and there is a second gap (With 3m) at S. (Ryan 1980) The following images have been uploaded: CL053-041—_01.jpg From W. General overview of ringfort. CL053-041—_02.jpg From E. View of bank interior at SSW and overgrown interior of ringfort. CL054-041—_03.jpg From NW. View of steep bank exterior at NW. This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 2/1973). Compiled by: Mary Tunney Date of upload: 9 April 2019.

The ZTV indicates that the ringfort is located in an area in which none of the proposed turbines will theoretically be visible.

Potential effects and mitigation are addressed below in Section 13.4.

13.3.3.2.3 **PO 4/1992 Castle (site of)**

This monument subject to a Preservation Order is located c. 8.2km north-west of the nearest proposed turbine, T2. It is described on the HEV as follows:

CL043-017002- : Castle - unclassified : DEERPARK NORTH

Description: Situated in a gently undulating field in pasture. Named 'Castle (in ruins)' on the 1st edition OS 6-inch map and 'Castle (site of)' on the 1922 edition with hachures indicating the mound on which it stood. Known as Cullaun Castle, Cullaun townland and Lough Cullaunyheeda lying immediately to the E. Few historical details are available but it was apparently built by either Seán or Eoghan McNamara (Ua Cróinín and Breen 1997). Murrough O'Brien, in his will of 1551 leaves the castle of Cullaun to his son Donough O'Brien of Lemeneagh Castle (ibid.). By 1618 the castle was in ruins and had passed to his third cousin Donough O'Brien, 4th Earl of Thomond. An inquisition of that date records Donough conveying to 'Maurice Mulconrey and his heir, the ruined castle and lands of Cullane...' (ibid.). On inspection in 1992 extensive land reclamation was taking place and a large part of the mound had been destroyed. Large quantities of stone from the mound had been piled up, including quoins, window jambs and a sillstone with a pivot hole (SMR file). In 2004 a large chunk of mortared masonry (possibly portion of a collapsed ceiling vault) was noted on site and the mound was described as 15 in diameter and 3m high (Ua Cróinín and Breen 1997). On the same occasion a chisel-dressed stone was noted in a nearby wall. An inspection in 2019 found that all the above loose stone had been removed and a largely grassed-over mound remained. The following items have been uploaded: CL043-017002_01.pdf Details from Risteárd Ua Cróinín and Martin Breen, 1997, The castles and tower-houses of Co. Clare (unpublished report). Uploaded courtesy of R. Ua Cróinín and M. Breen. CL043-017001_01.jpg View of mound from NW. CL043-017001_02.jpg View from SW. Compiled by: Mary Tunney Date of upload: 18 December 2019 This monument is subject to a preservation order made under the National Monuments Acts 1930 to 2014 (PO no. 4/1992).

The ZTV suggests that the castle is located in an area where none of the proposed turbines will theoretically be visible. Potential effects and mitigation are addressed below in Section 13.4.

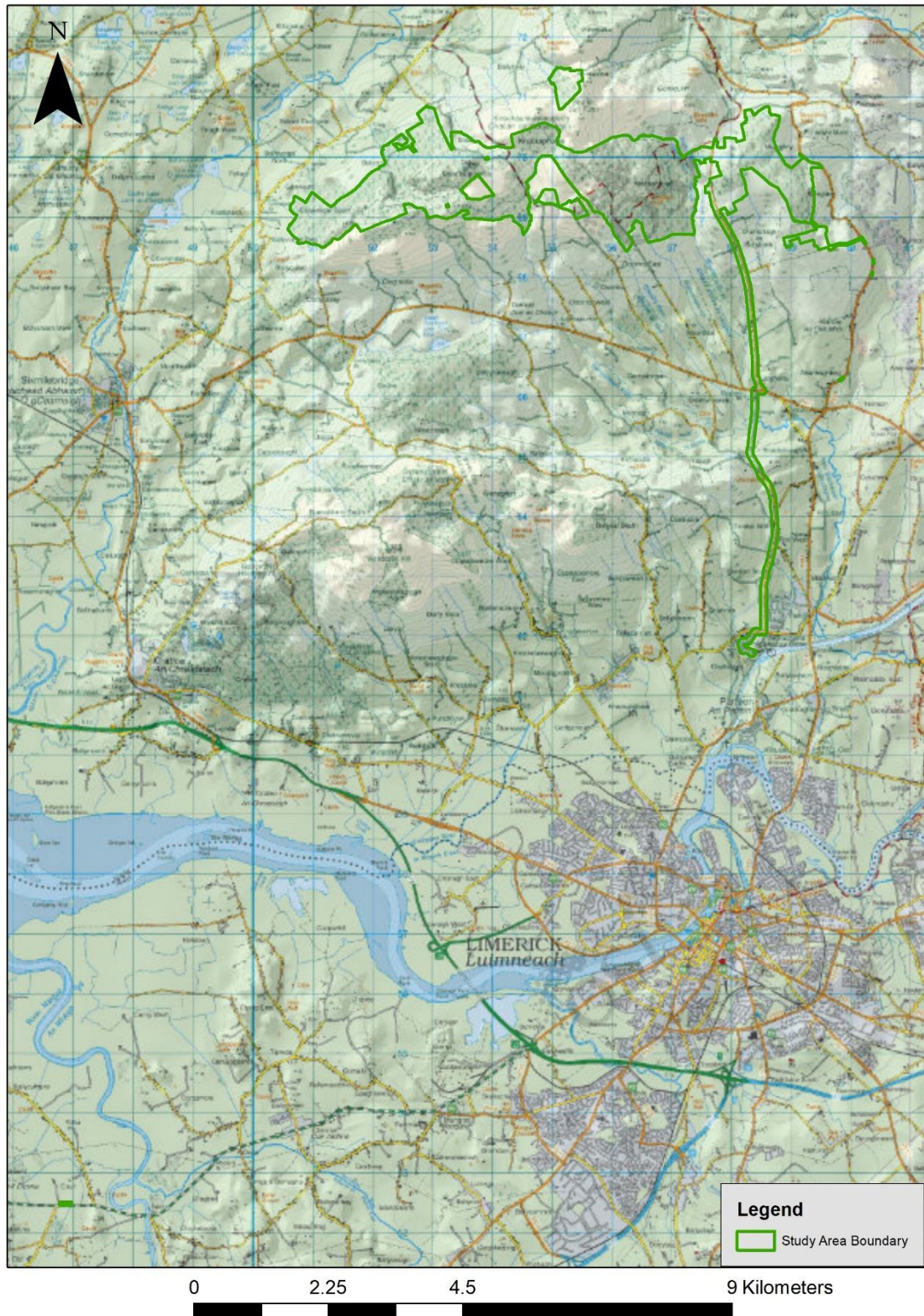


Figure 13-2 Monuments subject to a Preservation Order within 10km of the nearest proposed turbine.

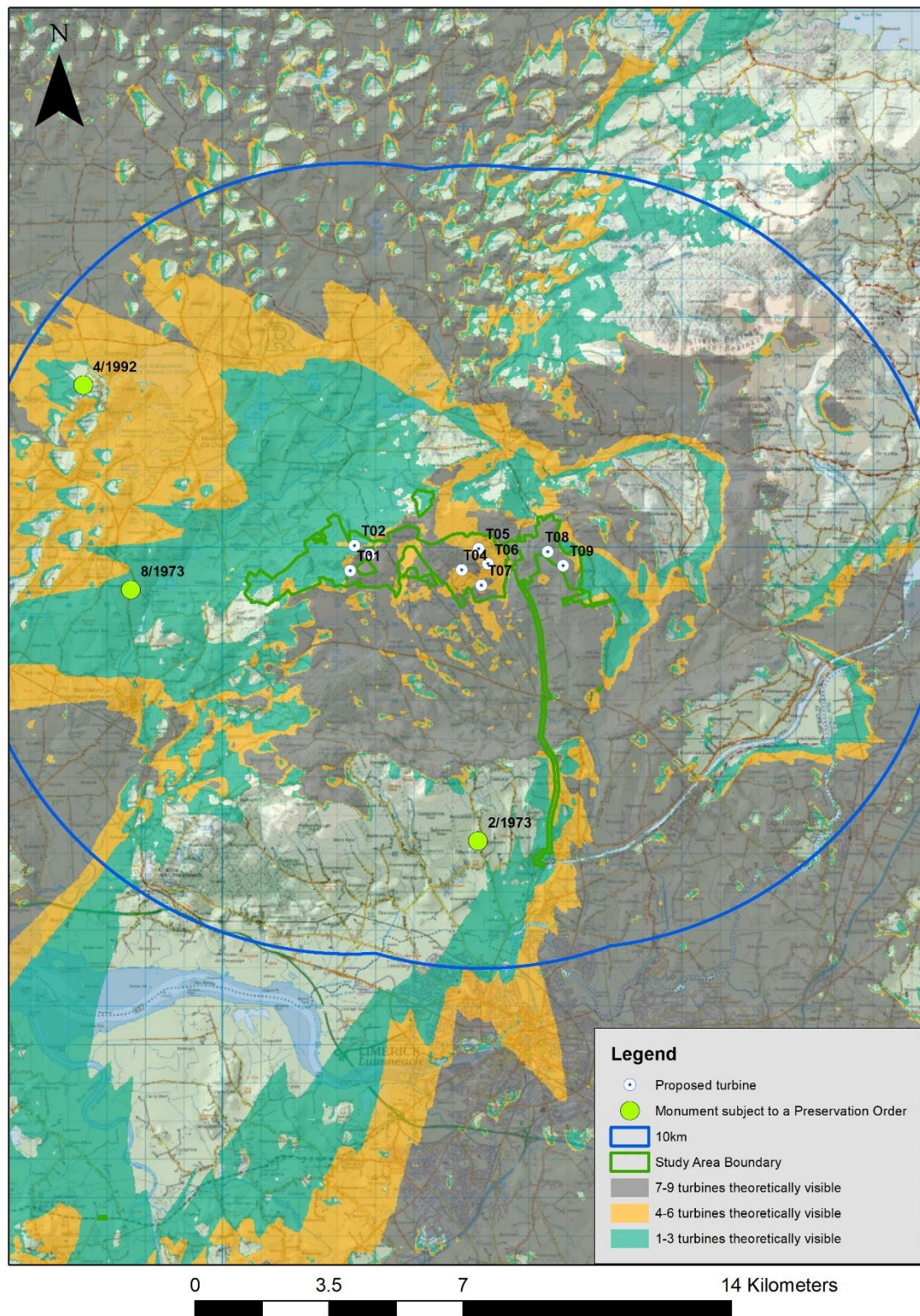


Figure 13-3 Monuments subject to a Preservation Order with ZTV.

13.3.3.3 Recorded Monuments within the Proposed Wind Farm Site

One recorded monument is located within the proposed Wind Farm Site. It comprises a megalithic tomb – wedge tomb (CL044-068—) which is located in a small unplanted area within a coniferous forestry plantation (Figure 13-6 and Figure 13-7). It is situated c. 22m east of an existing forestry track and is readily accessible from same. It was visited as part of this assessment and comprises an upstanding monument in good condition. The ZTV demonstrates theoretical visibility of 7-9 proposed turbines from this location. Photowire imagery produced from the megalithic tomb also demonstrates visibility of a number of proposed turbines from the monument, although vegetation will provide some screening. The photograph of the monument taken for the megalithic survey in the early 1960s (Figure 13-4) clearly shows how the landscape has changed in the intervening decades with trees and scrub vegetation now screening views to the east.

Wedge tombs are generally orientated E/W or on slight variations of same, with the wider open end of the monument aligned with the setting sun. The wedge tomb at Knockshanvo is aligned ENE/WSW. The position of the setting sun on important astronomical dates was checked at the tomb location and suggests that this monument has an alignment with the setting sun on the Vernal (March) and Autumn (September) Equinoxes. None of the proposed turbines are located on the setting sun alignment on the Equinox dates and no potential visual effects to such an alignment are noted (Figure 13-8). The tomb is situated c. 347m SE of T4, c. 428m SW of T6 and c. 355m NW of T7.

It is described on the HEV as follows:

CL044-068— : Megalithic tomb - wedge tomb : KNOCKSHANVO

Description: See linked document with details from Ruaidhrí de Valera and Seán Ó Nualláin, Survey of the Megalithic Tombs of Ireland. Volume I. County Clare. (Dublin: Stationery Office, 1961) Date of upload: 30 December 2011.

Potential effects and mitigation are discussed in Section 13.4.

116. Knockshanvo. O.S. 44: 13: 3 (17.2 cm., 11.2 cm.). "Cromlech." O.D. 600-700. R 566 693. Fig. 58. Plates 20 and 22.

Wedge-shaped Gallery Grave

The monument is situated high up on the south-eastern slopes of Knockaphunta between the upper reaches of the Sruflaunnageeragh and Mountrice rivers. The rising ground limits the view to the north and west but elsewhere the outlook is extensive. The Slieve Bernagh mountains to the north-east, Keeper Hill to the east and the Galty mountains to the south-east are all visible. The tomb stands on an expanse of wet rushy mountain land. There is some rough pasture on the higher ridges.

The chamber is well preserved but leans slightly to the south. The north and south sides and the east end consist of single slabs. A fine roofstone covers the greater part of the chamber. About 1.00 m. west of the chamber entry is a stone 1.20 m. long, .60 m. high and .10 m. to .20 m. thick, which leans heavily to the west. It may be part of an outer-wall but its function is uncertain. Two displaced stones lie at this end of the tomb, and a third lies outside the opposite end. These stones are about 1.00 m. in maximum dimension. Their function is unknown.

The northern sidestone is 3.15 m. long, 1.10 m. high near the west, .80 m. high at the east and .40 m. to .55 m. thick. Its straight flat top surface slopes down from west to east. The southern sidestone is 2.20 m. in maximum length, 1.15 m. high at the west, 1.05 m. high at the east and .35 m. to .40 m. thick. There is a prow-like projection at its upper western end. Its top surface is curved and dips to the east. There is a gap of .50 m. between its eastern end and the backstone.

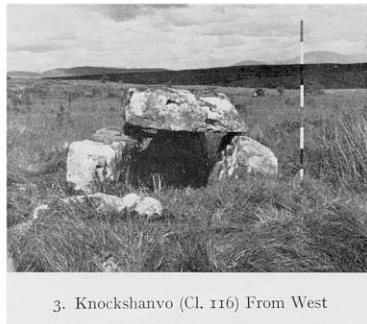
The backstone is set outside the end of the northern sidestone. It is 1.30 m. long, .80 m. high and .25 m. to .40 m. thick. The regular outline of the stone is broken by a gap .55 m. deep and .45 m. in maximum width at its top northern corner. As there is no evidence of working along the edges of this gap it is best regarded as a natural feature of the stone.

The roofstone is 2.35 m. long, 1.35 m. wide near the west, 1.10 m. wide near the east and .35 m. to .50 m. thick. Its west edge falls .80 m. short of the west end of the chamber. It rests on both sidestones and on the backstone. A small wedge-shaped stone, .40 m. by .30 m. and .10 m. in maximum thickness, is jammed between the roofstone and the middle of the top edge of the northern sidestone.

The chamber is about 3.00 m. long and decreases in height and width from west to east. It is 1.05 m. wide at the west and .95 m. wide at the east end of the southern sidestone. The floor is uneven but the chamber reaches a maximum height of 1.17 m. near the west.

Borlase: *The Dolmens of Ireland*, 98, No. 5.

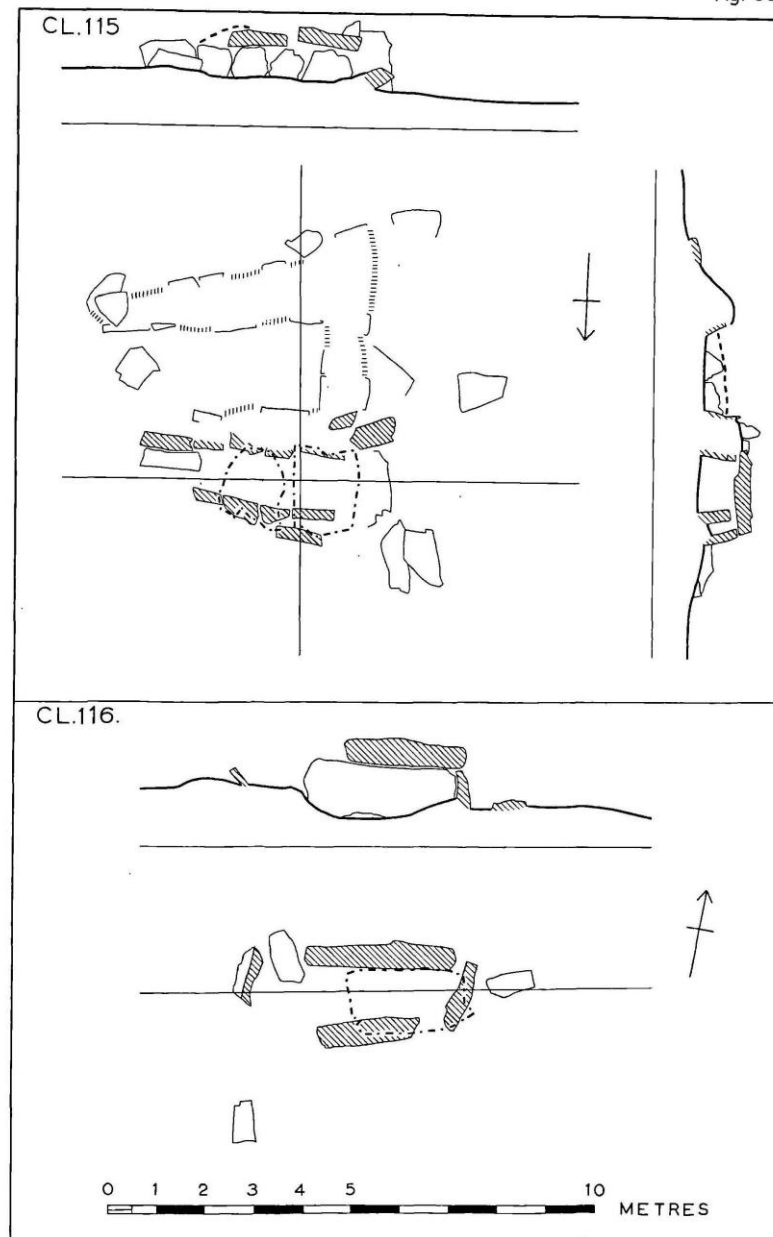
Westropp: *P.R.I.A.*, XXIV (1902), 125, No. 43 (Pl., Ph.).



3. Knockshanvo (Cl. 116) From West

Figure 13-4 Extract from *Survey of the Megalithic Tombs of Ireland. Volume I. County Clare* (Ó Nualláin, 1961).

Fig. 58.



(Cl. 115) Formoyle More.

(Cl. 116) Knockshanvo.

Figure 13-5 Extract from *Survey of the Megalithic Tombs of Ireland. Volume I. County Clare* (Ó Nualláin, 1961).



Plate 13-1 Megalithic tomb – wedge tomb CL044-068—, looking E.



Plate 13-2 Megalithic tomb – wedge tomb CL044-068—, looking W.

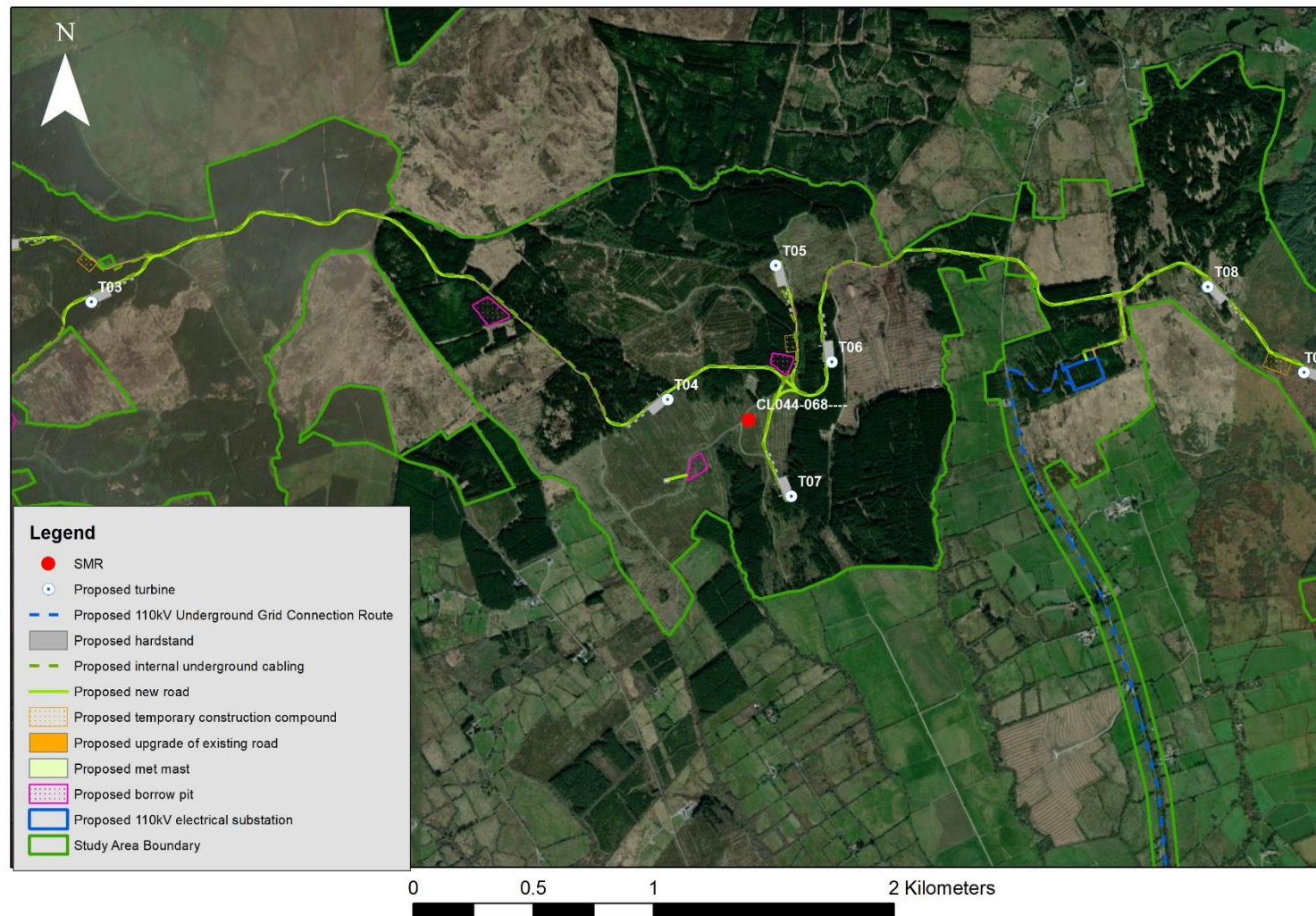


Figure 13-6 Recorded monument CL044-068— within the Proposed Wind Farm Site.

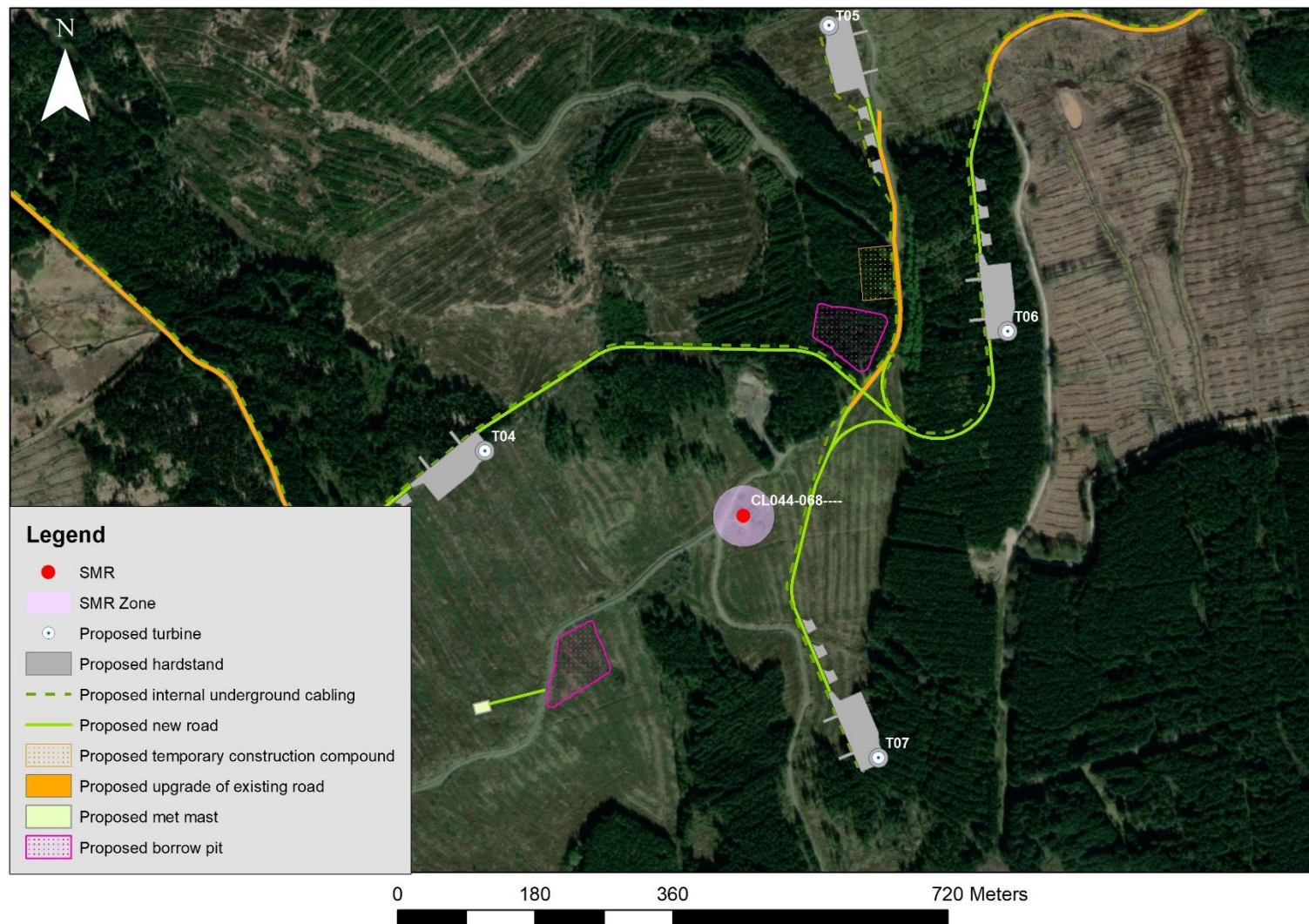


Figure 13-7 Recorded monument CL044-068— and associated Zone of Notification (ZoN) within the Proposed Wind Farm Site.

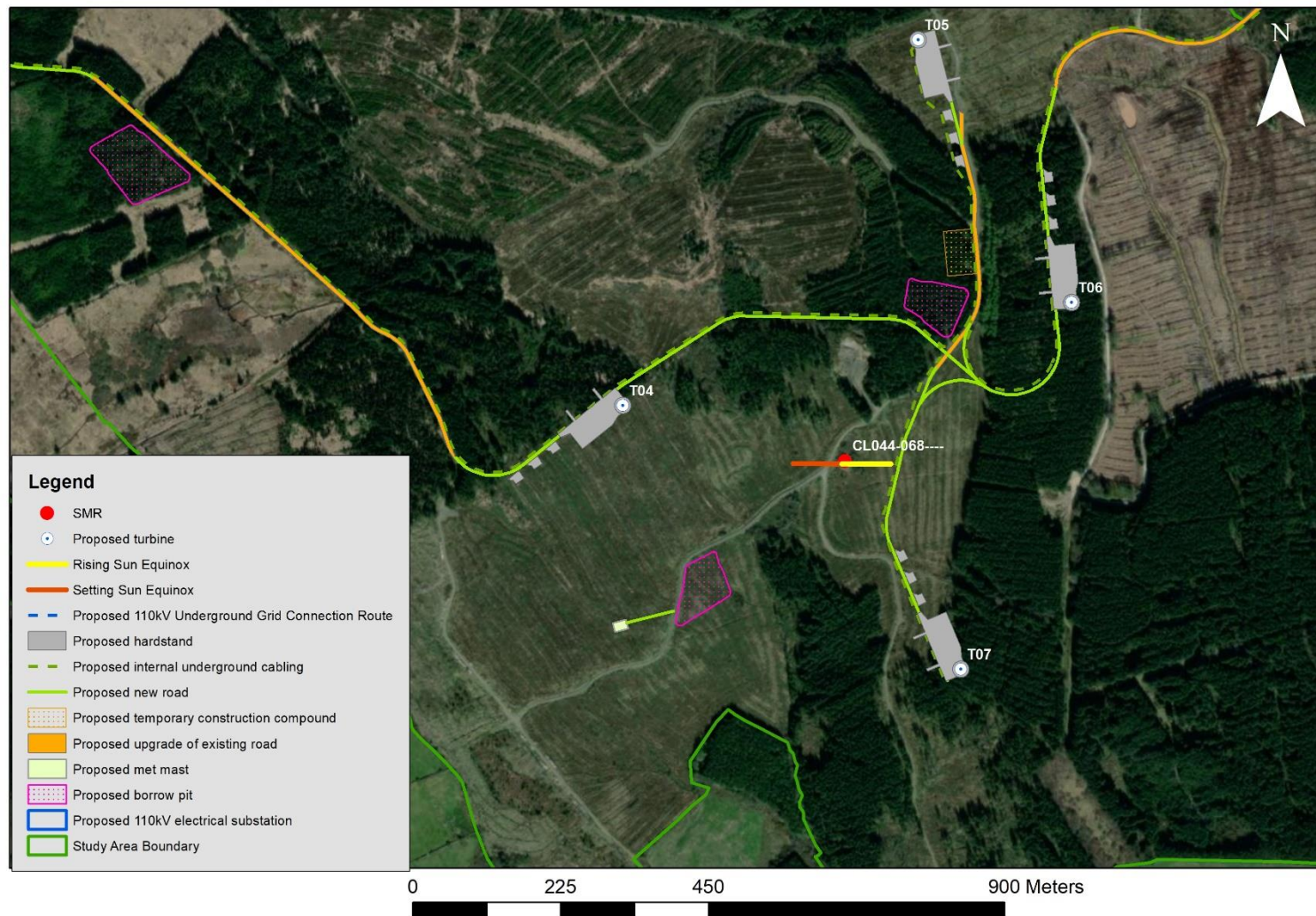


Figure 13-8 Trajectory of rising and setting sun at CL044-068— at Equinox.

13.3.3.4 **Previously Unrecorded Monuments within the Proposed Wind Farm Site**

No previously unrecorded monuments were noted within the proposed Wind Farm Site during the site walk-over survey or desktop assessment process.

13.3.3.5 **Recorded Monuments within 5km of the nearest proposed turbine**

A total of one hundred and eighty-five (185) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the monument located within the proposed Wind Farm Site discussed above in Section 13.3.3.3. The monument locations are shown on Figure 13-9 and listed in Table 13-4 . The ZTV shows that 72 of the 185 monuments are located in areas where 7-9 turbines will theoretically be visible (Figure 13-10). Twenty-five monuments are located in areas where 4-6 turbines will theoretically be visible, while 66 monuments are located in areas where 1-3 turbines may theoretically be visible. Twenty-two monuments are situated in areas where none of the proposed turbines will theoretically be visible.

An overview of the broad periods and monument types represented within 5km of the nearest proposed turbine is presented below.

Table 13-4 Recorded monuments within 5km of the nearest proposed turbine.

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
1	CL044-068—	KNOCKSHANVO	556551	669359	Megalithic tomb - wedge tomb	T04	349
2	CL044-041—	GORTACULLIN	557289	670692	Megalithic tomb - wedge tomb	T05	933
3	CL044-045—	FORMOYLE MORE	559114	670798	Megalithic tomb - wedge tomb	T08	1098
4	CL043-064—	SNATY (COOPER)	553881	671254	Enclosure	T02	1264
5	CL044-038—	GORTACULLIN	556708	671321	Enclosure	T05	1321
6	CL044-069—	DRUMSILLAGH or SALLYBANK (Parker)	557857	668267	Enclosure	T07	1370
7	CL044-040—	GORTACULLIN	557251	671314	Enclosure	T05	1439
8	CL044-036—	HURDLESTON	555883	671286	Enclosure	T05	1503
9	CL044-046—	FORMOYLE MORE	559356	671131	Enclosure	T08	1510
10	CL043-063—	SNATY (COOPER)	553813	671537	Enclosure	T02	1512
11	CL043-062—	SNATY (WILSON)	552729	671547	Children's burial ground	T02	1626
12	CL044-047—	FORMOYLE MORE	559630	671052	Enclosure	T08	1631

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
13	CL044-042—	GORTACULLIN	557440	671438	Ritual site - holy well	T05	1634
14	CL052-041—	OATFIELD	553238	667767	Enclosure	T01	1654
15	CL044-050—	FORMOYLE BEG	559806	670988	Enclosure	T09	1713
16	CL052-039—	CLOGHOOIA	552858	667700	Megalithic tomb - wedge tomb	T01	1777
17	CL043-060—	CRAG (Tulla Lower By.)	551878	671037	Earthwork	T02	1818
18	CL044-049—	FORMOYLE BEG	559693	671268	Enclosure	T08	1830
19	CL052-040—	OATFIELD	553138	667570	Enclosure	T01	1857
20	CL044-070—	CAPPANASLISH	560709	669881	Enclosure	T09	1873
21	CL044-089—	HURDLESTON	555424	671539	Standing stone	T05	1975
22	CL044-048—	FORMOYLE BEG	559645	671511	Enclosure	T08	1987
23	CL053-006—	KILMORE (Tulla Lower By.)	559728	667748	Enclosure	T09	2004
24	CL053-005—	KILMORE (Tulla Lower By.)	559478	667614	Enclosure	T09	2037
25	CL044-055—	BALLYQUIN BEG	560855	670083	Enclosure	T09	2059

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
26	CL044-044—	KYLE	558261	672005	Children's burial ground	T08	2102
27	CL044-054—	CAPPANASLISH	560504	670926	Enclosure	T09	2136
28	CL044-087—	FORMOYLE BEG	559334	671874	Enclosure	T08	2146
29	CL044-071—	CAPPANASLISH	560899	668751	Enclosure	T09	2189
30	CL044-033—	BALLYKELLY	554839	671798	Enclosure	T03	2202
31	CL044-085—	CLOONYCONRY MORE,FORMOYLE BEG	560391	671279	Hillfort	T09	2302
32	CL052-043—	OATFIELD	554247	667282	Church	T01	2335
33	CL043-112—	BELVOIR DEMESNE	551236	670907	Enclosure	T02	2338
34	CL052-080—	COOLYCASEY	551257	668231	Rock art	T01	2369
35	CL043-061003-	GORTADROMA	551960	671941	Mound	T02	2369
36	CL043-061002-	GORTADROMA	551951	671934	Barrow - unclassified	T02	2370
37	CL043-061001-	GORTADROMA	551944	671931	Ceremonial enclosure	T02	2372
38	CL044-034—	BALLYKELLY	554868	672020	Megalithic tomb - wedge tomb	T03	2413

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
39	CL044-052—	CLOONYCONRY MORE	560244	671551	Megalithic structure	T08	2420
40	CL053-009—	KILMORE (Tulla Lower By.)	560619	667882	Ritual site - holy well	T09	2426
41	CL052-076—	OATFIELD	553167	666988	Fulacht fia	T01	2436
42	CL043-067—	BALLYKELLY	554714	672207	Enclosure	T02	2492
43	CL044-039—	HURDLESTON	557157	672474	House - 16th/17th century	T05	2522
44	CL053-008—	KILMORE (Tulla Lower By.)	560519	667595	Ritual site - holy well	T09	2566
45	CL044-043—	DERRY (Tulla Lower By.)	557989	672440	Enclosure	T08	2571
46	CL043-107—	BELVOIR DEMESNE	550865	670463	Burial ground	T02	2586
47	CL044-032—	BALLYKELLY	554794	672288	Enclosure	T02	2603
48	CL052-038—	COOLYCASEY	551165	667886	Megalithic tomb - wedge tomb	T01	2634
49	CL044-053—	CLOONYCONRY MORE	560279	671831	Megalithic tomb - wedge tomb	T08	2641

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
50	CL044-051—	CLOONYCONRY MORE	560197	671953	Megalithic tomb - wedge tomb	T08	2677
51	CL044-035003-	KILSEILY	555711	672524	Ritual site - holy well	T05	2696
52	CL043-066—	BALLYKELLY	554731	672442	Enclosure	T02	2704
53	CL044-035002-	KILSEILY	555700	672560	Graveyard	T05	2734
54	CL044-035001-	KILSEILY	555694	672566	Church	T05	2742
55	CL043-065002-	BALLYKELLY	554695	672511	Castle - tower house	T02	2748
56	CL044-037—	KILSEILY	555920	672651	Enclosure	T05	2752
57	CL043-065001-	BALLYKELLY	554688	672524	Earthwork	T02	2756
58	CL044-016—	ARDSKEAGH	558598	672731	Megalithic tomb - unclassified	T08	2821
59	CL044-056—	CLOONYCONRY BEG	561538	670505	Enclosure	T09	2837
60	CL044-057—	BALLYQUIN BEG	561690	670061	Ritual site - holy well	T09	2870
61	CL043-035—	KILLADERRY (O'Brien)	554790	672651	Enclosure	T02	2916
62	CL044-058—	BALLYQUIN BEG	561813	670151	Enclosure	T09	3008

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
63	CL044-006—	KILSEILY,KILLADERRY (Massy)	555288	672688	Enclosure	T05	3018
64	CL044-003—	KILLADERRY (O'Brien)	555085	672654	Enclosure	T02	3068
65	CL044-008—	KILLADERRY (Massy)	555431	672815	Enclosure	T05	3072
66	CL044-059—	CLOONYCONRY BEG	561828	670629	Enclosure	T09	3152
67	CL043-034—	KILLADERRY (O'Brien)	554723	673043	Enclosure	T02	3240
68	CL044-007—	KILLADERRY (Massy)	555299	672945	House - 16th/17th century	T05	3244
69	CL043-106—	BALLYCULLEN	550238	668359	Castle - unclassified	T01	3247
70	CL043-120001-	KILLANENA (Tulla Lower By.)	550971	672206	Mound	T02	3247
71	CL043-120002-	KILLANENA (Tulla Lower By.)	550971	672206	Burial	T02	3247
72	CL044-072—	BALLYQUIN MORE	562115	669894	House - 16th/17th century	T09	3268
73	CL044-004—	KILLADERRY (O'Brien),KILLADERRY (Massy)	555096	672923	Enclosure	T02	3303

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
74	CL043-104—	BALLYVORGAL BEG	550095	668549	Enclosure	T01	3327
75	CL053-007—	AHARINAGHBEG	559806	666364	Enclosure	T09	3329
76	CL043-029—	KNOCKATINTY	551031	672428	Enclosure	T02	3354
77	CL044-020—	CLOONGAHEEN WEST	559914	672947	Enclosure	T08	3363
78	CL043-105—	BALLYCULLEN,BAL LYVORGAL BEG	550087	668368	Ringfort - unclassified	T01	3387
79	CL044-023—	CLOONGAHEEN WEST	560226	672852	Enclosure	T08	3427
80	CL053-002—	CLOONSHEEREA	557669	665721	Children's burial ground	T07	3452
81	CL053-003—	CLOGHERA	558303	665958	Enclosure	T07	3463
82	CL053-001—	CLOONSHEEREA	557648	665681	Ritual site - holy well	T07	3485
83	CL044-015—	ARDSKEAGH	558176	673442	Megalithic tomb - unclassified	T08	3541
84	CL044-017—	BARBANE	558594	673456	Megalithic tomb - wedge tomb	T08	3545
85	CL044-073—	BALLYQUIN MORE	562412	669801	Enclosure	T09	3556

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
86	CL044-074—	BALLYQUIN MORE	562423	669622	Enclosure	T09	3559
87	CL044-061—	BALLYQUIN MORE	562369	670488	Enclosure	T09	3626
88	CL043-030—	KNOCKATINTY	551012	672825	Enclosure	T02	3656
89	CL043-103—	CASTLELAKE	549636	669363	Enclosure	T01	3671
90	CL044-014—	ARDSKEAGH	558084	673572	Megalithic tomb - wedge tomb	T08	3678
91	CL053-004—	AHARINAGHBEG	559327	665865	Enclosure	T09	3721
92	CL043-058002-	ENAGH EAST	549831	671164	Ringfort - cashel	T02	3752
93	CL044-009—	DOON (Kilseily ED)	555651	673640	Enclosure	T05	3777
94	CL043-058001-	ENAGH EAST	549789	671119	Enclosure - large enclosure	T02	3780
95	CL043-028—	KILLANENA (Tulla Lower By.)	550693	672709	Ritual site - holy well	T02	3792
96	CL043-057—	ENAGH EAST	549735	670983	Enclosure	T02	3797
97	CL043-118—	WOODFIELD	554042	673833	Crannog	T02	3808
98	CL043-056001-	ENAGH WEST	549664	670763	Castle - tower house	T02	3820

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
99	CL044-022—	CLOONGAHEEN WEST	559984	673421	Enclosure	T08	3823
100	CL043-056002-	ENAGH WEST	549665	670801	House - 16th/17th century	T02	3826
101	CL043-056003-	ENAGH WEST	549657	670780	Bawn	T02	3830
102	CL044-019—	CLOONGAHEEN WEST	559317	673672	Enclosure	T08	3855
103	CL044-010—	DOON (Kilseily ED)	555746	673755	Enclosure	T05	3864
104	CL044-011—	DOON (Kilseily ED)	556263	673850	Children's burial ground	T05	3870
105	CL053-029—	TROUGH	557916	665354	Castle - unclassified	T07	3875
106	CL044-026—	CLOONGAHEEN EAST	560598	673175	Enclosure	T08	3898
107	CL043-059—	ENAGH NORTH	549743	671402	Enclosure	T02	3910
108	CL044-030002-	CLOONGAHEEN EAST	561298	672644	Castle - unclassified	T09	3931
109	CL044-030001-	CLOONGAHEEN EAST	561296	672653	Earthwork	T09	3937
110	CL044-012—	VIOLETHILL	557460	673920	Megalithic tomb - wedge tomb	T05	3999

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
111	CL053-031—	TROUGH	558246	665271	Enclosure	T07	4066
112	CL044-075—	FAHY MORE SOUTH	562745	668313	Enclosure	T09	4075
113	CL043-055—	ENAGH WEST	549397	670870	Ringfort - rath	T02	4102
114	CL044-076—	WOODPARK (Tulla Lower By.)	562880	668652	Enclosure	T09	4116
115	CL044-077—	BALLYMOLONEY	562982	669697	Enclosure	T09	4120
116	CL052-042—	GLENNAGROSS	553870	665335	Ringfort - unclassified	T01	4123
117	CL044-088—	DOON (Killuran ED)	555498	673958	Castle - unclassified	T05	4125
118	CL043-053—	ENAGH WEST	549314	670600	Ringfort - cashel	T02	4141
119	CL043-054—	ENAGH WEST	549318	670681	Burial ground	T02	4148
120	CL043-032—	COOLISTOONAN	552859	674199	Enclosure	T02	4161
121	CL044-060—	KILBANE, KILLEAGY (Goonan)	562094	672245	Enclosure	T09	4202
122	CL053-026001-	KILMOCULLA	556279	664862	Church	T07	4204
123	CL053-026—	KILMOCULLA	556278	664862	Children's burial ground	T07	4204
124	CL043-124—	CLONLEA	550297	672926	Mass-rock	T02	4229

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
125	CL043-052—	ENAGH WEST	549284	671026	Ringfort - rath	T02	4245
126	CL044-021—	CLOONGAHEEN WEST	559953	673894	Enclosure	T08	4251
127	CL044-002—	DOON (Killuran ED)	554918	674071	Enclosure	T02	4266
128	CL043-102—	ENAGH WEST	549142	670383	Ringfort - cashel	T01	4274
129	CL043-027003-	CLONLEA	550304	673005	Water mill - horizontal-wheeled	T02	4278
130	CL044-005—	DOON (Killuran ED)	555315	674061	Enclosure	T05	4278
131	CL043-033—	COOLISTOONAN	553046	674342	Castle - unclassified	T02	4282
132	CL044-078—	WOODPARK (Tulla Lower By.)	563072	668723	Enclosure	T09	4290
133	CL052-037—	BALLYROE, CORLEA (Bunratty Lower By.)	550389	666267	Enclosure	T01	4295
134	CL053-025—	KILMOCULLA	556240	664774	Enclosure	T07	4296
135	CL044-062—	BALLYMOLONEY	562892	671060	Enclosure	T09	4299
136	CL043-027002-	CLONLEA	550315	673099	Graveyard	T02	4335
137	CL043-027004-	CLONLEA	550314	673098	Architectural fragment	T02	4335

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
138	CL043-027001-	CLONLEA	550315	673112	Church	T02	4344
139	CL043-101—	BALLYNEVAN	549082	668291	Enclosure	T01	4373
140	CL044-013—	DRUMMIN (Kilseily ED)	557997	674274	Megalithic tomb - wedge tomb	T08	4386
141	CL052-033—	CASTLECRINE	549344	667468	Ringfort - rath	T01	4417
142	CL052-036—	CORLEA (Bunratty Lower By.)	549928	666556	Enclosure	T01	4429
143	CL044-018—	CLOONGAHEEN WEST	559099	674300	Megalithic tomb - wedge tomb	T08	4433
144	CL053-035—	COOLDERRY	560203	665298	Enclosure	T09	4464
145	CL043-031—	CAPPALAHEEN	552015	674332	Enclosure	T02	4482
146	CL044-028002-	KILLOKENNEDY	561090	673551	Graveyard	T08	4487
147	CL052-079—	GLENNAGROSS	552516	665001	House - indeterminate date	T01	4489
148	CL044-028001-	KILLOKENNEDY	561090	673560	Church	T08	4494
149	CL052-032—	CASTLECRINE	549181	667617	Castle - unclassified	T01	4502
150	CL053-010003-	BALLYBRACK	561400	665795	Children's burial ground	T09	4537

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
151	CL044-029—	KILLOKENNEDY	561264	673486	Ritual site - holy well	T08	4540
152	CL043-051—	CLONBRICK	549130	671571	Enclosure	T02	4545
153	CL053-010001-	BALLYBRACK	561382	665770	Ringfort - unclassified	T09	4547
154	CL053-010002-	BALLYBRACK	561381	665765	Castle - unclassified	T09	4551
155	CL035-130—	MOUNTALLON	553381	674640	Children's burial ground	T02	4564
156	CL044-025—	CLOONGAHEEN WEST	560626	674004	Standing stone	T08	4627
157	CL053-027—	TROUGH	557728	664513	Enclosure	T07	4639
158	CL043-100—	BALLYMULCASHEL	548679	669873	Enclosure	T01	4650
159	CL053-011—	BALLYBRACK	562206	666244	Fulacht fia	T09	4706
160	CL044-024—	CLOONGAHEEN WEST	560423	674204	Enclosure	T08	4717
161	CL052-035—	BALLYROE	549802	666257	Standing stone	T01	4720
162	CL052-034—	FORTWILLIAM	549495	666626	Enclosure	T01	4726
163	CL053-032001-	TROUGH	558504	664660	Church	T07	4729
164	CL053-032002-	TROUGH	558490	664652	Graveyard	T07	4731

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
165	CL044-079—	FAHY MORE NORTH	563430	668301	Enclosure	T09	4735
166	CL044-086—	KILLEAGY (Stritch)	562299	672820	Enclosure	T09	4738
167	CL053-012—	BALLYBRACK	562220	666172	Fulacht fia	T09	4766
168	CL053-028—	GLENLON NORTH	557805	664362	Enclosure	T07	4803
169	CL044-080—	FAHY MORE NORTH	563647	669062	Enclosure	T09	4808
170	CL043-098—	BALLYMULCASHEL	548508	669091	Crannog	T01	4810
171	CL053-013—	EARLHILL	562242	666072	Ringfort - unclassified	T09	4853
172	CL043-096—	BALLYMULCASHEL	548452	669491	Enclosure	T01	4855
173	CL053-014—	EARLHILL	562455	666283	Enclosure	T09	4859
174	CL044-063—	BALLYMOLONEY	563086	671987	Enclosure	T09	4871
175	CL052-030—	CASTLECRINE, MOUNTIEVERS	549094	666972	Ringfort - unclassified	T01	4872
176	CL053-051—	ROO WEST	558693	664571	House - 18th/19th century	T07	4884
177	CL044-031—	SHANNAKNOCK	562332	673020	Enclosure	T09	4901

MAP ID	SMR	TD.	ITM E	ITM N	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)
178	CL053-016—	EARLHILL	562589	666369	Enclosure	T09	4903
179	CL053-030—	GLENLON NORTH	557984	664281	Enclosure	T07	4924
180	CL053-015—	EARLHILL	562554	666283	Enclosure	T09	4933
181	CL052-029—	CASTLECRINE	548972	667040	Children's burial ground	T01	4945
182	CL043-125—	TEERONEA	549516	673113	Graveslab	T02	4947
183	CL036-038—	CLOONGAHEEN WEST	559709	674702	Megalithic tomb - wedge tomb	T08	4948
184	CL053-036—	COOLDERRY	560869	665000	Fulacht fia	T09	4978
185	CL043-123—	KILKISHEN DEMESNE (Tulla Lower By.)	548964	672322	Ringfort - rath	T02	4992
1	CL044-068—	KNOCKSHANVO	556551	669359	Megalithic tomb - wedge tomb	T04	349

13.3.3.5.1 *The Prehistoric Period*

The prehistoric period is represented by a relatively low number of monuments (28) including an unclassified barrows (1), wedge tombs (14), megalithic structures and unclassified tombs (3), standing stones (3), fulacht fia (4), a hillfort (1), rock art (1) and a ceremonial enclosure (1).

Various types of barrow are known in the archaeological record and include bowl barrows, mound barrows, ring barrows and ditch barrows. Barrows comprise an artificial mound of earth or earth and stone, normally constructed to contain or conceal burials. The term 'unclassified' is used where it is not possible to identify the specific type. They are part of the Bronze/Iron Age burial tradition (c. 2400 BC - AD 400).

Hillforts comprise a large enclosed area that is more than 1 hectare in size (diam. c. 110m), and usually encompassing between 2 and 22 hectares (diam. exceeding c. 160m). Hillforts are always located in high upland terrain – on top of, or on the spur or ridge of a hill or mountain, or on hills which, if not high, are very prominent locally. They are defined by an earthen or earth and stone bank/banks or a wall/walls and external fosse/fosses and can be circular, oval or more irregularly shaped in plan if following the contours of a hilltop. In the case of bivallate or multivallate examples, the banks are often widely spaced. They may have been important ceremonial tribal centres and/or permanent or temporary settlements. Some examples date from the Early Neolithic (c. 3600 BC), others from the Middle to Late Bronze Age (c. 1400-500 BC) with examples of reoccupation in the later Iron Age (c. 100-400 AD). The hillfort located within the 5km study area is located in excess of 2km from the nearest proposed turbine (T9).

Megalithic tombs and structures comprise 17 of the monuments within the 5km study area which date to the prehistoric period. Fourteen of these comprise wedge tombs, including that located within the Proposed Wind Farm Site. Wedge tombs consist of a long burial gallery, sometimes with an antechamber or small closed end-chamber. They are generally broader and higher at the front, which invariably faces in a westerly direction. They are roofed by slabs laid directly on the side-walls which often have one or more rows of outer- walling. Evidence from the small number of excavated examples suggests that they were being built between 2,500 and 2,000 BC representing the last phase of megalithic tomb building. Four wedge tombs, including that within the proposed Wind Farm Site are located within 2km of the nearest proposed turbine.

Three standing stones are located within 5km of the nearest proposed turbine. Standing stones consist of a stone which has been deliberately set upright in the ground, usually orientated on a north-east-south-west axis, although other orientations do occur, and varying in height from 0.5m up to 6m. They functioned as prehistoric burial markers, commemorative monuments, indicators of routeways or boundaries and date from the Bronze and Iron Ages (c. 2400 BC - AD 500), with some associated with early medieval ecclesiastical and burial contexts (c. 5th-12th centuries).

Four fulacht fia are located within 5km of the nearest proposed turbine. They 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. They are generally interpreted to have been associated with cooking and date primarily to the Bronze Age (c. 2400-500 BC).

Rock art, of which there is one example within 5km of the nearest proposed turbine, comprises geometric and other motifs mostly pecked out, though some are incised, on earthfast boulders and rock outcrops, and occasionally on cist roofstones and standing stones. These associations suggest a Bronze Age date (c. 2400-500 BC), though perhaps with origins in the Neolithic (c. 4000-2400 BC). Rock art may be associated with metal deposits, boundaries and routeways.

One ceremonial enclosure is located within the 5km study area over 2.3km from the nearest proposed turbine, T2. These monuments consist of a large, almost perfectly circular enclosed area having a diameter of at least 60m but usually with a diameter of over 100m. They are normally defined by an internal fosse and outer earthen bank, but occasionally the enclosing element may be a stone wall. In multivallate examples, where there is often no internal fosse, the banks are closely spaced and tend to be quite slight relative to the enclosed area. Most examples have associated ritual or burial monuments that are normally found within the interior but may also occur in the vicinity of the monument. They are primarily ceremonial/ritual monuments, and are frequently associated with Royal sites. They date from the later Bronze Age to the Iron Age (c. 1200 BC- AD 400).

13.3.3.5.2 *The Early Medieval Period*

The Early Medieval period is represented by the largest number of monuments (105) within 5km of the nearest proposed turbine which comprise enclosures and ringforts (including cashels) and a crannog. 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. They 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. Crannogs consist of an island, partly or wholly artificial, built up by dumping timber, earth and stones onto a lake or river bed, often revetted with timber piles or a palisade. Derived from the Irish word 'crannóg'; the Irish word for tree is 'crann' and 'crannóg' principally means a piece of wood or a structure of wood. They date from the 6th to the 17th century AD.

A horizontal wheeled water mill also dates to the early medieval period and comprises a mill driven by water directed on to a horizontal mill-wheel from a river, stream or spring. They date primarily from the early 7th to the late 10th century AD.

The monuments ascribed to the early medieval period occur between 1.2km and 4.9km from the nearest proposed turbine.

13.3.3.5.3 *Medieval Period*

At least 10 monuments within 5km of the nearest proposed turbine may be attributed to the medieval period. They include tower houses (2), a bawn (1), and unclassified castles (7).

Unclassified castles comprise a castle that cannot be more precisely classified. They can date from the late 12th to the 16th century AD.

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.

Bawns comprise a courtyard of a medieval house, tower house or fortified house (12th - 17th centuries AD). There are some instances where the bawn survives but the building it was constructed to defend does not.

The nearest of the castles and tower houses comprises CL043-065002- at Ballykelly townland which is located c. 2.7km from the nearest proposed turbine, T2.

13.3.3.5.4 **Monuments with Religious Associations**

At least 31 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, burials, children's burial grounds, holy wells, a graveslab and a mass rock. Some of these monuments are found near to or in association with each other and the nearest of these comprises a children's burial ground which is situated c. 1.6km from the nearest proposed turbine, T2.

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.

Six churches, four graveyards and two burial grounds 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 eight, 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.

One mass rock is located within 5km of the nearest proposed turbine, T2.

13.3.3.5.5 **Post Medieval Period**

At least six monuments which may be attributed to the post-medieval period are located within 5km of the nearest proposed turbine. They include six 16th/17th century houses and a 18th/19th century house, the nearest of which comprises a 16th/17th century house CL044-039— located c. 2.5km from the nearest proposed turbine, T5.

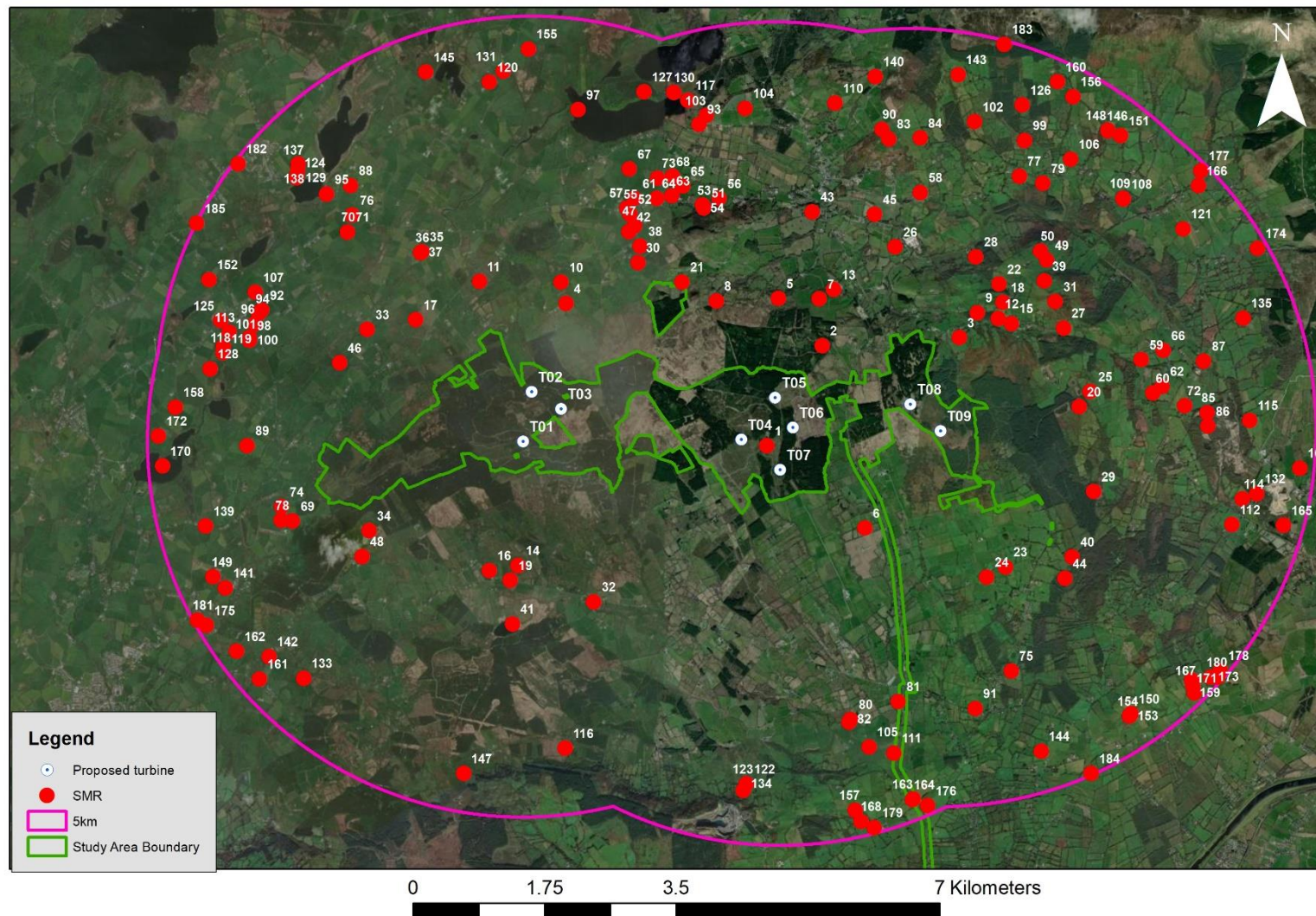


Figure 13-9 Recorded monuments within 5km of the nearest proposed turbine.

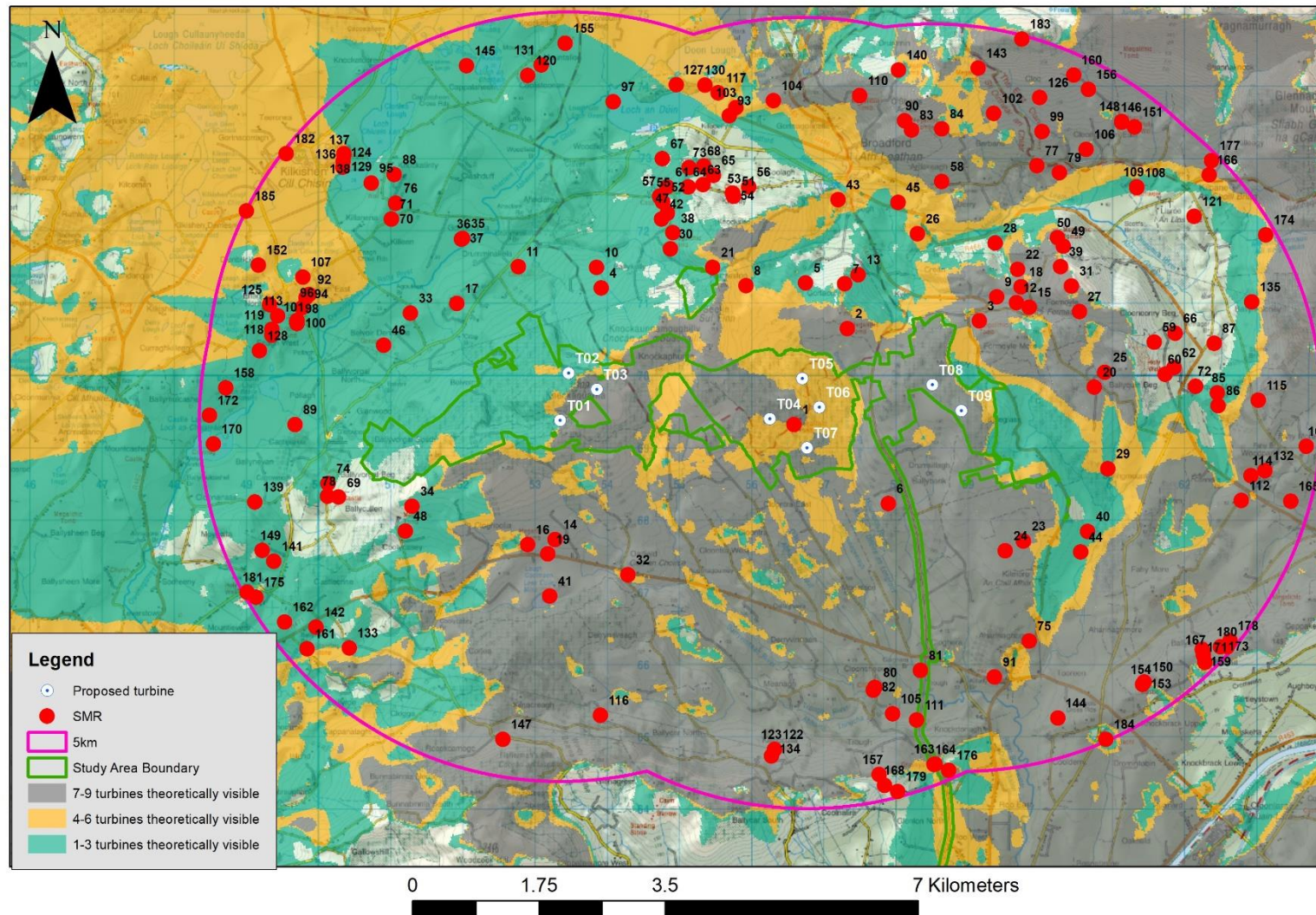


Figure 13-10 Recorded monuments within 5km of the nearest proposed turbine with ZTV.

13.3.3.6 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 Wind Farm Site. The database was accessed on the 11th January 2024. No entries were returned.

13.3.3.7 Topographical Files of the National Museum of Ireland

The topographical files of the National Museum of Ireland on www.heritagemaps.ie was consulted on the 11th January 2024 for archaeological finds from the townlands within or adjacent to the Proposed Wind Farm Site. No finds are recorded within the vicinity of the Proposed Wind Farm Site with the nearest shown on www.heritagemaps.ie being located c. 1.6km to the north-west and comprising socketed axeheads; gouge; chisel; leather knife; socketed knife and rings (all Bronze).

13.3.3.8 Sub-Surface Archaeological Potential

Due to the extent of groundworks associated with the construction phase of the Proposed Development, and the presence a recorded monument within same, it is possible that previously unrecorded sub-surface archaeological finds, features or deposits are located within the proposed Wind Farm Site. The potential therefore exists that sub-surface archaeological sites or features, if present within the proposed Wind Farm Site, may be directly impacted by construction phase activities. It should be noted that much of the proposed Wind Farm Site is under coniferous forestry which has resulted in ground disturbance in the form of drain excavation and other earth-moving activities associated with the forestry process. Mitigation measures to ameliorate this potential impact are detailed in Section 13.4 below.

13.3.3.9 Archaeological Landscapes

No archaeological landscapes have been formally identified or designated in the Clare CDP 2023-2029.

13.3.3.10 Protected Structures within 5km of the nearest proposed turbine

No Protected Structures are located within the proposed Wind Farm Site.

A total of nine protected structures are located within 5km of the nearest proposed turbine. They are shown on Figure 13-12 and listed in Table 13-5 . The ZTV shows that only one structure (RPS Ref. 102) is located in an area where 7-9 turbines will theoretically be visible. Four structures are located in areas where 4-6 turbines may theoretically be visible, with two structures where 1-3 turbines may theoretically be visible. The remaining two structures are located in area where none of the proposed 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 protected structure comprises St Vincent de Paul's Church (Ref. 665) in Oatfield, c. 2.3km south-east of T1.


RPS No.: 665	Name: St. Vincent de Paul's Church	ITM: 554248 ; 667277	
NIAH No.: N/A	Area: Sixmilebridge	Map: Volume 2	
Structure: Church	Townland: Oatfield	Map reference: 18	
Date: 1650-1660	Summary description: A single-storey five-bay T-shaped chapel. Originally built in an L-shape, c.1655, two transepts were added, possibly in the early 1840's. There is a bellcote over the central gable. Recorded Monument CL052-043. Formerly known as St. Peter's Church. Restored 2013		
In use as: Church			
Additional Use: N/A			
Historical Use: Church	Categories of special interest: Architectural, Detail/Design		
Rating: Regional			

Figure 13-11 Extract from Clare CDP RPS showing entry for St Vincent de Paul's Church, Oatfield (Ref. 665).

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

RPS ID	NIAH REG.	STRUCTURE	LOCATION	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
665	N/A	St. Vincent de Paul's Church	Oatfield	554248	667277	T01	2341
86	20404406	Hurdleston House	Broadford	557164	672468	T05	2517
76	20404312	Belvoir House	Belvoir Demesne	550625	670909	T02	2918
427	N/A	Glenomra House	Ballyquin More	561861	670253	T09	3077
429	N/A	The Old Barracks	O'Shea's Acres	557264	673106	T05	3163
102	20405305	Church of the Mother of God	Cloghera	558680	666035	T09	3527
99	20404401	St Mary's Church	Kilbane	561754	672437	T09	4080
188	20404407	Kilbane Bridge	Kilbane	561989	672641	T09	4390
497	N/A	House	Kilkishen	549472	673070	T02	4956

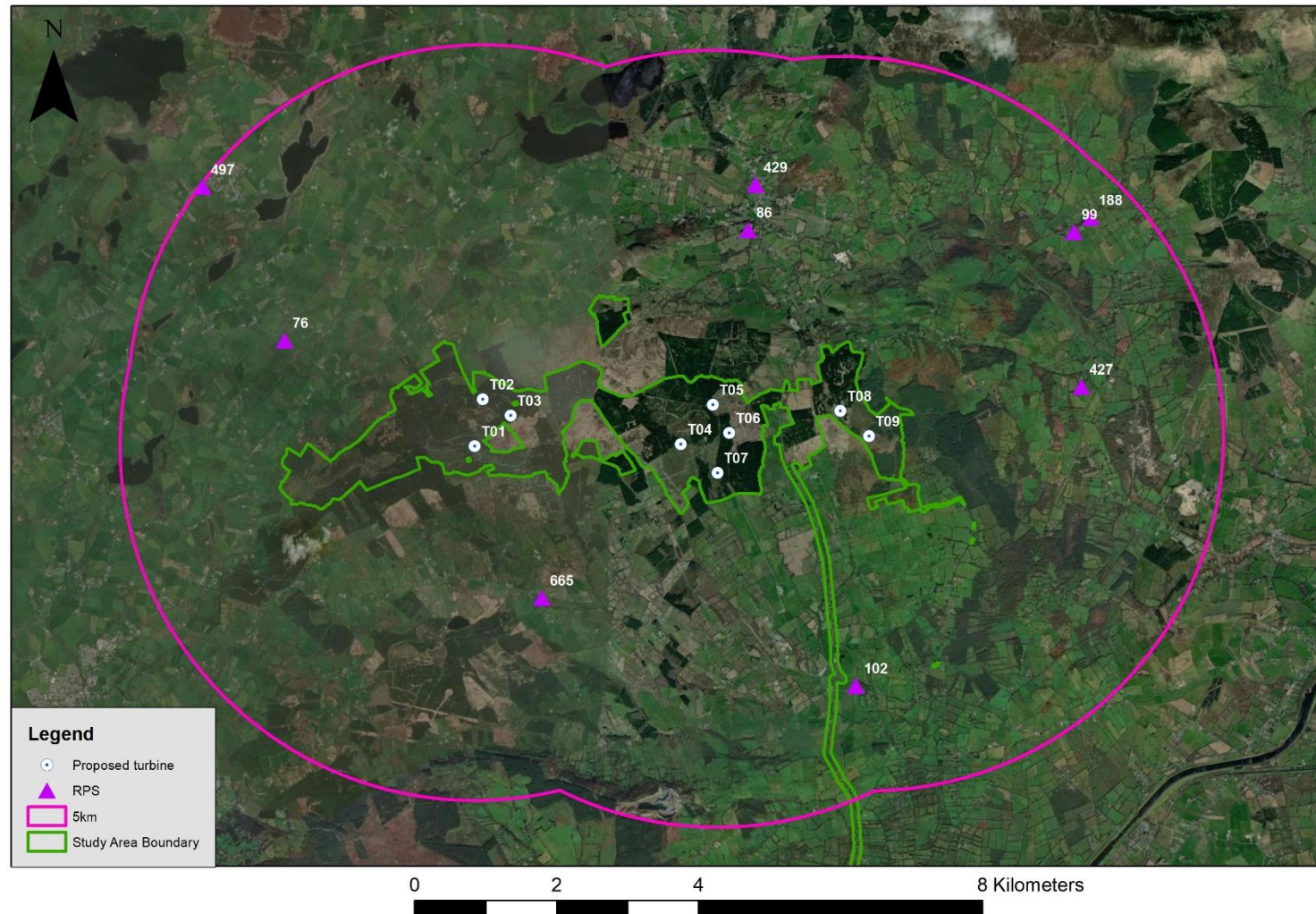


Figure 13-12 Protected structures within 5km of the nearest proposed turbine.

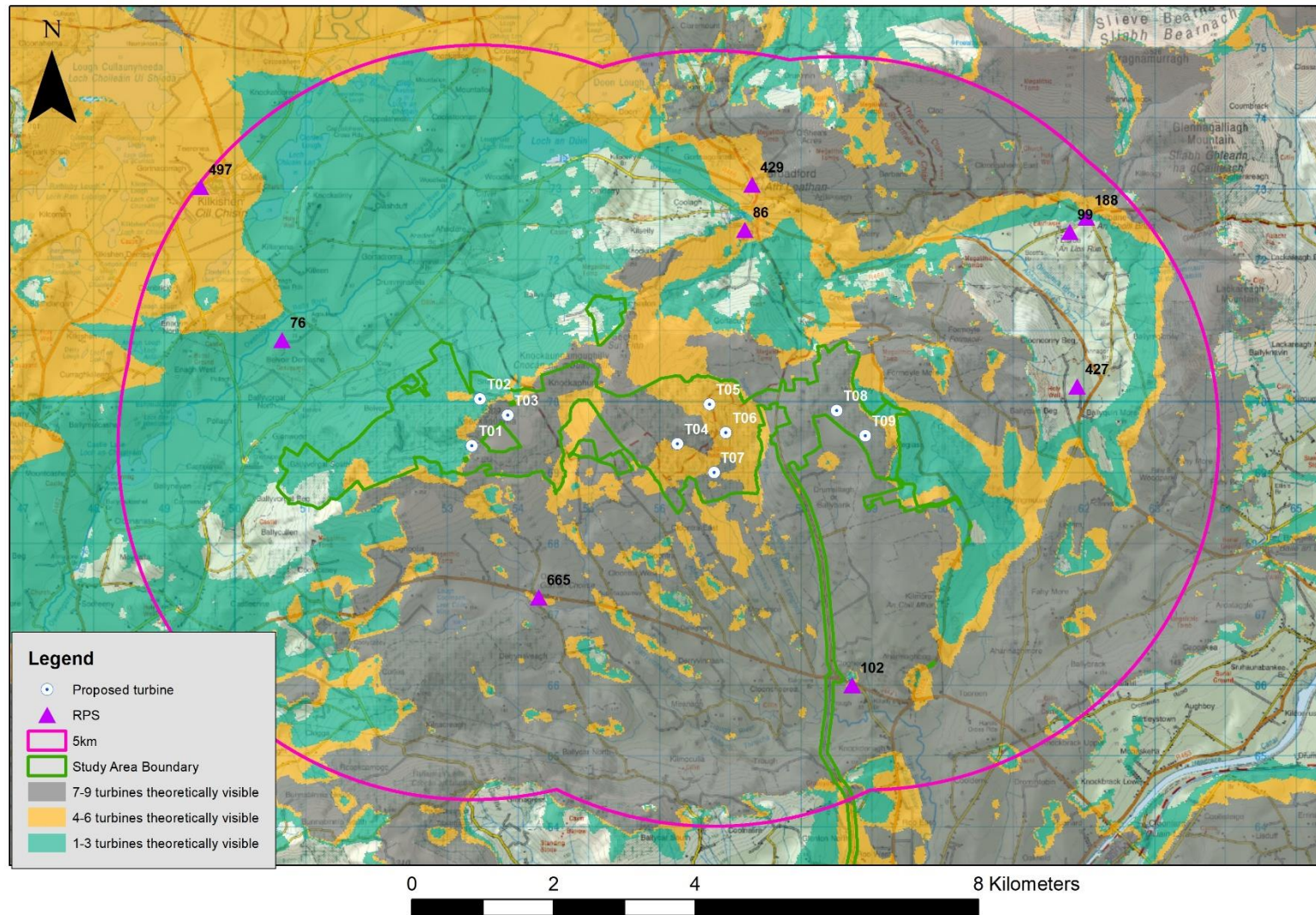


Figure 13-13 Protected structures within 5km of the nearest proposed turbine with ZTV.

13.3.3.11 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.

Six structures listed in the NIAH are located within 5km of the nearest proposed turbine, some of which are also listed in the RPS (see Section 13.3.3.10 above). They are listed in Table 13-6 and shown on Figure 13-14 below. The nearest structure is situated c. 2.5km to the north-east of the nearest proposed turbine, T5, and comprises Hurdlestown House (Reg. 20404406) which is also a protected structure (Ref. 86). It is described on www.buildingsofireland.ie as follows:

‘Detached T-plan four-bay two-storey over part-raised basement house, dated 1871, with single-bay two-storey gabled projecting bay to left hand side having full-height canted bay window, flat-roofed limestone cut-stone Gothic Revival projecting porch, single-bay full-height canted bay window to side elevations and single-bay two-storey return. Pitched slate roofs with limestone eaves corbels and chimneystacks. Crenellated cut-stone parapets to projecting bays. Snecked cut-stone sandstone walls with rock-faced limestone quoins having drafted margins and string course between floors. Cut-limestone entrance porch with moulded segmental-arch openings, inscribed date stone and coved eaves course. Cut-limestone architraves to segmental-arched openings having replacement uPVC windows. Timber panelled door with sidelights and overlight. Retaining interior features. Walled garden to rear.’



Plate 13-3 Hurdlestown House (NIAH Reg. 20404406) (RPS Ref. 86). Photo courtesy of www.buildingsofireland.ie.

The remaining structures are all located between 2.8km up to 4.9km from the nearest proposed turbine. The ZTV demonstrates theoretical visibility 7-9 turbines from only one NIAH structure (Reg. 20405305) (Figure 13-15). Two structures are located in areas where 4-6 turbines may theoretically be visible with two further structures located in areas where 1-3 turbines may theoretically be visible. One structure (Reg. 20404401) is located in an area where none of the proposed turbines will theoretically be visible. Potential effects on this aspect of the built heritage resource are addressed below in Section 13.4.

Fourteen historic gardens are located within 5km of the nearest proposed turbine (Table 13-7, Figure 13-14). Some of these are associated with the NIAH structures listed in Table 13-6, while others may have no surviving associated structures. Similarly, in some instances there may be no surviving garden features. The nearest historic garden comprises that associated with Hurdlestown House, c. 2.5km from the nearest proposed turbine, T5.

Table 13-6 NIAH sites within 5km of the nearest proposed turbine.

NIAH Reg.	Date	Structure	Townland	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
20404406	1870 - 1875	Hurdlestown House	HURDLESTON	557163	672467	T05	2516
20404312	1800 - 1840	Belvoir House	BELVOIR DEMESNE	550642	670877	T02	2893
20405305	1840 - 1845	Catholic Church of Mary the Mother of God	CLOGHERA	558682	666035	T09	3527
20404401	1840 - 1860	Saint Mary's Catholic Church	KILBANE	561754	672437	T09	4081
20404407	1800 - 1840	Bridge	KILBANE, KILLEAGY (Goonan)	561987	672642	T09	4390
20404306	1800 - 1820	Kilkishen House	KILKISHEN DEMESNE (TULLA LOWER)	549110	672606	T02	4999

Table 13-7 Historic gardens located within 5km of the nearest proposed turbine.

Site Name	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
Hurdlestown House	557159	672640	T05	2685
Glenwood House	550361	669341	T01	2946
Belvoir House	550561	670840	T02	2961
Kilkeen House	550961	671840	T02	3028
Ballyquin House	562158	669741	T09	3299
Woodfield House	553760	673440	T02	3381
Mount Baylee	551061	672740	T02	3559
Violet Hill	557259	673640	T05	3688
Castlelake House	549561	668741	T01	3806
Doon House	555460	673940	T05	4118



Site Name	ITM E	ITM N	Turbine No.	Distance To Turbine (m)
Castle Crine	549261	667641	T01	4419
Trough Cottage	557759	664742	T07	4422
Roo Cottage	558659	664542	T07	4897
Ashley Park Cottage	549161	672640	T02	4973

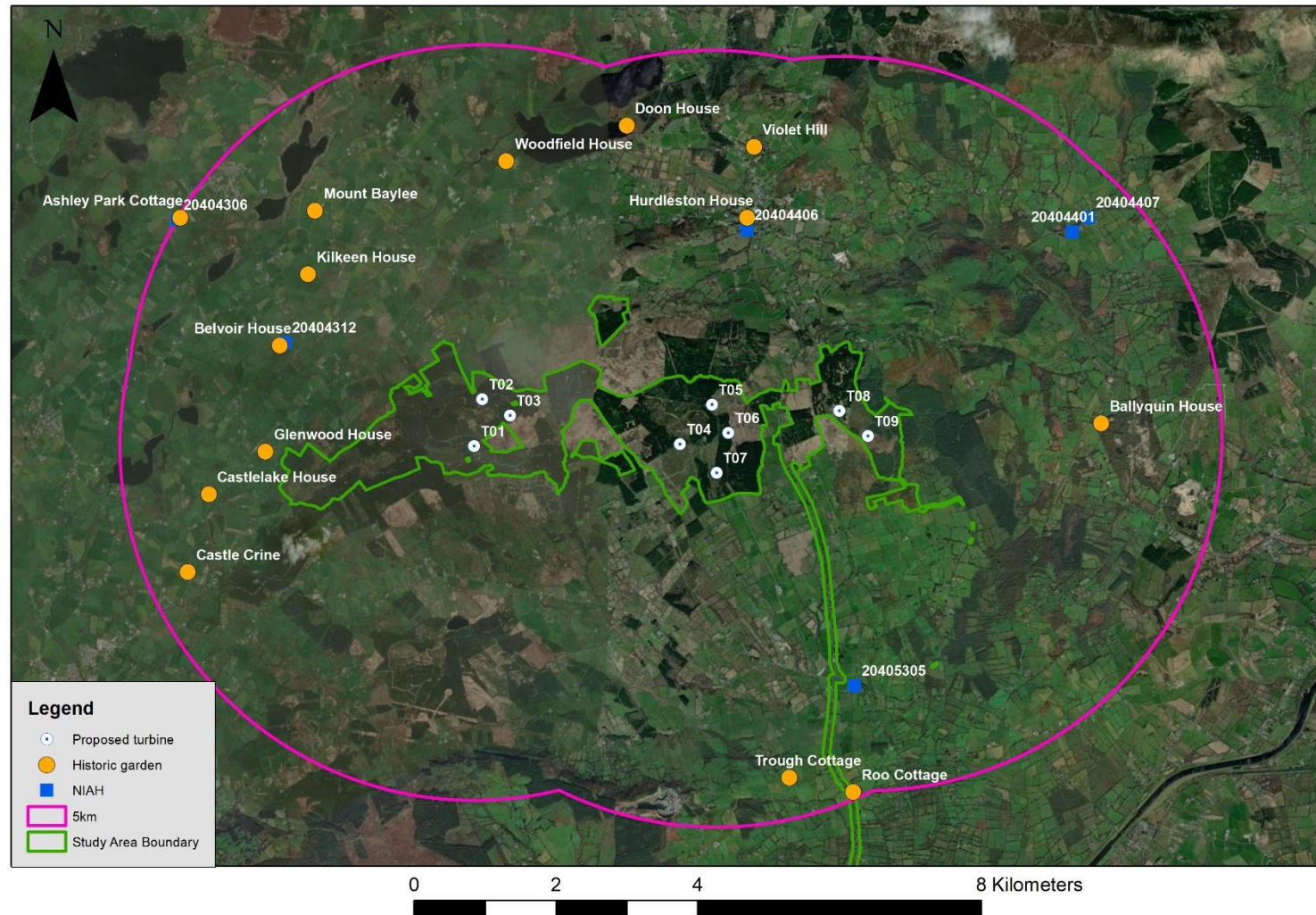


Figure 13-14 NIAH structures and historic gardens within 5km of the nearest proposed turbine.

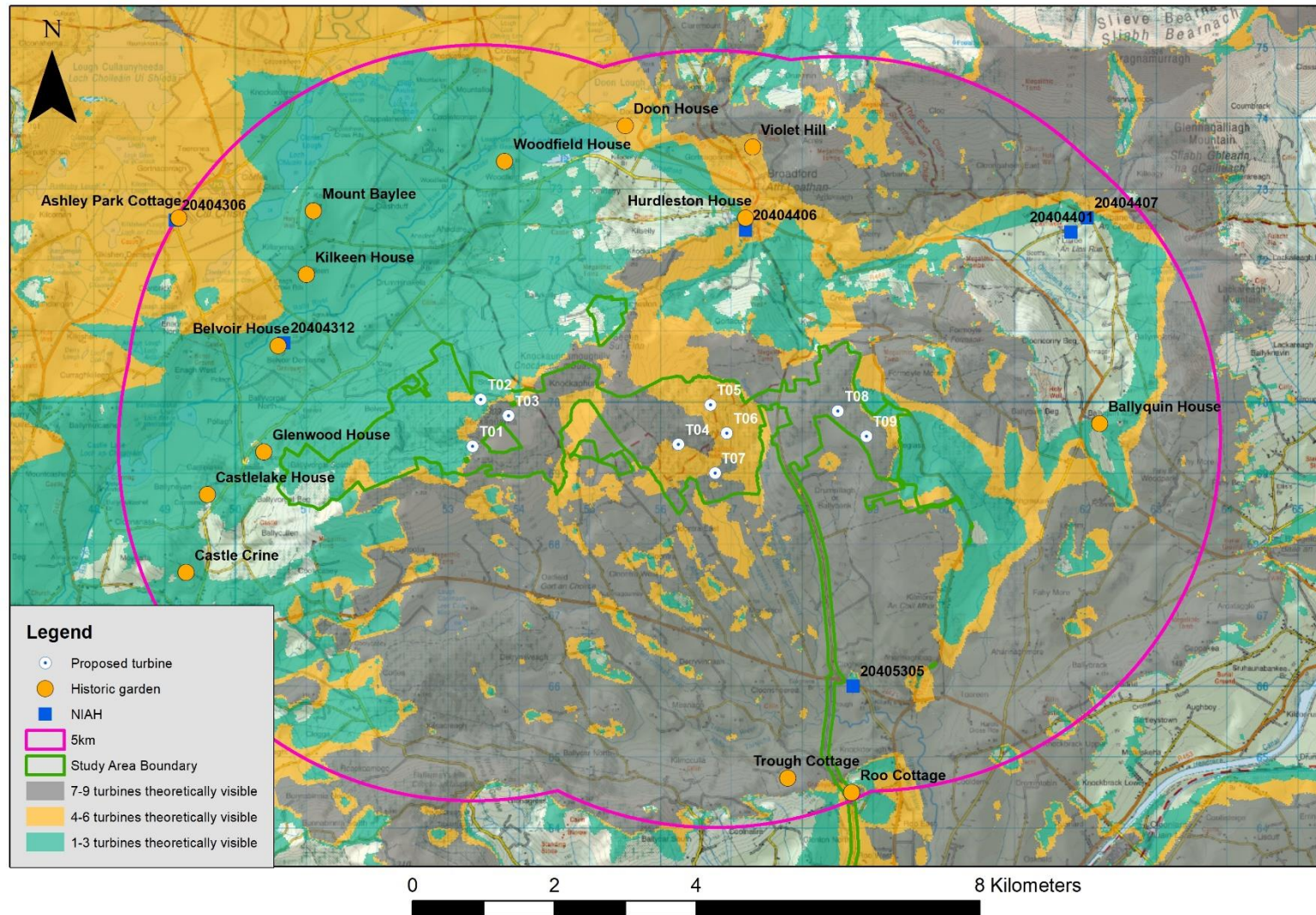


Figure 13-15 NIAH structures and historic gardens within 5km of the nearest proposed turbine with ZTV.

13.3.3.12 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 Wind Farm Site. Field survey also assisted in determining if any local cultural heritage features were located in the vicinity of any Proposed Wind Farm infrastructure.

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 proposed Wind Farm Site largely comprises upland terrain which is currently predominantly planted with coniferous forestry. Some areas of clear-felled and replanted forestry are also present. The first edition OS map depicts the proposed Wind Farm Site as open mountainous terrain and as land divided into fields for agricultural purposes at the west and east and also towards the northern side of the Site. Some small settlements associated with the areas divided into fields are also depicted with some elements of same surviving today in the form of ruinous stone buildings which are the remnants of the aforementioned settlements. One such example is Mary Anne's cottage (CH2) which is located towards the west side of the Site in Crag townland, c. 882m north-west of the nearest proposed turbine, T2. It comprises a partially restored ruinous stone building which is known locally as Mary Anne's cottage and is indicated on the first and second edition OS maps. It is likely to date to the mid-1800s and is an example of the many small houses which were located on the foothills of the area at that time. No proposed infrastructure is located in proximity to the cottage. Other similar structures/settlements are indicated on the historic mapping within the Site but are now located in forestry plantations. Field divisions/boundaries are shown in association with such settlements and are likely to survive to varying degrees within the forestry plantations. An example of the partial remains of a stone and earth field boundary was noted within the hardstand for T7. Stone field boundaries are also located along the route of the proposed road into the proposed Wind Farm Site at Kilmore townland and still function as field divisions.



Plate 13-4 CH2, Mary Anne's cottage.

A similar ruinous stone structure (CH1) was noted in an area of clear-felled forestry towards the east side of the Site during the walk-over survey. It is not indicated on the first edition OS map but is shown on the later second edition 25-inch map and is likely to be early-mid 20th century in date. It is located c. 59m west of the proposed road to T6 and c. 37m east of the proposed new road to T5.



Plate 13-5 CH1, looking NE.

A mass rock (CH3) is also located within the Site towards the west side of same in Crag townland. It is located in forestry c. 518m west of the nearest proposed turbine, T2. It is not indicated on the first, second or last editions of the OS maps.

Table 13-8: CH features within the Site.

CH. No.	ITM E	ITM N	Turbine No.	Distance to nearest Turbine (m)
CH1	556796	669902	T05	166
CH2	552575	670323	T02	882
CH3	552909	669997	T02	519



Figure 13-16 CH features within the Site.

13.3.3.13 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 Wind Farm Site, townland boundaries between same are also present. The proposed Wind Farm infrastructure crosses the townland boundaries in a number of places. For example, the proposed road which extends to T8 crosses the boundary between Drumsillagh or Sallybank townland and Muinboy townland. Similarly, the road to T4 crosses the townland boundary between Knockshanvo and Cloontra East. In many cases the boundaries are located in forestry.

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 13-9).

Table 13-9 Townlands within the Site and their meanings.

Townland	Logainm Meaning
BALLYVORGAL SOUTH (Baile ui Muireagain)	No specific meaning provided, but may refer to the town or townland of a person or family
BELVOIR (Baile Uí Mhaghair)	No specific meaning provided, but may refer to the town or townland of a person or family
CRAG (An Chraig)	Rock or crag
SNATY (Wilson) (Inis Snáite)	No specific meaning provided
SNATY (Massy) (Inis Snáite)	No specific meaning provided

Townland	Logainm Meaning
BALLYKELLY (Baile Uí Chaollaí)	No specific meaning provided, but may refer to the town or townland of a person or family
CLOONTRA (Cluain Treá)	No specific meaning provided – Cluain refers to a meadow
CLOONTRA EAST (Cluain Treá Thoir)	No specific meaning provided – Cluain refers to a meadow
KNOCKSHANVO (Cnoc Seanbhoithe)	No specific meaning provided – may refer to the hill of the old houses
DRUMSILLAGH or SALLYBANK (Parker) (Droim Saileach)	Ridge of the willow tree
MUINGBOY (An Mhoing Bhuí)	No specific meaning provided
KILMORE (An Chill Mhór)	The big church
FORMOYLE MORE (Formaoil Mhór)	Round or bald hill

Other placenames of note in the area, although not townland names, are indicated on the historic mapping and include the names of the hills such as Knockaphunta and Knockanuraha. The latter lends its name to the 12 O’Clock Hills by which this area and the highest of the hills is commonly known. It is thought that the name was derived from the tradition of telling the time by observing the position of the sun in relation to the hills. Another placename indicated on the first edition OS map is ‘Farbreaga’ which is located in the townland of Cloontra. It generally is accepted to refer to a pseudo man, phantastical man, a pillar stone or a scarecrow and may derive from something that looked like a man when viewed from a distance.

13.3.4 Proposed Grid Connection

The proposed Grid Connection comprises c. 9.2 km of underground cable route from the proposed onsite 110kV electrical substation within the proposed Wind Farm Site to the existing Ardnacrusha 110kV electrical substation. The route extends along existing forestry tracks and 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. Given the localised nature of the works associated with the proposed underground electrical cabling route 100m on either side of same is considered an appropriate distance for the assessment of potential effects. A photographic record of the proposed Grid Connection underground electrical cabling route is presented in Appendix 13-1.

13.3.4.1 National Monuments

No National Monuments in State Care or those subject to a Preservation Order are located within 100m of the proposed Grid Connection.

13.3.4.2 Recorded Monuments

Five recorded monuments are located within 100m of the proposed Grid Connection route. The monuments within 100m of the proposed Grid Connection route are listed in Table 13-10 and shown on Figure 13-17 below. Descriptions of the monuments as provided on the HEV are presented below. Where no monument descriptions are currently available on-line the survey file was accessed courtesy of the National Monuments Service Archive.

Table 13-10 Recorded monuments within 100m of the proposed underground electrical cabling route.

SMR	TOWNLAND	TYPE	ITM E	ITM N	Distance To UGC (m)
CL053-032001-	TROUGH	Church	558504	664660	4
CL053-032002-	TROUGH	Graveyard	558490	664652	20
CL053-031—	TROUGH	Enclosure	558246	665271	54
CL053-003—	CLOGHERA	Enclosure	558303	665958	61
CL053-051—	ROO WEST	House - 18th/19th century	558693	664571	99

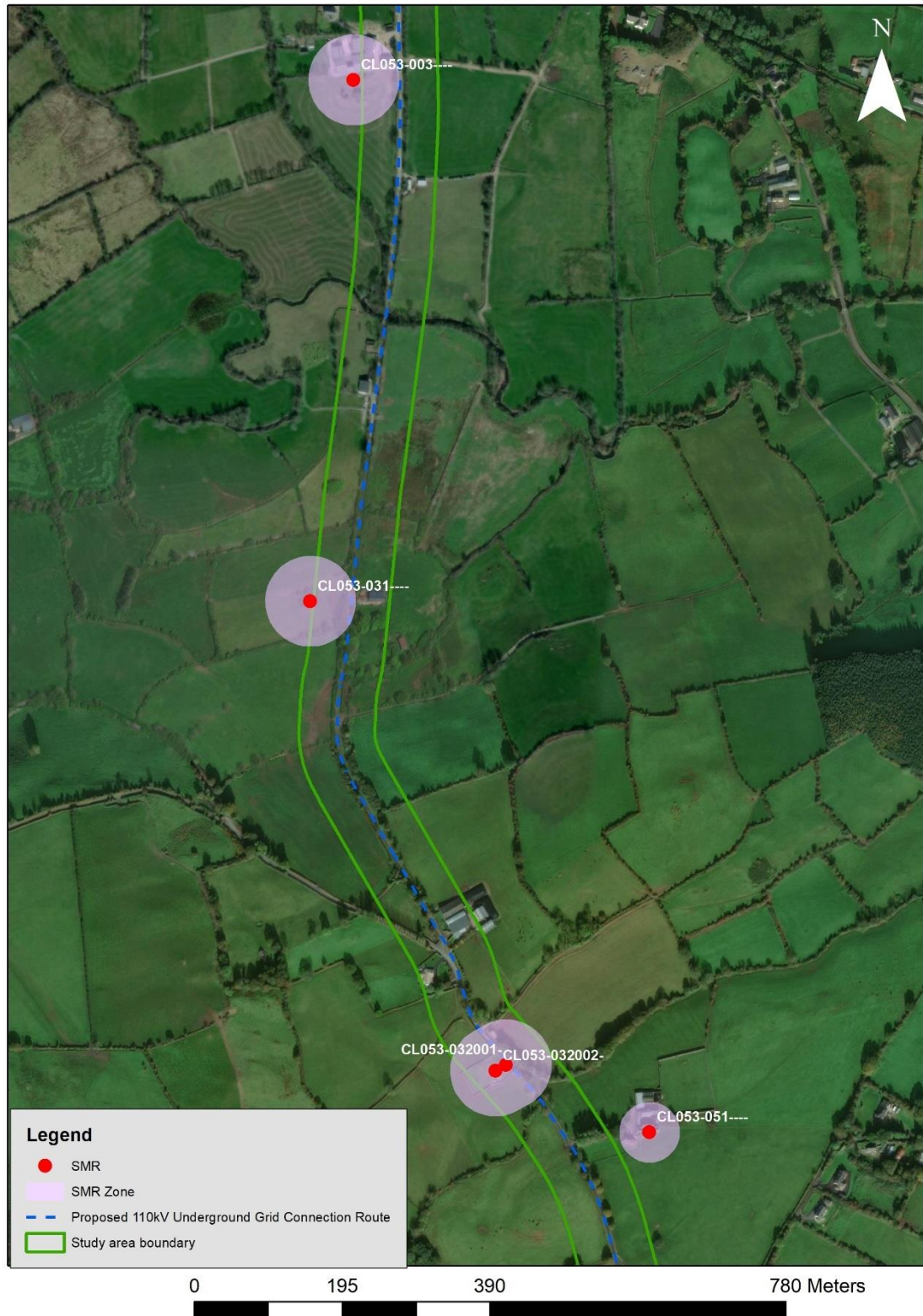


Figure 13-17 Recorded monuments within 100m of the proposed Grid Connection.

13.3.4.2.1 **CL053-032001- : Church : TROUGH**

This comprises a roadside monument which is indicated as a church in ruins on the first edition OS map adjacent to the public road. The site was included in a survey of church and graveyards by Simon Large (2010) which notes that in 1839 10 feet of the west gable stood, however, nothing of the church survives today. The site of the church is located within a graveyard (CL053032-002-) (see below).

The proposed Grid Connection extends through the Zone of Notification for both this and the associated graveyard (Figure 13-18). Potential impacts and mitigation area discussed in Section 13.4 below.

13.3.4.2.2 **CL053-032002- : Graveyard : TROUGH**

The graveyard is situated immediately south-west of the public road along which the proposed Grid Connection extends and is surrounded by a stone wall. From a review of the historic mapping the graveyard would appear to be confined to the south-west side of the road with no evidence to suggest that it is truncated by the latter. As per the associated church (site of) the graveyard was included in the survey carried out by Simon Large (2010). The survey notes that the graveyard contains uninscribed headstones, chest tombs and a mausoleum and that a modern extension to the graveyard is also present.

13.3.4.2.3 **CL053-031---- : Enclosure : TROUGH**

No survey information available. Indicated as a hachured sub-circular enclosure on both the first and second edition OS maps. It is located in pasture to the west of the public road along which the proposed Grid Connection extends, the latter traversing the east side of the Zone of Notification for the monument (Figure 13-19).

13.3.4.2.4 **CL053-003---- : Enclosure : CLOGHERA**

No survey information available. It is shown on the first edition OS map as a sub-rectangular hachured enclosure to the west of the public road. On the subsequent second edition map it is indicated as a partially hachured sub-circular area. The proposed underground electrical cabling route extends along the public road just outside the Zone of Notification for this monument (Figure 13-19).

13.3.4.2.5 **CL053-051---- : House - 18th/19th century : ROO WEST**

CL053-051— : House - 18th/19th century : ROO WEST

Description: The building recorded as ‘Trough Castle (in Ruins)’ on the OS 6-inch map (1939) was built in the 19th century by a member of the O’Donnell family. It takes its name from the castle of that name, the ruin of which lies c. 1.1km to the NW (CL053-029—) (pers. comm. Martin Breen, 15 December 2014). Compiled by: Paul Walsh Date of upload: 17 December 2014

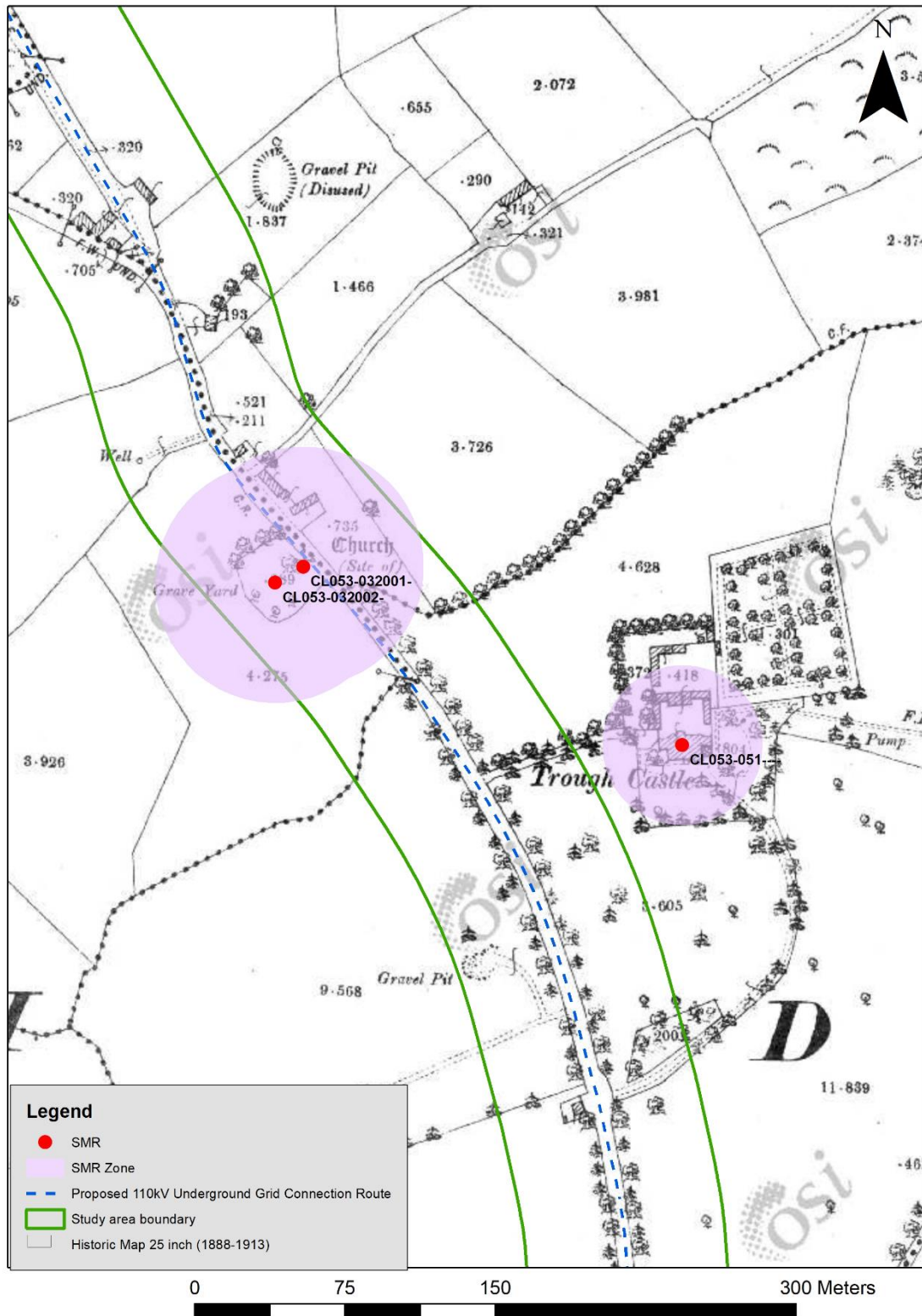


Figure 13-18 Proposed Grid Connection in relation to recorded monuments CL053-032001- and 002- and CL053-051— and associated Zones of Notification.

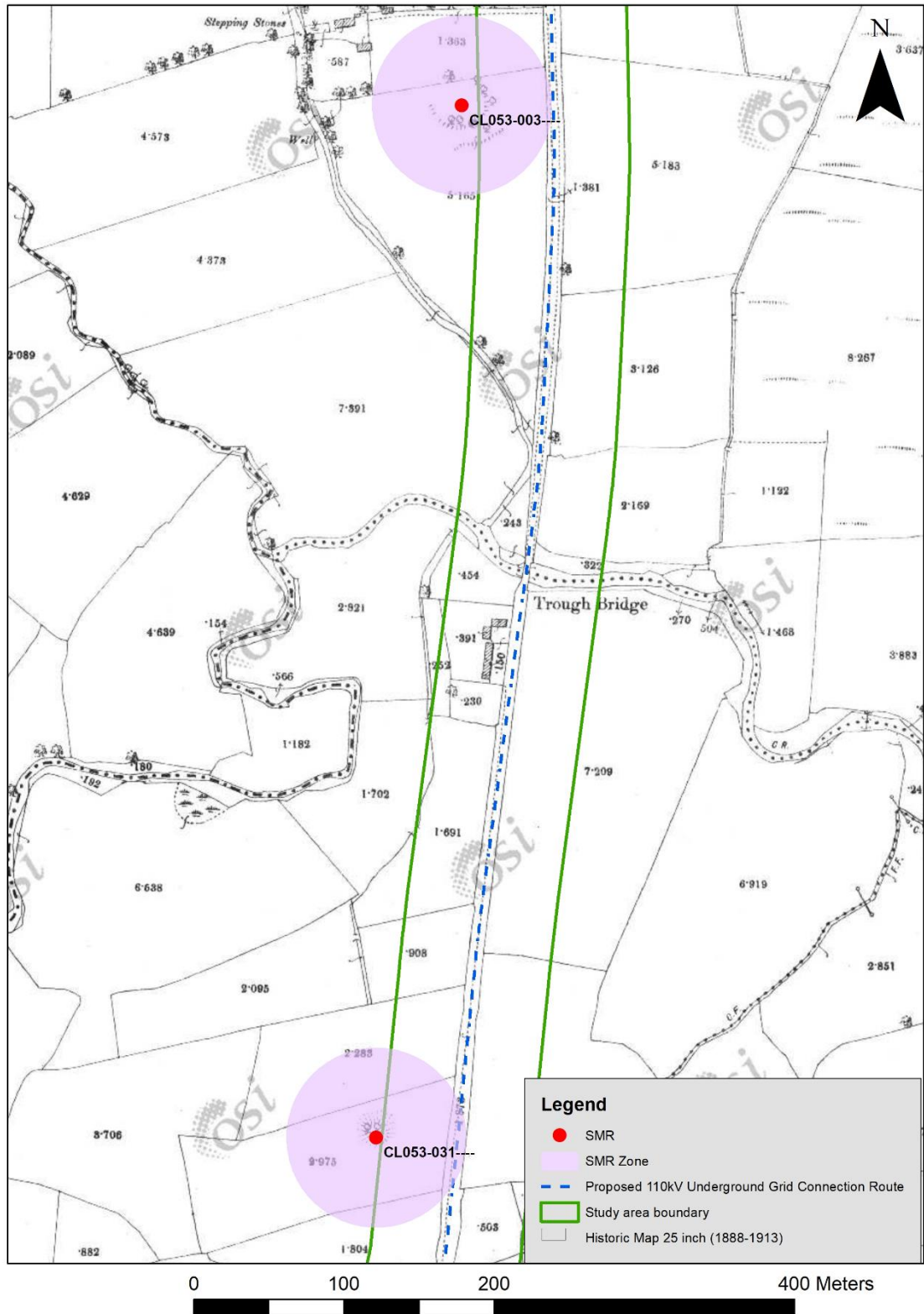


Figure 13-19 Proposed Grid Connection in relation to recorded monuments CL053-003— and CL053-031— and associated Zones of Notification.

13.3.4.3 Sub-Surface Archaeological Potential

The majority of the proposed Grid Connection route is located on existing forestry tracks or on public roads. Such areas have a lower potential for the presence of sub-surface archaeological remains given that ground works typically have taken place along the tracks/roads. Such works, however, do not

preclude the survival of sub-surface material in the vicinity of roadside monuments and within the Zone of Notification for such monuments. The potential therefore exists that sub-surface archaeological sites or features, if present within these areas, may be directly impacted by construction phase activities associated with the proposed grid connection. Mitigation measures to ameliorate this potential impact are detailed in Section 13.4 below.

13.3.4.4 Protected Structures

No Protected Structures are located within 100m of either side of the proposed Grid Connection route. The nearest RPS structure is located c. 191m to the south-east of the proposed route and comprises the Church of the Mother of God (Ref. 102).

13.3.4.5 NIAH Structures and Historic Gardens

No NIAH structures are located within 100m of the proposed Grid Connection route. As outlined above, the nearest structure comprises the Church of the Mother of God (Reg. 20405305) which is also a Protected Structure (Ref. 102).

One historic garden is located within 100m of the proposed Grid Connection route and comprises that associated with the 19th century house Trough Castle which is also a recorded monument (CL053-051—) (Figure 13-20)). The public road along which the proposed Grid Connection route extends is located immediately west of the demesne (shaded on the first edition OS map) associated with the house.

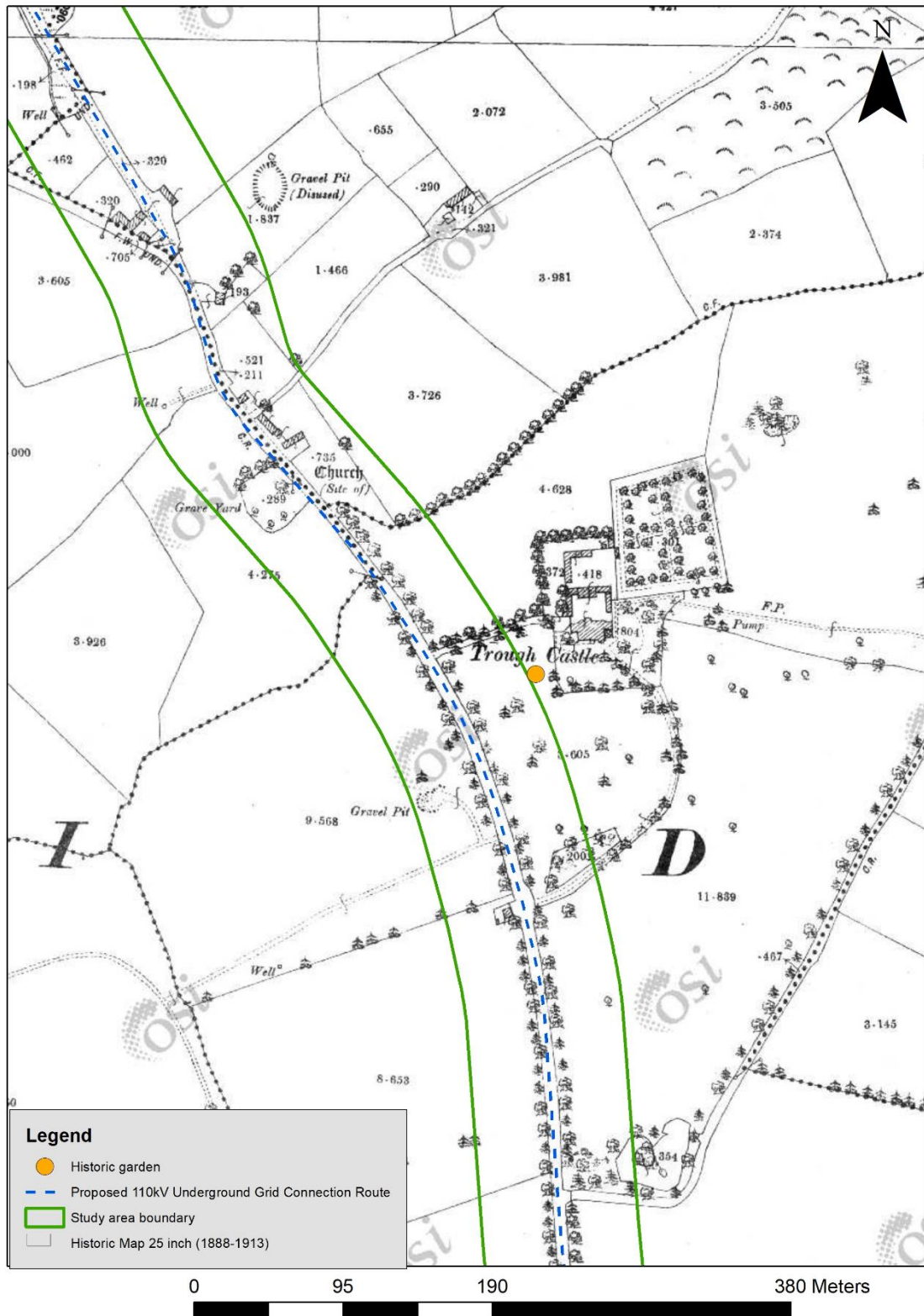


Figure 13-20 Historic garden associated with Trough Castle (19th century house) in relation to proposed Grid Connection route.

13.3.4.6 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 Grid Connection route. Two bridges (CH4-5) are located on the proposed Grid Connection route, one of which (CH5 Trough Bridge) is indicated and named on the

available historic mapping. Directional drilling will be utilised at all crossings therefore direct impacts to the structures are not anticipated. The bridges are listed in Table 13-11 and shown on Figure 13-21.

Table 13-11 Cultural heritage features on proposed Grid Connection route.

CH NO.	NAME	ITM E	ITM N
CH4	Unnamed bridge	558310	667280
CH5	Trough Bridge	558346	665651



Figure 13-21 Bridges CH4 and 5 on the proposed Grid Connection route.

13.3.5 Proposed Turbine Delivery Route

For the purposes of assessment, the turbine components and other abnormal loads will be transported from Shannon Foynes Port, via the N69 National Secondary Road. Some junction accommodation works in the form of overrun areas and a proposed temporary transition compound are required along

the proposed turbine delivery route (TDR) therefore these areas are assessed in terms of potential impacts on the cultural heritage resource.

13.3.5.1 Proposed Temporary Transition Compound

The proposed temporary transition compound is located on a greenfield site immediately north of the proposed TDR in the townland of Court in County Limerick. No National Monuments, Recorded Monuments, Protected Structures or NIAH structures are located within the footprint of the proposed temporary transition compound. The western side of the temporary transition compound is located within the demesne of Court country house which is situated c. 327m to the north-west. The house is included in the Record of Protected Structures (Ref. 291) and an associated entrance with stone piers is located immediately to the west of the western extent of the proposed temporary transition compound.

The Architectural Heritage Protection Guidelines for Planning Authorities (2011) discusses the notion of curtilage and attendant grounds associated with protected structures. While the notion of curtilage is not defined by legislation, it is taken to be the 'parcel of land immediately associated with that structure and which is (or was) in use for the purposes of the structure.' (ibid., 191). In the case of a large country house items such as stable buildings, walled gardens, lawns and ha-has may all be considered to form part of its curtilage unless at a distance from the building (ibid.). It is also noted, however, that the extent of the curtilage of a protected structure would need to be determined on a case-by-case basis and 'ideally should be identified by the planning authority prior to inclusion of the structure in the RPS...' (ibid.). The Guidelines go on to say that in instances where the curtilage of a protected structure has not previously been identified 'a planning authority should take the opportunity to identify its extent at the time of making a declaration in respect of the protected structure' (ibid., 192).

A similar scenario exists when determining the attendant grounds of a protected structure. Attendant grounds are those lands located outside the curtilage but which are associated with the structure and are 'intrinsic to its function, setting and/or appreciation' (ibid.). A planning authority has the power to protect all features of importance which lie within the attendant grounds of a protected structure, however, such features must be specified in the RPS. The Guidelines go on to say that where the curtilage of a protected structure has not been established at the time of inclusion in the RPS, the planning authority should ensure that all important features are either 'a) specified as being in the attendant grounds of the protected structure or b) are themselves entered into the RPS and c) the owners and occupiers notified of the protection.'

The curtilage of the protected structure at Court is not defined in the Record of Protected Structures. As outlined above, however, the demesne which was originally associated with the house is depicted on the first edition OS map as a shaded area (Figure 13-22). The demesne of the house as shown on the historic mapping was originally associated with Court House and therefore could be construed to be the curtilage and/or attendant grounds of the house. It should be noted, however, that much of the land located within the demesne may no longer be directly associated with the Protected Structure and may be altered since the mid 19th century through the addition of modern structures and developments, and change of land use, etc. No structures or demesne features which may be construed to be part of the curtilage or attendant grounds of the protected structure are located within the footprint of the proposed temporary transition compound. Furthermore, the entrance and associated gate piers are located outside the aforementioned footprint and will not be impacted by the proposed temporary transition compound. Potential effects and mitigation are discussed further in Section 13.4.



Plate 13-6 Entrance to Court country house and associated stone piers, looking NNE.

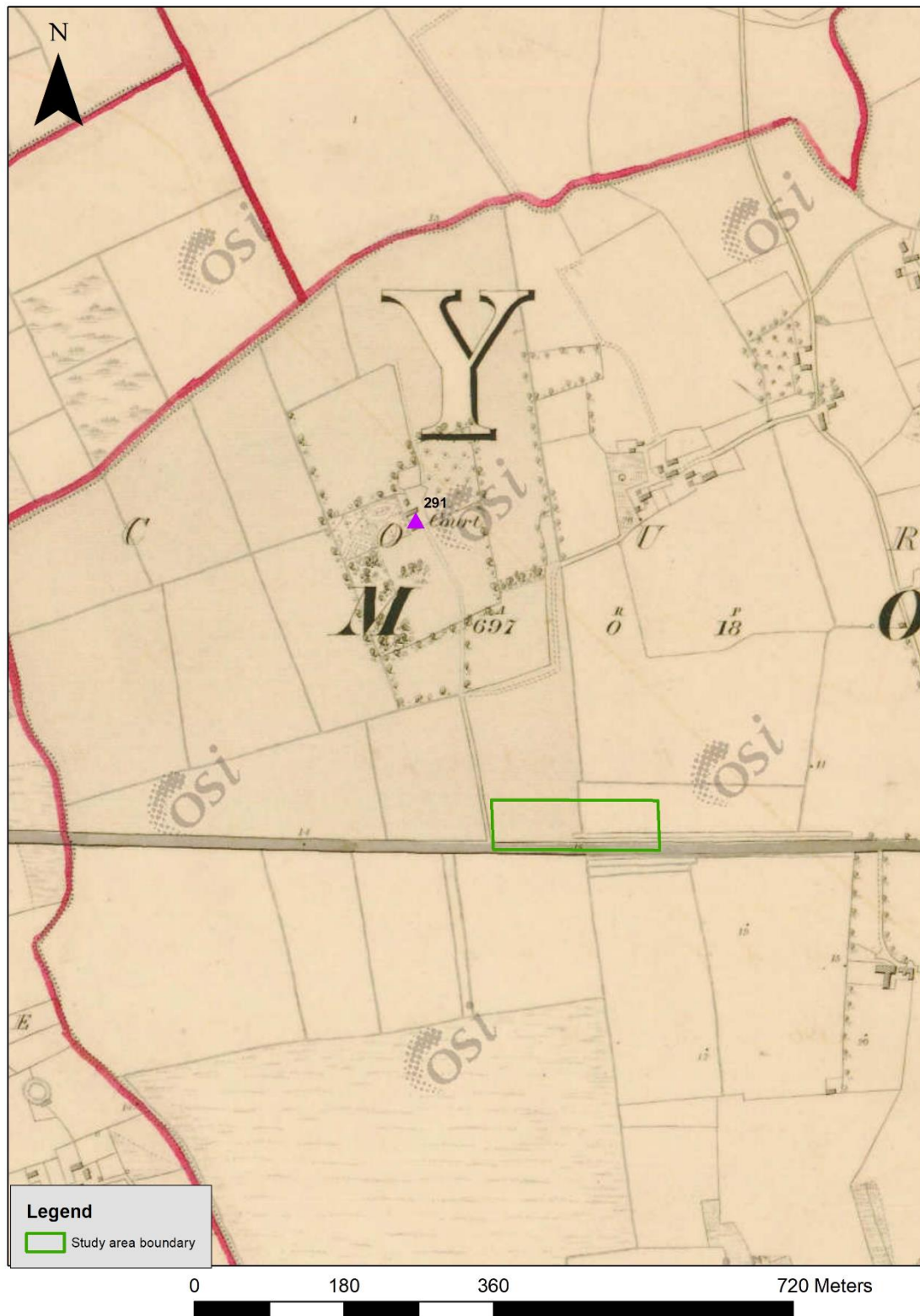


Figure 13-22 Temporary Transition Compound in relation to demesne associated with Court country house (RPS Ref. 291).

13.3.5.2 Overrun Areas

Four overrun areas are proposed along the TDR and comprise three localised areas at Aharinaghbeg, and Kilmore townlands. The fourth overrun area is more extensive in nature and is located in the townlands of Kilmore and Muingboy at the north-west end of the TDR. No National Monuments, Recorded Monuments, Protected Structures, NIAH structures or historic gardens are located within the

footprint of the overrun areas at Muingboy or Kilmore. The proposed overrun area at Aharinaghbeg townland is located within the Zone of Notification for recorded monument CL053-007— Enclosure. The enclosure and proposed overrun area was inspected as part of the field survey carried out for this assessment. The proposed works for this overrun area will comprise the removal of a portion of roadside hedgerow/boundary a short distance to the south-east, south and south-west of the monument. At its closest point the works will measure c. 13m from the outer extent of the enclosure. No works to the monument itself will take place. Given the proximity to the monument, however, and the location of the works within the Zone of Notification for same, mitigation measures in the form of a buffer zone and archaeological monitoring are proposed (See Section 13.4).



Plate 13-7 Enclosure CL053-007— at Aharinaghbeg, looking NE.



Plate 13-8 Looking SW towards boundary to be removed.

13.4 Likely Effects and Associated Mitigation Measures

13.4.1 Do Nothing Scenario

If the Proposed Development was not developed, the Site will continue to function as it does at present, with no changes made to the current land-use of coniferous forestry, biodiversity areas under Coillte management and third party lands currently being used for agricultural and forestry. The impact of this is considered neutral in the context of the EIAR. If the Proposed Development were not to proceed, the opportunity to capture an even greater part of County Clare's valuable renewable energy resource would be lost, as would the opportunity to further contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment and investment and to diversify the local economy would also be lost.

13.4.2 Construction Phase Potential Effects (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 13.4.4 below. No indirect effects were identified which would occur at the construction stage.

13.4.3 Construction Phase Potential Effects (Direct)

Direct effects 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 effects on the known and potential archaeological heritage. These are outlined below with the suggested mitigation measures.

13.4.3.1 UNESCO World Heritage Sites and those on Tentative List

Proposed Wind Farm

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

Proposed Grid Connection

No UNESCO World Heritage Sites (WHS) or those on the Tentative list are located on or immediately adjacent to the proposed Grid Connection route therefore no effects are identified.

Proposed Works along Turbine Delivery Route

No UNESCO World Heritage Sites (WHS) or those on the Tentative list are located on or immediately adjacent to the proposed works along the TDR therefore no effects are identified.

13.4.3.2 National Monuments

Proposed Wind Farm

No National Monuments or those subject to a Preservation Order are located on or in the immediate vicinity of the Proposed Wind Farm Site. No direct effects to such assets as a result of the proposed Wind Farm are therefore identified.

Proposed Grid Connection

No National Monuments of those subject to a Preservation Order are located on or immediately adjacent to the proposed Grid Connection route therefore no effects are identified.

Proposed Works along Turbine Delivery Route

No National Monuments of those subject to a Preservation Order are located on or immediately adjacent to the proposed works along the TDR route therefore no effects are identified.

13.4.3.3 Recorded Monuments

Proposed Wind Farm

Identification of Effect

One recorded monument is located within the proposed Wind Farm Site. It comprises a megalithic tomb – wedge tomb (CL044-068—) situated c. 22m east of an existing forestry track. The tomb is situated c. 347m SE of T4, c. 428m SW of T6 and c. 355m NW of T7. The nearest proposed infrastructure comprises the proposed new road to T7 which is located c. 77m to the east. While no

direct effects to the monument are identified some mitigation is proposed in order to avoid accidental damage to the tomb during the construction stage of the Proposed Development.

Mitigation measures

- A buffer zone measuring 30m will be established around megalithic tomb CL044-068— prior to the commencement of construction works. The buffer will comprise durable temporary fencing with ‘keep out’ signage. The requirement for the buffer zone and associated signage will be included in the CEMP.
- No ground works or storage of materials or tracking of machinery will take place within the buffer zone.

Residual Effect

The implementation of the mitigation measures as outlined above will ensure that there are no residual effects.

Significance of Effects

None.

Proposed Grid Connection

Identification of Effect

Five recorded monuments are located within 100m of the proposed Grid Connection route. No direct effects to the monuments themselves are identified. The proposed Grid Connection route extends through the Zone of Notification for three of the recorded monuments and therefore mitigation measures will be implemented during construction works in order to avoid any potential negative effects arising during such works.

Mitigation measures

- The proposed Grid Connection will extend along and within the east side of the public road where it extends past church and graveyard CL053-032001- and 002- in order to avoid potential direct effects to any sub-surface archaeological features which may exist in this area.
- Archaeological monitoring will be carried out along the relevant sections of the underground electrical cabling route where the latter extends through the ZoN for monuments CL053-032001- and 002- Church and graveyard and CL053-031— Enclosure.
- A report on the monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation including 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 archaeological 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 effect 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.

Proposed Works along Turbine Delivery Route

Identification of Effect

The proposed overrun area at Aharinaghbeg townland is located within the Zone of Notification for recorded monument CL053-007— Enclosure. At its closest point the works will measure c. 13m from the outer extent of the enclosure. No works to the monument itself will take place. Given the proximity to the monument, however, and the location of the works within the Zone of Notification for same mitigation measures are recommended in order to avoid any accidental damage to the monument.

Mitigation measures

- A buffer zone of 10m will be established around recorded monument CL053-007— Enclosure prior to the commencement of any works. The buffer will comprise durable temporary fencing with 'keep out' signage. The requirement for the buffer zone and associated signage will be included in the CEMP.
- Archaeological monitoring of any ground works associated with the works along the TDR within the ZoN for recorded monument CL053-007— Enclosure.
- A report on the monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation including 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 archaeological 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 effect 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.

13.4.3.4 Sub-surface Archaeological Potential

Proposed Wind Farm

Identification of Effect

Due to the extent of groundworks associated with the construction phase of the Proposed Wind Farm, and the presence of a recorded monument within same, it is possible that previously unrecorded sub-surface archaeological finds, features or deposits are located within the proposed Wind Farm Site. The potential therefore exists that sub-surface archaeological sites or features, if present within the proposed Wind Farm Site, may be directly affected by construction phase activities. The potential effect on sub-surface archaeological finds and features, should they exist, as a result of ground works associated with the construction stage of the proposed Wind Farm are likely to be direct, negative and permanent in the absence of appropriate mitigation measures.

It should be noted that the proposed Wind Farm Site is primarily under commercial coniferous forestry plantations. In this regard, geophysical survey is not considered to be an appropriate assessment tool. Similarly, the presence of forestry will dictate when pre-development testing may take place (see below).

Mitigation measures

- Pre-development archaeological testing of proposed infrastructure will be carried out under licence from the National Monuments Service. Given that the Site is largely under coniferous forestry plantations it is proposed that the archaeological testing will be carried out after the necessary clear-felling of forestry has taken place. This will ensure adequate machine access to all areas of proposed infrastructure in order to facilitate the programme of archaeological testing.
- A report on the testing will be compiled on completion of the work and submitted to the NMS and the Planning Authority.
- Further mitigation including 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 including 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 effect 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.

Proposed Grid Connection

The majority of the proposed underground electrical cabling route is located on existing forestry tracks or on public roads. Such areas have a lower potential for the presence of sub-surface archaeological remains given that ground works typically have taken place along the tracks/roads. Such works, however, do not preclude the survival of sub-surface material in the vicinity of roadside monuments and within the Zone of Notification for such monuments. The potential therefore exists that sub-surface archaeological sites or features, if present within these areas, may be directly affected by construction phase activities associated with the proposed grid connection. This potential effect has been identified in Section 13.4.3.3 above with appropriate mitigation measures proposed.

Proposed Works along Turbine Delivery Route

Identification of Effect

The proposed overrun areas at Kilmore townland at the north-west end of the proposed TDR and the proposed temporary transition compound are located in pasture. It is possible, therefore, that previously unrecorded sub-surface archaeological finds, features or deposits are located in these areas. The potential effect on sub-surface archaeological finds and features, should they exist, as a result of ground

works associated with the works along the TDR are likely to be direct, negative and permanent in the absence of appropriate mitigation measures.

Mitigation measures

- Pre-development archaeological testing of the proposed overrun areas at Kilmore townland and at the proposed temporary transition compound will be carried out under licence from the National Monuments Service.
- 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.

Residual Effect

Any archaeological sites/features, if detected, during testing 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 effect 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.

13.4.3.5 Newly Recorded Monuments

No newly recorded monuments were detected within the Proposed Wind Farm Site, along the proposed Grid Connection or in the proposed works areas along the proposed TDR. No direct effects to such monuments are therefore identified.

Proposed Wind Farm

Identification of Effect

Given the presence of dense forestry cover in places within the Site there is the potential for the presence of previously unrecorded archaeological monuments which are currently not accessible or visible. The potential effect on such monuments, should they exist, as a result of ground works associated with the construction stage of the proposed Wind Farm are likely to be direct, negative and permanent in the absence of appropriate mitigation measures.

Mitigation Measures

- A walk-over survey of the proposed Wind Farm following clear-felling of dense forestry will be carried out by a suitably qualified archaeologist.
- A report on the walk-over survey will be compiled on completion of same and will detail the nature and location of any potential archaeological sites/monuments identified.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) or buffer zones may be required depending on the results of the walk-over survey.

13.4.3.6 Protected Structures

Proposed Wind Farm

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

Proposed Grid Connection

No Protected Structures subject to statutory protection are along the proposed Grid Connection route therefore no direct effects to this resource are identified.

Proposed Works along Turbine Delivery Route

No Protected Structures are located in the proposed works areas or within the proposed temporary transition compound along the TDR. A Protected Structure, Court country house, (Ref. 291) is situated c. 327m to the north-west but will not be directly impacted by ground works associated with the temporary transition compound. An entrance gateway and associated stone piers associated with the protected structure are located a short distance to the west of the proposed temporary transition compound. No works to the entrance or piers are proposed therefore no direct effects to same are identified.

13.4.3.7 NIAH Structures and Historic Gardens

Proposed Wind Farm

No structures listed in the NIAH or historic gardens are located within the proposed Wind Farm Site therefore no direct effects to such structures are identified.

Proposed Grid Connection

No structures listed in the NIAH are located along the proposed Grid Connection route, therefore no direct impacts to such structures or historic gardens are identified. One historic garden is located within 100m of the proposed Grid Connection route and comprises that associated with the 19th century house Trough Castle which is also a recorded monument (CL053-051—). The public road along which the proposed underground electrical cabling route extends is located immediately west of the demesne (shaded on the first edition OS map) associated with the house. No direct effects to the historic garden as a result of works associated with the proposed Grid Connection route are identified.

Proposed Works along Turbine Delivery Route

No structures listed in the NIAH or historic gardens are located in the proposed works areas or within the footprint of the proposed temporary transition compound along the TDR. No direct effects to such structures are therefore identified.

13.4.3.8 Features of Local Cultural Heritage Merit

Proposed Wind Farm

Identification of Effect

A ruinous stone structure (CH1) was noted in an area of clear-felled forestry within the proposed Wind Farm Site towards the east side of the EIAR Site Boundary during the walk-over survey. It is not indicated on the first edition OS map but is shown on the later second edition 25-inch map and is likely to be early-mid 20th century in date. It is located c. 59m west of the proposed road to T6 and c. 37m

east of the proposed new road to T5. No potential direct effects to the structure area are identified, however, mitigation measures are proposed in order to avoid accidental damage during the construction stage of the Proposed Development.

A ruinous stone cottage (CH2) is located towards the west side of the EIAR Site Boundary in Crag townland, c. 882m north-west of the nearest proposed turbine, T2. It comprises a partially restored ruinous stone building which is known locally as Mary Anne's cottage and is indicated on the first and second edition OS maps. It is likely to date to the mid-1800s and is an example of the many small houses which were located on the foothills of the area at that time. No proposed infrastructure is located in proximity to the cottage therefore no potential direct effects to same are identified.

A mass rock (CH3) is also located within the Site towards the west side of same in Crag townland. It is located in forestry c. 518m west of the nearest proposed turbine, T2. No proposed infrastructure is located in proximity to the mass rock therefore no potential direct effects to same are identified.

Field boundaries and divisions indicated on the historic mapping are likely to survive to varying degrees within the forestry plantations. An example of the partial remains of a stone and earth field boundary was noted within the hardstand for T7. A direct effect to the boundary is identified. Stone field boundaries are also extant along the proposed road into the proposed Wind Farm site at Kilmore townland. Direct effects to sections of such boundaries are also identified and are regarded as negative and permanent.

Mitigation measures

- A buffer zone of 20m will be established around ruinous stone structure CH1 prior to the commencement of any works. The buffer will comprise durable temporary fencing with 'keep out' signage. The requirement for the buffer zone and associated signage will be included in the CEMP.
- No ground works or storage of materials or tracking of machinery will take place within the buffer zone.
- A photographic and descriptive record of a sample of field boundaries impacted by construction works associated with the development will be carried out by the monitoring archaeologist and included in the monitoring report.

Residual Effect

The implementation of the mitigation measures as outlined above will ensure that the residual effects will be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

Proposed Grid Connection

Two bridges (CH4 and 5) are located on the proposed Grid Connection route, one of which (CH5 Trough Bridge) is indicated and named on the available historic mapping. Directional drilling, which does not involve any works to the bridges, will be utilised at all crossings therefore direct effects to the structures are not anticipated.

Proposed Works along Turbine Delivery Route

No items of cultural heritage merit are located in the footprint of the proposed works areas along the Proposed TDR or the proposed temporary transition compound.

13.4.4 Operational Phase Potential Effects (Indirect)

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

Effects 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 effects 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 effects. 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 proposed Grid Connection which would not be dominant in the wider landscape setting in general. In this regard potential visual effects on the cultural heritage resource are considered largely in terms of the proposed Wind Farm which includes visually dominant elements such as turbines and the on-site 110kV electrical substation. The proposed Grid Connection route and the proposed works along the TDR are not considered to be visually dominant given the nature of these elements of the Proposed Development.

The assessment of effects 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 photomontages / Photowires from specific cultural heritage assets and other locations. The ZTV is a bare-ground model which does not take screening vegetation into account. The proposed turbine range was assessed as per the methodology outlined in Chapter 14 LVIA section 14.1.3.3. The photomontages produced in EIAR Volume 2: Photomontage Booklet to demonstrate the turbine envelope range were also utilised. As noted in Chapter 14 'as demonstrated by the turbine ranges presented in the Photomontage Booklet, irrespective of which combination of hub height and blade length within the range outlined in this application is installed on-site, the significance of residual landscape and visual effects will not be altered.'

13.4.4.1 UNESCO World Heritage Sites and those on Tentative List

Proposed Wind Farm

No UNESCO World Heritage Sites (WHS) or those on the Tentative list are located within 20km of the nearest proposed turbine or the proposed onsite 110kV electrical substation. No potential effects to the setting of such sites as a result of the proposed Wind Farm are therefore identified.

13.4.4.2 National Monuments

Proposed Wind Farm

Identification of Effect

No National Monuments are located within 10km of the nearest proposed turbine, with the nearest National Monuments located just over 11km to the east at Killaloe and to the south in Limerick City. Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine.

The monument subject to a Preservation Order (No. 8/1973) at Mountcashel comprises a tower house (CL043-085002-) located c. 5.7km west of the nearest proposed turbine, T1. The ZTV indicates that the

tower house is located in an area where 1-3 turbines will theoretically be visible. The ringfort (PO. No. 2/1973) at Ballycannon townland is located c. 6.6km to the south of the nearest proposed turbine, T7. The ZTV indicates that the ringfort is located in an area in which none of the proposed turbines will theoretically be visible. The castle (site of) (PO No. 4/1992) at Deerpark North is located c. 8.2km north-west of the nearest proposed turbine, T2. The ZTV suggests that the castle is located in an area where none of the proposed turbines will theoretically be visible.

Given that the ringfort (PO. 2/1973) and castle (site of) (PO 4/1992) are located in areas where none of the proposed turbines will theoretically be visible no potential visual effects to these monuments as a result of the proposed Wind Farm are anticipated.

The tower house at Mountcashel (PO 8/1973) is located in an area where 1-3 proposed turbines will theoretically be visible. Given the distance of the nearest proposed turbine to this monument a change to its immediate setting will not occur. A change to the wider setting in which the monument is located is acknowledged but is considered to be Not Significant. It is noted, however, that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and therefore potential visual effects will in reality be less significant.

Mitigation Measures

No mitigation proposed which would ameliorate potential visual effects. It is noted that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and therefore potential visual effects may in reality be less severe.

Residual Effect

Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

Table 13-12 Table of impacts on National Monuments and those subject to a Preservation Order within 10km of the nearest proposed turbine.

PO No.	SMR NO.	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)	Potential Effect	Significance of Effect
8/1973	CL043-085001; CL043-085002-	Castle	MOUNTCASHEL	T01	5745	Indirect visual	Not Significant
2/1973	CL053-041-	Ringfort	BALLYCANNAN	T07	6675	Indirect visual	None

PO No.	SMR NO.	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)	Potential Effect	Significance of Effect
4/1992	CL043-017001; CL043-017002-	Castle (Site of)	DEERPARK NORTH	T02	8232	Indirect visual	None

13.4.4.3 Recorded Monuments

Proposed Wind Farm

Identification of Effect

One recorded monument CL044-068— is located within the proposed Wind Farm Site while a total of one hundred and eighty-five (185) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the monument located within the proposed Wind Farm Site.

Photowire imagery produced from the megalithic tomb CL044-068— demonstrates visibility of a number of proposed turbines from the monument, although vegetation will provide some screening. The photograph of the monument taken for the megalithic survey in the early 1960s clearly shows how the surrounding landscape has changed in the intervening decades with trees and scrub vegetation now screening views to the east. Wedge tombs are generally orientated E/W or on a slight variations of same, with the wider open end of the monument aligned with the setting sun. The wedge tomb at Knockshanvo is aligned ENE/WSW. The position of the setting sun on important astronomical dates was checked at the tomb location and suggests that this monument has an alignment with the setting sun on the Vernal (March) and Autumn (September) Equinoxes. None of the proposed turbines are located on the setting sun alignment on the Equinox dates and no potential visual effects to such an alignment are noted. The nearest proposed turbine, T4, is located c. 349m from the monument. A change to the immediate setting of the megalithic tomb as a result of the proposed turbines is not identified, however, a change to its wider setting will occur and is regarded as Moderate.

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 72 of the 185 monuments are located in areas where 7-9 turbines will theoretically be visible. Twenty-five monuments are located in areas where 4-6 turbines will theoretically be visible, while 66 monuments are located in areas where 1-3 turbines may theoretically be visible. Twenty-two monuments are situated in areas where none of the proposed 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 Table 13-13 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. The overall significance of effects range from Imperceptible to Moderate. In reality the effect will be reduced since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the effect on setting altogether. Furthermore, many of these monuments may not be readily discernible in the landscape which further ameliorates effects on setting.

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

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
1	CL044-068—	KNOCKSHANVO	Megalithic tomb - wedge tomb	T04	349	7-9	Moderate
2	CL044-041—	GORTACULLIN	Megalithic tomb - wedge tomb	T05	933	7-9	Moderate
3	CL044-045—	FORMOYLE MORE	Megalithic tomb - wedge tomb	T08	1098	7-9	Moderate
4	CL043-064—	SNATY (COOPER)	Enclosure	T02	1264	1-3	Not Significant
5	CL044-038—	GORTACULLIN	Enclosure	T05	1321	1-3	Not Significant
6	CL044-069—	DRUMSILLAGH or SALLYBANK (Parker)	Enclosure	T07	1370	7-9	Moderate
7	CL044-040—	GORTACULLIN	Enclosure	T05	1439	1-3	Not Significant
8	CL044-036—	HURDLESTON	Enclosure	T05	1503	4-6	Slight
9	CL044-046—	FORMOYLE MORE	Enclosure	T08	1510	7-9	Moderate
10	CL043-063—	SNATY (COOPER)	Enclosure	T02	1512	1-3	Not Significant
11	CL043-062—	SNATY (WILSON)	Children's burial ground	T02	1626	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
12	CL044-047—	FORMOYLE MORE	Enclosure	T08	1631	7-9	Moderate
13	CL044-042—	GORTACULLIN	Ritual site - holy well	T05	1634	1-3	Not Significant
14	CL052-041—	OATFIELD	Enclosure	T01	1654	7-9	Moderate
15	CL044-050—	FORMOYLE BEG	Enclosure	T09	1713	7-9	Moderate
16	CL052-039—	CLOGHOOLIA	Megalithic tomb - wedge tomb	T01	1777	7-9	Moderate
17	CL043-060—	CRAG (Tulla Lower By.)	Earthwork	T02	1818	1-3	Not Significant
18	CL044-049—	FORMOYLE BEG	Enclosure	T08	1830	7-9	Moderate
19	CL052-040—	OATFIELD	Enclosure	T01	1857	7-9	Moderate
20	CL044-070—	CAPPANASLISH	Enclosure	T09	1873	7-9	Moderate
21	CL044-089—	HURDLESTON	Standing stone	T05	1975	1-3	Not Significant
22	CL044-048—	FORMOYLE BEG	Enclosure	T08	1987	7-9	Moderate
23	CL053-006—	KILMORE (Tulla Lower By.)	Enclosure	T09	2004	7-9	Slight

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
24	CL053-005—	KILMORE (Tulla Lower By.)	Enclosure	T09	2037	7-9	Slight
25	CL044-055—	BALLYQUIN BEG	Enclosure	T09	2059	7-9	Slight
26	CL044-044—	KYLE	Children's burial ground	T08	2102	4-6	Slight
27	CL044-054—	CAPPANASLISH	Enclosure	T09	2136	7-9	Slight
28	CL044-087—	FORMOYLE BEG	Enclosure	T08	2146	1-3	Not Significant
29	CL044-071—	CAPPANASLISH	Enclosure	T09	2189	4-6	Slight
30	CL044-033—	BALLYKELLY	Enclosure	T03	2202	1-3	Not Significant
31	CL044-085—	CLOONYCONRY MORE, FORMOYLE BEG	Hillfort	T09	2302	7-9	Slight
32	CL052-043—	OATFIELD	Church	T01	2335	7-9	Slight
33	CL043-112—	BELVOIR DEMESNE	Enclosure	T02	2338	1-3	Not Significant
34	CL052-080—	COOLYCASEY	Rock art	T01	2369	1-3	Not Significant
35	CL043-061003-	GORTADROMA	Mound	T02	2369	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
36	CL043-061002-	GORTADROMA	Barrow - unclassified	T02	2370	1-3	Not Significant
37	CL043-061001-	GORTADROMA	Ceremonial enclosure	T02	2372	1-3	Not Significant
38	CL044-034—	BALLYKELLY	Megalithic tomb - wedge tomb	T03	2413	1-3	Not Significant
39	CL044-052—	CLOONYCONRY MORE	Megalithic structure	T08	2420	7-9	Slight
40	CL053-009—	KILMORE (Tulla Lower By.)	Ritual site - holy well	T09	2426	1-3	Not Significant
41	CL052-076—	OATFIELD	Fulacht fia	T01	2436	7-9	Slight
42	CL043-067—	BALLYKELLY	Enclosure	T02	2492	1-3	Not Significant
43	CL044-039—	HURDLESTON	House - 16th/17th century	T05	2522	4-6	Slight
44	CL053-008—	KILMORE (Tulla Lower By.)	Ritual site - holy well	T09	2566	1-3	Not Significant
45	CL044-043—	DERRY (Tulla Lower By.)	Enclosure	T08	2571	4-6	Slight
46	CL043-107—	BELVOIR DEMESNE	Burial ground	T02	2586	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
47	CL044-032—	BALLYKELLY	Enclosure	T02	2603	1-3	Not Significant
48	CL052-038—	COOLYCASEY	Megalithic tomb - wedge tomb	T01	2634	1-3	Not Significant
49	CL044-053—	CLOONYCONRY MORE	Megalithic tomb - wedge tomb	T08	2641	1-3	Not Significant
50	CL044-051—	CLOONYCONRY MORE	Megalithic tomb - wedge tomb	T08	2677	7-9	Slight
51	CL044-035003-	KILSEILY	Ritual site - holy well	T05	2696	0	Imperceptible
52	CL043-066—	BALLYKELLY	Enclosure	T02	2704	0	Imperceptible
53	CL044-035002-	KILSEILY	Graveyard	T05	2734	0	Imperceptible
54	CL044-035001-	KILSEILY	Church	T05	2742	0	Imperceptible
55	CL043-065002-	BALLYKELLY	Castle - tower house	T02	2748	1-3	Not Significant
56	CL044-037—	KILSEILY	Enclosure	T05	2752	0	Imperceptible
57	CL043-065001-	BALLYKELLY	Earthwork	T02	2756	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
58	CL044-016—	ARDSKEAGH	Megalithic tomb - unclassified	T08	2821	7-9	Slight
59	CL044-056—	CLOONYCONRY BEG	Enclosure	T09	2837	0	Imperceptible
60	CL044-057—	BALLYQUIN BEG	Ritual site - holy well	T09	2870	0	Imperceptible
61	CL043-035—	KILLADERRY (O'Brien)	Enclosure	T02	2916	1-3	Not Significant
62	CL044-058—	BALLYQUIN BEG	Enclosure	T09	3008	0	Imperceptible
63	CL044-006—	KILSEILY, KILLADERRY (Massy)	Enclosure	T05	3018	0	Imperceptible
64	CL044-003—	KILLADERRY (O'Brien)	Enclosure	T02	3068	0	Imperceptible
65	CL044-008—	KILLADERRY (Massy)	Enclosure	T05	3072	0	Imperceptible
66	CL044-059—	CLOONYCONRY BEG	Enclosure	T09	3152	0	Imperceptible
67	CL043-034—	KILLADERRY (O'Brien)	Enclosure	T02	3240	0	Imperceptible

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
68	CL044-007—	KILLADERRY (Massy)	House - 16th/17th century	T05	3244	0	Imperceptible
69	CL043-106—	BALLYCULLEN	Castle - unclassified	T01	3247	0	Imperceptible
70	CL043-120001-	KILLANENA (Tulla Lower By.)	Mound	T02	3247	1-3	Not Significant
71	CL043-120002-	KILLANENA (Tulla Lower By.)	Burial	T02	3247	1-3	Not Significant
72	CL044-072—	BALLYQUIN MORE	House - 16th/17th century	T09	3268	0	Imperceptible
73	CL044-004—	KILLADERRY (O'Brien), KILLADERRY (Massy)	Enclosure	T02	3303	1-3	Not Significant
74	CL043-104—	BALLYVORGAL BEG	Enclosure	T01	3327	1-3	Not Significant
75	CL053-007—	AHARINAGHBEG	Enclosure	T09	3329	7-9	Slight
76	CL043-029—	KNOCKATINTY	Enclosure	T02	3354	1-3	Not Significant
77	CL044-020—	CLOONGAHEEN WEST	Enclosure	T08	3363	7-9	Slight

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
78	CL043-105—	BALLYCULLEN,B ALLYVORGAL BEG	Ringfort - unclassified	T01	3387	0	Imperceptible
79	CL044-023—	CLOONGAHEEN WEST	Enclosure	T08	3427	7-9	Slight
80	CL053-002—	CLOONSHEEREA	Children's burial ground	T07	3452	7-9	Slight
81	CL053-003—	CLOGHERA	Enclosure	T07	3463	7-9	Slight
82	CL053-001—	CLOONSHEEREA	Ritual site - holy well	T07	3485	7-9	Slight
83	CL044-015—	ARDSKEAGH	Megalithic tomb - unclassified	T08	3541	7-9	Slight
84	CL044-017—	BARBANE	Megalithic tomb - wedge tomb	T08	3545	7-9	Slight
85	CL044-073—	BALLYQUIN MORE	Enclosure	T09	3556	1-3	Not Significant
86	CL044-074—	BALLYQUIN MORE	Enclosure	T09	3559	1-3	Not Significant
87	CL044-061—	BALLYQUIN MORE	Enclosure	T09	3626	0	Imperceptible
88	CL043-030—	KNOCKATINTY	Enclosure	T02	3656	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
89	CL043-103—	CASTLELAKE	Enclosure	T01	3671	1-3	Not Significant
90	CL044-014—	ARDSKEAGH	Megalithic tomb - wedge tomb	T08	3678	7-9	Slight
91	CL053-004—	AHARINAGHBEG	Enclosure	T09	3721	7-9	Slight
92	CL043-058002-	ENAGH EAST	Ringfort - cashel	T02	3752	4-6	Not Significant
93	CL044-009—	DOON (Kilseily ED)	Enclosure	T05	3777	4-6	Not Significant
94	CL043-058001-	ENAGH EAST	Enclosure - large enclosure	T02	3780	4-6	Not Significant
95	CL043-028—	KILLANENA (Tulla Lower By.)	Ritual site - holy well	T02	3792	1-3	Not Significant
96	CL043-057—	ENAGH EAST	Enclosure	T02	3797	1-3	Not Significant
97	CL043-118—	WOODFIELD	Crannog	T02	3808	1-3	Not Significant
98	CL043-056001-	ENAGH WEST	Castle - tower house	T02	3820	1-3	Not Significant
99	CL044-022—	CLOONGAHEEN WEST	Enclosure	T08	3823	7-9	Slight

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
100	CL043-056002-	ENAGH WEST	House - 16th/17th century	T02	3826	1-3	Not Significant
101	CL043-056003-	ENAGH WEST	Bawn	T02	3830	1-3	Not Significant
102	CL044-019—	CLOONGAHEEN WEST	Enclosure	T08	3855	7-9	Slight
103	CL044-010—	DOON (Kilseily ED)	Enclosure	T05	3864	4-6	Not Significant
104	CL044-011—	DOON (Kilseily ED)	Children's burial ground	T05	3870	7-9	Slight
105	CL053-029—	TROUGH	Castle - unclassified	T07	3875	7-9	Slight
106	CL044-026—	CLOONGAHEEN EAST	Enclosure	T08	3898	7-9	Slight
107	CL043-059—	ENAGH NORTH	Enclosure	T02	3910	4-6	Not Significant
108	CL044-030002-	CLOONGAHEEN EAST	Castle - unclassified	T09	3931	1-3	Not Significant
109	CL044-030001-	CLOONGAHEEN EAST	Earthwork	T09	3937	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
110	CL044-012—	VIOLETHILL	Megalithic tomb - wedge tomb	T05	3999	7-9	Slight
111	CL053-031—	TROUGH	Enclosure	T07	4066	7-9	Slight
112	CL044-075—	FAHY MORE SOUTH	Enclosure	T09	4075	7-9	Slight
113	CL043-055—	ENAGH WEST	Ringfort - rath	T02	4102	1-3	Not Significant
114	CL044-076—	WOODPARK (Tulla Lower By.)	Enclosure	T09	4116	7-9	Not Significant
115	CL044-077—	BALLYMOLONEY	Enclosure	T09	4120	7-9	Not Significant
116	CL052-042—	GLENNAGROSS	Ringfort - unclassified	T01	4123	7-9	Not Significant
117	CL044-088—	DOON (Killuran ED)	Castle - unclassified	T05	4125	4-6	Not Significant
118	CL043-053—	ENAGH WEST	Ringfort - cashel	T02	4141	1-3	Not Significant
119	CL043-054—	ENAGH WEST	Burial ground	T02	4148	1-3	Not Significant
120	CL043-032—	COOLISTOONAN	Enclosure	T02	4161	1-3	Not Significant
121	CL044-060—	KILBANE,KILLEA GY (Goonan)	Enclosure	T09	4202	0	Imperceptible

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
122	CL053-026001-	KILMOCULLA	Church	T07	4204	7-9	Not Significant
123	CL053-026—	KILMOCULLA	Children's burial ground	T07	4204	7-9	Not Significant
124	CL043-124—	CLONLEA	Mass-rock	T02	4229	1-3	Not Significant
125	CL043-052—	ENAGH WEST	Ringfort - rath	T02	4245	4-6	Not Significant
126	CL044-021—	CLOONGAHEEN WEST	Enclosure	T08	4251	7-9	Not Significant
127	CL044-002—	DOON (Killuran ED)	Enclosure	T02	4266	4-6	Not Significant
128	CL043-102—	ENAGH WEST	Ringfort - cashel	T01	4274	1-3	Not Significant
129	CL043-027003-	CLONLEA	Water mill - horizontal-wheeled	T02	4278	4-6	Not Significant
130	CL044-005—	DOON (Killuran ED)	Enclosure	T05	4278	4-6	Not Significant
131	CL043-033—	COOLISTOONAN	Castle - unclassified	T02	4282	1-3	Not Significant
132	CL044-078—	WOODPARK (Tulla Lower By.)	Enclosure	T09	4290	7-9	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
133	CL052-037—	BALLYROE,CORLEA (Bunratty Lower By.)	Enclosure	T01	4295	1-3	Not Significant
134	CL053-025—	KILMOCULLA	Enclosure	T07	4296	7-9	Not Significant
135	CL044-062—	BALLYMOLONEY	Enclosure	T09	4299	1-3	Not Significant
136	CL043-027002-	CLONLEA	Graveyard	T02	4335	4-6	Not Significant
137	CL043-027004-	CLONLEA	Architectural fragment	T02	4335	4-6	Not Significant
138	CL043-027001-	CLONLEA	Church	T02	4344	4-6	Not Significant
139	CL043-101—	BALLYNEVAN	Enclosure	T01	4373	1-3	Not Significant
140	CL044-013—	DRUMMIN (Kilseily ED)	Megalithic tomb - wedge tomb	T08	4386	1-3	Not Significant
141	CL052-033—	CASTLECRINE	Ringfort - rath	T01	4417	1-3	Not Significant
142	CL052-036—	CORLEA (Bunratty Lower By.)	Enclosure	T01	4429	1-3	Not Significant
143	CL044-018—	CLOONGAHEEN WEST	Megalithic tomb - wedge tomb	T08	4433	7-9	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
144	CL053-035—	COOLDERRY	Enclosure	T09	4464	7-9	Not Significant
145	CL043-031—	CAPPALAHEEN	Enclosure	T02	4482	1-3	Not Significant
146	CL044-028002-	KILLOKENNEDY	Graveyard	T08	4487	7-9	Not Significant
147	CL052-079—	GLENNAGROSS	House - indeterminate date	T01	4489	7-9	Not Significant
148	CL044-028001-	KILLOKENNEDY	Church	T08	4494	7-9	Not Significant
149	CL052-032—	CASTLECRINE	Castle - unclassified	T01	4502	1-3	Not Significant
150	CL053-010003-	BALLYBRACK	Children's burial ground	T09	4537	7-9	Not Significant
151	CL044-029—	KILLOKENNEDY	Ritual site - holy well	T08	4540	7-9	Not Significant
152	CL043-051—	CLONBRICK	Enclosure	T02	4545	4-6	Not Significant
153	CL053-010001-	BALLYBRACK	Ringfort - unclassified	T09	4547	7-9	Not Significant
154	CL053-010002-	BALLYBRACK	Castle - unclassified	T09	4551	7-9	Not Significant
155	CL035-130—	MOUNTALLON	Children's burial ground	T02	4564	1-3	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
156	CL044-025—	CLOONGAHEEN WEST	Standing stone	T08	4627	7-9	Not Significant
157	CL053-027—	TROUGH	Enclosure	T07	4639	7-9	Not Significant
158	CL043-100—	BALLYMULCASH EL	Enclosure	T01	4650	1-3	Not Significant
159	CL053-011—	BALLYBRACK	Fulacht fia	T09	4706	7-9	Not Significant
160	CL044-024—	CLOONGAHEEN WEST	Enclosure	T08	4717	7-9	Not Significant
161	CL052-035—	BALLYROE	Standing stone	T01	4720	1-3	Not Significant
162	CL052-034—	FORTWILLIAM	Enclosure	T01	4726	1-3	Not Significant
163	CL053-032001-	TROUGH	Church	T07	4729	4-6	Not Significant
164	CL053-032002-	TROUGH	Graveyard	T07	4731	4-6	Not Significant
165	CL044-079—	FAHY MORE NORTH	Enclosure	T09	4735	7-9	Not Significant
166	CL044-086—	KILLEAGY (Strich)	Enclosure	T09	4738	4-6	Not Significant
167	CL053-012—	BALLYBRACK	Fulacht fia	T09	4766	7-9	Not Significant

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
168	CL053-028—	GLENLON NORTH	Enclosure	T07	4803	0	Imperceptible
169	CL044-080—	FAHY MORE NORTH	Enclosure	T09	4808	7-9	Not Significant
170	CL043-098—	BALLYMULCASH EL	Crannog	T01	4810	1-3	Not Significant
171	CL053-013—	EARLHILL	Ringfort - unclassified	T09	4853	7-9	Not Significant
172	CL043-096—	BALLYMULCASH EL	Enclosure	T01	4855	1-3	Not Significant
173	CL053-014—	EARLHILL	Enclosure	T09	4859	7-9	Not Significant
174	CL044-063—	BALLYMOLONEY	Enclosure	T09	4871	4-6	Not Significant
175	CL052-030—	CASTLECRINE, MOUNTIEVERS	Ringfort - unclassified	T01	4872	1-3	Not Significant
176	CL053-051—	ROO WEST	House - 18th/19th century	T07	4884	7-9	Not Significant
177	CL044-031—	SHANNAKNOCK	Enclosure	T09	4901	7-9	Not Significant
178	CL053-016—	EARLHILL	Enclosure	T09	4903	7-9	Not Significant
179	CL053-030—	GLENLON NORTH	Enclosure	T07	4924	0	Imperceptible

MAP ID	SMR	TD.	TYPE	TURBINE ID	DISTANCE TO TURBINE (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
180	CL053-015—	EARLHILL	Enclosure	T09	4933	7-9	Not Significant
181	CL052-029—	CASTLECRINE	Children's burial ground	T01	4945	1-3	Not Significant
182	CL043-125—	TEERONEA	Graveslab	T02	4947	4-6	Not Significant
183	CL036-038—	CLOONGAHEEN WEST	Megalithic tomb - wedge tomb	T08	4948	7-9	Not Significant
184	CL053-036—	COOLDERRY	Fulacht fia	T09	4978	0	Imperceptible
185	CL043-123—	KILKISHEN DEMESNE (Tulla Lower By.)	Ringfort - rath	T02	4992	4-6	Not Significant

Mitigation Measures

No mitigation measures provided which will ameliorate potential visual effects. It is noted that natural screening, boundaries, buildings and vegetation will potentially screen some visual effects.

Residual Effect

The residual effect will be the same as those identified in the table of Potential Effects.

Significance of Effects

The overall significance of effects range from Imperceptible to Moderate. In reality the effect will be less severe due to natural screening, boundaries, buildings and vegetation, 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.

13.4.4.4 Newly Recorded Monuments

Proposed Wind Farm

No newly recorded monuments were detected within the proposed Wind Farm Site therefore no potential visual effects to this aspect of the cultural heritage resource are identified.

13.4.4.5 Sub-surface Archaeology

Potential visual effects to sub-surface archaeology which may exist within the Site are negated by the sub-surface nature of such features that do not have any above-ground elements on which the Proposed Development will have a visual effect.

13.4.4.6 Protected Structures

Identification of Effect

Proposed Wind Farm

No Protected Structures subject to statutory protection are located within the proposed Wind Farm Site. A total of nine protected structures are located within 5km of the nearest proposed turbine. The nearest protected structure comprises St Vincent de Paul's Church (Ref. 665) in Oatfield, c. 2.3km south-east of T1. The ZTV shows that only one structure (RPS Ref. 102) is located in an area where 7-9 turbines will theoretically be visible. Four structures are located in areas where 4-6 turbines may theoretically be visible, with two structures where 1-3 turbines may theoretically be visible. The remaining two structures are located in areas where none of the proposed 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. The overall significance of effects will range from Imperceptible to Slight. Potential effects on setting as detailed in Table 13-14 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. The proposed turbine range was assessed as per the methodology in Chapter 14 LVIA section 14.1.3.3 which is outlined in Section 13.4.4 above.

Table 13-14 Potential visual effects on RPS structures within 5km of the nearest proposed turbine.

RP S ID	NIAH REG.	STRUCTUR E	LOCATIO N	TURBIN E	DISTANC E TO TURBINE (m)	No. of Turbines Theoretically visible	Theoretical Significance of Effects
665	N/A	St. Vincent de Paul's Church	Oatfield	T01	2341	4-6	Slight
86	20404406	Hurdleston House	Broadford	T05	2517	4-6	Slight
76	20404312	Belvoir House	Belvoir Demesne	T02	2918	1-3	Not Significant
427	N/A	Glenomra House	Ballyquin More	T09	3077	0	Imperceptible
429	N/A	The Old Barracks	O'Shea's Acres	T05	3163	4-6	Not Significant
102	20405305	Church of the Mother of God	Cloghera	T09	3527	7-9	Slight
99	20404401	St Mary's Church	Kilbane	T09	4080	0	Imperceptible
188	20404407	Kilbane Bridge	Kilbane	T09	4390	1-3	Not Significant
497	N/A	House	Kilkishen	T02	4956	4-6	Not Significant

Mitigation Measures

No mitigation measures provided which will ameliorate potential visual effects. Residual Effect

Since no mitigation measures are being proposed the residual effect will range from Imperceptible to Slight.

Significance of Effects

The overall significance of effects will range from Imperceptible to Slight. In reality the effect will be less significant since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the effect on setting altogether.

13.4.4.7 NIAH Structures and Historic Gardens

Proposed Wind Farm

Identification of Effect

No NIAH structures or Historic Gardens are located within the Proposed Wind Farm Site.

Six structures listed in the NIAH are located within 5km of the nearest proposed turbine, some of which are also listed in the RPS. The nearest structure is situated c. 2.5km to the north-east of the nearest proposed turbine, T5, and comprises Hurdlestown House (Reg. 20404406) which is also a protected structure (Ref. 86). The ZTV demonstrates theoretical visibility 7-9 turbines from only one NIAH structure (Reg. 20405305). Two structures are located in areas where 4-6 turbines may theoretically be visible with two further structures located in areas where 1-3 turbines may theoretically be visible. One structure (Reg. 20404401) is located in an area where none of the proposed turbines will theoretically be visible.

Fourteen historic gardens are located within 5km of the nearest proposed turbine. Some of these are associated with the NIAH structures listed above in Table 13-6, while others may have no surviving associated structures. Similarly, in some instances there may be no surviving garden features. The nearest historic garden comprises that associated with Hurdlestown House, c. 2.5km from the nearest proposed turbine, T5.

Both the distance to the nearest turbine and the number of turbines visible from each NIAH structure and garden are used to arrive a level of potential effect on setting (Table 13-15 and Table 13-16). The overall significance of effects will range from Imperceptible to Slight. 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. The proposed turbine range was assessed as per the methodology in Chapter 14 LVIA section 14.1.3.3 which is outlined in Section 13.4.4 above.

Table 13-15 Potential visual effects on NIAH structures within 5km of the nearest proposed turbine.

NIAH Reg.	Date	Structure	Townland	Turbine No.	Distance To Turbine (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
20404406	1870 - 1875	Hurdlestown House	HURDLESTON	T05	2516	4-6	Slight
20404312	1800 - 1840	Belvoir House	BELVOIR DEMESNE	T02	2893	1-3	Not Significant
20405305	1840 - 1845	Catholic Church of Mary the Mother of God	CLOGHERA	T09	3527	7-9	Not Significant
20404401	1840 - 1860	Saint Mary's Catholic Church	KILBANE	T09	4081	0	Imperceptible

NIAH Reg.	Date	Structure	Townland	Turbine No.	Distance To Turbine (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effects
20404407	1800 - 1840	Bridge	KILBANE, KILLEAGY (Goonan)	T09	4390	1-3	Not Significant
20404306	1800 - 1820	Kilkishen House	KILKISHEN DEMESNE (TULLA LOWER)	T02	4999	4-6	Not Significant

Table 13-16 Potential visual effects on historic gardens within 5km of the nearest proposed turbine.

Site Name	Turbine No.	Distance To Turbine (m)	No. of Turbines Theoretically Visible	Theoretical Significance of Effect
Hurdlestown House	T05	2685	1-3	Not Significant
Glenwood House	T01	2946	1-3	Not Significant
Belvoir House	T02	2961	1-3	Not Significant
Kilkeen House	T02	3028	1-3	Not Significant
Ballyquin House	T09	3299	1-3	Not Significant
Woodfield House	T02	3381	1-3	Not Significant
Mount Baylee	T02	3559	1-3	Not Significant
Violet Hill	T05	3688	4-6	Not Significant
Castlake House	T01	3806	1-3	Not Significant
Doon House	T05	4118	4-6	Not Significant
Castle Crine	T01	4419	1-3	Not Significant
Trough Cottage	T07	4422	7-9	Not Significant
Roo Cottage	T07	4897	7-9	Not Significant
Ashley Park Cottage	T02	4973	4-6	Not Significant

Mitigation Measures

No mitigation measures proposed which will ameliorate potential visual effects.

Residual Effect

Since no mitigation measures are being proposed the residual effect will range from Imperceptible to Slight.

Significance of Effects

The overall significance of effects will range from Imperceptible to Slight. In reality the effect will be less significant since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the effect on setting altogether.

13.4.4.8 Features of Local Cultural Heritage Merit

Proposed Wind Farm

Identification of Effect

Three items of local cultural heritage merit (CH1-CH3) are located within proposed Wind Farm Site. CH1 which comprises a ruinous stone structure is located in an area where 4-6 turbines will theoretically be visible. CH1 is located c. 166m to the south-east of T5 in an area of clear-felled forestry. While the immediate setting of the structure will not be affected by the Proposed Development, a change to its wider setting will occur and is regarded as Slight.

CH2, Mary Anne's Cottage, is located in an area where 1-3 turbines may theoretically be visible. The cottage is located c. 882m to the north-west of the nearest proposed turbine, T2. A change to its immediate setting will not therefore occur, however, a change to the wider setting within which the structure is located is acknowledged and is regarded as Not Significant.

CH 3, mass rock, is located in a small clearing in coniferous forestry c. 518m west of the nearest proposed turbine, T2. A change to its immediate setting will not therefore occur, however, a change to the wider setting within which the structure is located is acknowledged and is regarded as Not Significant.

Mitigation Measures

No mitigation measures proposed which will ameliorate potential visual effects.

Residual Effect

Since no mitigation measures are being proposed the residual effect will range from Slight-Not Significant.

Significance of Effects

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

13.5 Cumulative Effects

Cumulative effect 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 effects between and the Proposed Development and other projects described in Chapter 2 of the EIAR, hereafter referred to as the Other Projects, have been considered in terms of effects on archaeology, architecture and cultural heritage.

The Other Projects considered in relation to the potential for in combination effects 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 applications include agricultural and residential developments, quarry developments, a flood relief scheme and a road scheme. 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.

13.5.2 Other Wind Farms

A number of other existing or permitted wind farms are located within 25km of the Proposed Development. These wind farms are generally located as separate clusters to the north-east (Carrownagowan WF- Permitted and Lackareagh WF - Proposed), east (Fahy Beg WF- Under Appeal), south-west (Ballycar WF – Proposed), south (Knockballynameath Turbine – Permitted) and south-east (Vistakon Wind Turbine – Existing). The proposed Oatfield WF is located a short distance to the south and north of the Site and comprises 11 turbines.

The wind farms were considered cumulatively with the Proposed Development and in particular with regard to potential cumulative visual effects.

13.5.3 Cumulative Effects (Direct Effects – Construction stage)

The addition of Other Projects to the Proposed Development was considered in order to assess Cumulative Effects. These included all other permitted, proposed and existing wind farms within 25km of the Proposed Development. Direct effects for the Proposed Development are considered to be confined to within the Site and relate to construction effects.

13.5.3.1 Cumulative effects (direct) considering other windfarms within 25km

13.5.3.1.1 Cumulative effects to UNESCO World Heritage sites, 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.

One recorded monument is located within the proposed Wind Farm Site. The megalithic tomb is not, however, located in close proximity to proposed turbines or other wind farm infrastructure such as proposed roads, compounds, substation, or existing road upgrades. No direct effects to the monument within the proposed Wind Farm Site is therefore identified.

Five recorded monuments are located within 100m of the proposed Grid Connection route. No direct effects to these monuments are identified.

As no direct effects to recorded monuments as a result of the Proposed Development are identified no cumulative effects will occur when considered with other existing, permitted and proposed wind farms.

13.5.3.1.2 **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. The implementation of mitigation measures seeks 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 25km of the Proposed Development.

13.5.4 **Cumulative Effects (Indirect Effects on Setting)**

Indirect effects 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, architecture and cultural heritage, the Proposed Development is considered in the context of the permitted, proposed and existing wind farms within 25km.

13.5.4.1 **UNESCO World Heritage Sites**

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, permitted and proposed wind farms within 25km.

13.5.4.2 **National Monuments in State Care**

No National Monuments are located within 10km of the nearest proposed turbine, with the nearest National Monuments located just over 11km to the east at Killaloe, to the south in Limerick City and to the south-west in Bunratty. Three monuments subject to a Preservation Order are located within 10km of the nearest proposed turbine. The ZTV demonstrates that ringfort (PO. 2/1973) and castle (site of) (PO 4/1992) are located in areas where none of the proposed turbines will theoretically be visible, therefore no potential visual effects to these monuments as a result of the Proposed Wind Farm are anticipated. The tower house at Mountcashel (PO 8/1973) is located in an area where 1-3 proposed turbines will theoretically be visible. Given the distance of the nearest proposed turbine to this

monument a change to its immediate setting will not occur. A change to the wider setting in which the monument is located is acknowledged but is considered to be Not Significant.

When considered cumulatively with other wind farms within 25km the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the proposed Lackareagh turbines to the east, the proposed Oatfield turbines to the south and north, the permitted Knockballymeath turbine to the south and the existing Vistakon turbine to the south-east. Only two of the permitted Carrownagowan turbines to the north-east and four of the proposed Ballycar turbines to the south will theoretically be visible. In this regard there is potential for cumulative effects to the wider setting of monuments subject to a Preservation Order within the 10km study area. No cumulative effects to the immediate setting of the monuments is identified and in this regard potential cumulative effects to setting are regarded as Not Significant.

13.5.4.3 Recorded Monuments

One recorded monument is located within the proposed Wind Farm Site while a total of one hundred and eighty-five (185) recorded monuments are located within 5km of the nearest proposed turbine. This number includes the monument located within the proposed Wind Farm Site.

Photowire imagery produced from the megalithic tomb CL044-068— located within the proposed Wind Farm Site demonstrates visibility of a number of proposed turbines from the monument, although vegetation will provide some screening. The position of the setting sun on important astronomical dates was checked at the tomb location and suggests that this monument has an alignment with the setting sun on the Vernal (March) and Autumn (September) Equinoxes. None of the proposed turbines are located on the setting sun alignment on the Equinox dates and no potential visual effects to such an alignment are noted. The nearest proposed turbine, T4, is located c. 349m from the monument. A change to the immediate setting of the megalithic tomb as a result of the proposed turbines is not identified, however, a change to its wider setting will occur and is regarded as Moderate.

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 72 of the 185 monuments are located in areas where 7-9 turbines will theoretically be visible. Twenty-five monuments are located in areas where 4-6 turbines will theoretically be visible, while 66 monuments are located in areas where 1-3 turbines may theoretically be visible. Twenty-two monuments are situated in areas where none of the proposed turbines will theoretically be visible. The overall significance of effects range from Imperceptible to Moderate. In reality the effect will be reduced 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.

When considered cumulatively with the other existing, permitted and proposed wind farms the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the proposed Lackareagh turbines to the east, the proposed Oatfield turbines to the south and north, the permitted Knockballymeath turbine to the south and the existing Vistakon turbine to the south-east. Only two of the permitted Carrownagowan turbines to the north-east and four of the proposed Ballycar turbines to the south will theoretically be visible. The Lackareagh and the theoretically visible Ballycar turbines are located within the 5km study area while the Carrownagowan turbines are located over 5km to the north-east. The closest proposed wind farm comprises the Oatfield turbines which are located just outside the Site to the north and south. Given the proximity of these proposed turbines there is potential for cumulative effects to the wider setting of recorded monuments within the 5km study area,. In particular, when considering the proposed Oatfield turbines, potential visual effects to recorded monuments within 5km may increase. The overall significance of effects on monuments within 5km of the nearest proposed turbine range from Imperceptible to Moderate. For those monuments located within 0-2km of the proposed turbines (where 7-9 of same are theoretically visible) the Moderate visual effect may increase to Significant when considering the proposed Oatfield turbines. It should be noted,

however, that potential cumulative effects to the immediate setting of those monuments will not occur and that the potential effect identified is to their wider setting.

13.5.4.4 Protected Structures and NIAH

No Protected Structures subject to statutory protection are located within the proposed Wind Farm Site. A total of nine protected structures are located within 5km of the nearest proposed turbine. The nearest protected structure comprises St Vincent de Paul's Church (Ref. 665) in Oatfield, c. 2.3km south-east of T1. The ZTV shows that only one structure (RPS Ref. 102) is located in an area where 7-9 turbines will theoretically be visible. Four structures are located in areas where 4-6 turbines may theoretically be visible, with two structures where 1-3 turbines may theoretically be visible. The remaining two structures are located in areas where none of the proposed turbines will theoretically be visible. The overall significance of effects will range from Imperceptible to Slight. In reality the effect will be less significant since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the effect on setting altogether.

No NIAH structures or Historic Gardens are located within the proposed Wind Farm Site. Six structures listed in the NIAH are located within 5km of the nearest proposed turbine, some of which are also listed in the RPS. The nearest structure is situated c. 2.5km to the north-east of the nearest proposed turbine, T5, and comprises Hurdlestown House (Reg. 20404406) which is also a protected structure (Ref. 86). Fourteen historic gardens are located within 5km of the nearest proposed turbine. Some of these are associated with the NIAH structures, while others may have no surviving associated structures. Similarly, in some instances there may be no surviving garden features. The nearest historic garden comprises that associated with Hurdlestown House, c. 2.5km from the nearest proposed turbine, T5. The overall significance of effects on NIAH structures and Historic Gardens will range from Imperceptible to Slight. 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 existing, permitted and proposed wind farms the ZTV demonstrates theoretical visibility of the Proposed Development turbines and the proposed Lackareagh turbines to the east, the proposed Oatfield turbines to the south and north, the permitted Knockballymeath turbine to the south and the existing Vistakon turbine to the south-east. Only two of the permitted Carrownagowan turbines to the north-east and four of the proposed Ballycar turbines to the south will theoretically be visible. The Lackareagh and the theoretically visible Ballycar turbines are located within the 5km study area while the Carrownagowan turbines are located over 5km to the north-east. The closest proposed wind farm comprises the Oatfield turbines which are located just outside the Site to the north and south. Given the proximity of these proposed turbines there is potential for cumulative effects to the wider setting of Protected Structures, NIAH structures and historic gardens within the 5km study area, however, no Significant effects are identified and no potential cumulative effects to the immediate setting of such structures or sites will occur. The overall significance of effects on RPS and NIAH structures as a result of the Proposed Development will range from Imperceptible to Slight. When considered cumulatively with the Oatfield turbines the significance of effects may increase from Imperceptible to Moderate.

13.5.4.5 Features of Local Cultural Heritage Merit

Three items of local cultural heritage merit (CH1-CH3) are located within proposed Wind Farm Site. CH1 which comprises a ruinous stone structure is located in an area where 4-6 turbines will theoretically be visible. CH1 is located c. 166m to the south-east of T5 in an area of clear-felled forestry. While the immediate setting of the structure will not be impacted by the Proposed Development, a change to its wider setting will occur and is regarded as Slight.

CH2, Mary Anne's Cottage, is located in an area where 1-3 turbines may theoretically be visible. The cottage is located c. 882m to the north-west of the nearest proposed turbine, T2. A change to its

immediate setting will not therefore occur, however, a change to the wider setting within which the structure is located is acknowledged and is regarded as Not Significant.

CH 3, mass rock, is located in a small clearing in coniferous forestry c. 518m west of the nearest proposed turbine, T2. It is located in an area where 1-3 turbines may theoretically be visible. A change to its immediate setting will not, however, a change to the wider setting within which the structure is located is acknowledged and is regarded as Not Significant.

When considered cumulatively with the other existing, permitted and proposed wind farms the ZTV demonstrates theoretical visibility of the Proposed Development turbines and those other wind farms listed above. The closest proposed wind farm comprises the Oatfield turbines which are located just outside the Site to the north and south. Given the proximity of these proposed turbines there is potential for cumulative impacts to the wider setting of the cultural heritage features within the Proposed Wind Farm Site. The Not Significant-Slight range of potential visual effects on the cultural heritage features may increase to Slight-Moderate. No Significant effects are identified, however, and no potential cumulative effects to the immediate setting of such structures or sites will occur.

13.6 Decommissioning Phase

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

13.7 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 survey, GIS based mapping, ZTV and was also assisted by photowire images from certain assets/locations. 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 visual windscreen survey and walk-over survey of the proposed Grid Connection in addition to a visual inspection of proposed works areas along the TDR and the proposed temporary transition compound.

Where potential impacts have been identified, such as to potential sub-surface archaeology, appropriate mitigation measures have been proposed in order to minimise any such impacts. Proposed mitigation includes a 30m buffer zone around megalithic tomb CL044-068— prior to the commencement of construction works, pre-development archaeological testing of the Proposed Development infrastructure (turbine bases, hardstands, compounds, new roads, substation, grid connection route in off-road areas, etc) and archaeological monitoring during the construction stage of the project, including at specified locations along the proposed Grid Connection route.

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. No National Monuments in State Care are located within 10km of the nearest proposed turbine, with three monuments subject to a Preservation Order within the 10km of the nearest proposed turbine. The ZTV was utilised to assess the level of theoretical visibility of the proposed turbines from cultural heritage assets within the 5km and 10km study areas. 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. The proposed turbine range was assessed as per the methodology in Chapter 14 LVIA.

All cultural heritage assets within 100m of either side of the proposed Grid Connection route were assessed for potential effects to same. No direct effects to the recorded archaeological, architectural or cultural heritage resource as a result of the proposed Grid Connection have been identified. Mitigation measures are proposed where deemed appropriate and include archaeological monitoring of construction works along the Grid Connection where the latter extends through the Zone of Notification for recorded monuments.

An assessment of potential cumulative effects was also undertaken taking into consideration other extant planning applications and existing and proposed wind farms within 25km. While some potential cumulative visual effects to the wider setting of cultural heritage assets is possible when considered with the existing, permitted and proposed wind farms, no cumulative effects to the immediate setting of cultural heritage assets will occur.