

# KWF Grid Connection EIA 2023 Report

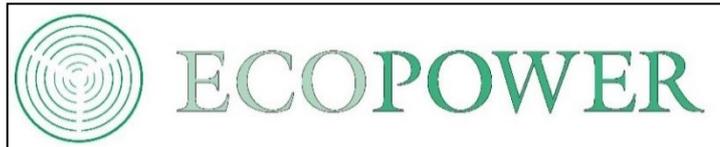
## Volume C2: EIAR 2023 Main Report

### Chapter 13: Cultural Heritage

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***July 2023***

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Figures and mapping referenced in this topic chapter can be found at the end of the chapter.

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Appendices referenced in this topic chapter can be found at the end of the chapter.

## Glossary of General Terms

<u>Term</u>	<u>Definition</u>
<b>KWF Grid Connection (the subject development)</b>	Underground cabling, additional plant and apparatus in the existing Woodhouse Substation, the construction of a new link road, the widening of an existing forestry road and the use of the existing entrance and windfarm road network at Woodhouse Windfarm.
<b>Authorised Knocknamona Windfarm</b>	Not Constructed — Knocknamona Windfarm was authorised in 2016 (ABP-PL 93.244006); Amendments to Knocknamona Windfarm to provide for larger turbines were authorised in September 2022 (ABP-309412-21) and Junction & Bend Widening Works to facilitate turbine component access through the windfarm site entrance at Knocknaglogh Lower were authorised in December 2022 (ABP-314219-22)
<b>Whole Project</b>	KWF Grid Connection with Authorised Knocknamona Windfarm
<b>Sensitive Aspect</b>	Any sensitive receptor in the local environment which could be impacted by the project.

## List of Abbreviations

<b>Abbreviation</b>	<b>Full Term</b>
<b>AHIA</b>	Architectural Heritage Impact Assessment
<b>AS</b>	Assessment Structure
<b>DAU</b>	Development Applications Unit
<b>RMP</b>	Record of Monuments & Places formerly the Sites & Monuments Record (SMR)
<b>NIAH</b>	National Inventory of Architectural Heritage
<b>NRA</b>	National Roads Authority
<b>OS</b>	Ordnance Survey
<b>UR</b>	Unrecorded Site
<b>ZoN</b>	Zone of Notification

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## 13 Environmental Factor: Cultural Heritage

### 13.1 Introduction to the Cultural Heritage Chapter

#### 13.1.1 What is Cultural Heritage?

Cultural Heritage relates, but is not limited to, sites and monuments of archaeological, historical or architectural significance within the receiving environment. Under EIA Directive 2014/52/EU as amended, 'Cultural Heritage' comprises archaeology, architectural heritage, folklore and history. Archaeology is the study of past societies through surviving structures, artefacts and environmental data, and is concerned with known archaeological sites and monuments, areas of archaeological potential and underwater archaeology. Architectural heritage comprises structures, buildings (traditional and designed), and groups of buildings including streetscapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents. Architectural heritage and archaeology together form 'built heritage' or 'tangible heritage'. Folklore and history are aspects of 'intangible heritage', which also includes language, musical traditions, traditional crafts and skills, townland names, poetry and so on. These forms of Cultural Heritage are "non-moveable, non-material and largely non environmental although by their associations with certain sites and places, add to the character of an area" (EPA 2022). Cultural Heritage can vary greatly in form and date. Sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface. Such sites may sometimes be detected as crop-marks visible from the air or have their presence indicated by the occurrence of artefact scatters in ploughed land, but in other cases, may remain invisible unless uncovered through ground disturbance.

The legal definition of a Monument is given in section 2 of the National Monuments Act 1930 as: a) any artificial structure or group of structures, b) any cave, stone or other natural product that has been carved, sculpted or worked upon or appears to have been purposely arranged, c) any part of any prehistoric/ancient tomb, grave or burial deposit, ritual, industrial or habitation site, and d) any place comprising the remains or traces of any structure, erection, cave, stone or natural product of any tomb, grave, burial deposit or ritual, industrial or habitation sites situated on land or in the territorial waters of the state. This definition is very broad and overlaps with a number of the other categories of Cultural Heritage such as architectural heritage.

Archaeological objects are defined in section 2 of the National Monuments Act 1930 as "any chattel whether in a manufactured or partly manufactured or unmanufactured state which by reason of the archaeological interest attaching thereto or of its association with any Irish historical event or person has a value substantially greater than its intrinsic (including artistic) value, and the said expression includes ancient human, animal or plant remains". The Irish State has legal ownership of all archaeological objects which have no known owner at the time of finding<sup>1</sup> as a result of the Irish Supreme Court judgement in relation to the Derrynaflan hoard which was applied retrospectively to all archaeological objects found after the enactment of the Irish Constitution in 1922. Section 2 of the National Monuments Amendment Act (1994) gave the

<sup>1</sup> National Museum of Ireland *Standards for the care and treatment of archaeological objects from excavations* 2022, p.4. Available at: [https://www.museum.ie/getmedia/222c77e9-35dc-4345-b260-f67e835a5348/IAD\\_StandardsforExcavationObjects\\_1.pdf](https://www.museum.ie/getmedia/222c77e9-35dc-4345-b260-f67e835a5348/IAD_StandardsforExcavationObjects_1.pdf) [Accessed May 2023]

judgement a statutory basis.

Architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 as “(a) structures and buildings together with their settings and attendant grounds, fixtures and fittings, (b) groups of such structures and buildings, and (c) sites, which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest”.

Landscape comprises the visible features of an area of land, including physical elements such as landforms, living elements of flora and fauna, abstract elements like lighting and weather conditions, but from a Cultural Heritage viewpoint, it is the human elements and the built environment that are relevant.

### 13.1.2 Overview of Cultural Heritage in the Local Environment

The proposed KWF Grid Connection is primarily situated on the south-west slopes of the Drum Hills. The application site is located on the Drum Hills in Co. Waterford, between the towns of Dungarvan (8km to the northeast) and Youghal (14km to the southwest). The closest settlement is the village of Aghish, which is 3.5km to the west of the development area. The study area is rural with a low, dispersed population. The river Brickey runs west to east to the north of the development area, and the Goish River runs west to east, south of the development area. The Waterford coastline is to the east. It is a moderate, undulating, upland region with generally thin peaty podzols or well-draining soil. The geology of the region is of old red sandstone, sandstone, conglomerate and siltstone. In the wider landscape, the Blackwater valley is the key topographic unit and is considered one of Ireland's most attractive and historic valleys, characterised by demesnes and woodlands on the valley sides.

The history of human settlement in Waterford extends to at least 7000 years ago. Most of the oldest examples of Mesolithic activity come from the east of the county, near Ballylough. Two later Mesolithic assemblages were found in the nearby Blackwater River valley (c.6 - 8km to the west of the development area) (Stout, G. and Stout, M., 2011, 32). The Neolithic is somewhat underrepresented in this region, with only one court tomb within 15km of the development area and no sites which can be dated to this period noted within the study area relevant to this report. Slightly more evidence exists for possible Bronze Age settlement with 6 no. *fulachta fiadh*, situated 1km - 1.6km northwest and north of the KWF Grid Connection.

The Anglo-Normans established Dungarvan as the administrative centre of Waterford during the late 12th century, but there is little evidence for late medieval settlement in the area specific to this study. This is likely due to the poor, upland, terrain in the area. There is one moated site 3.3km to the southwest of KWF Grid Connection. The Record of Monuments and Places records the location of a late medieval religious house 3.1km to the west of this development area. Its description in the Archaeological Inventory of County Waterford (Moore 1999, 172) reads as follows: “A Franciscan friary (WA034-004) was established at Aghish after the expulsion of the order from their friary at Youghal, Co. Cork, in the 16th century. It was probably under the protection of the FitzGeralds of Dromana (Coleman 1899). A new house was built in 1820, which is still extant, but no trace of the older house is visible (Power 1937, 60-61; Gwynn and Hadcock 1970, 277)”. A site visit undertaken for the Knocknamona Windfarm Cultural Heritage Assessment (2015) noted no upstanding remnants of this site were visible.

Within 500m of the KWF Grid Connection construction works boundary, there are two Recorded Monuments (RMP WA030-054, RMP WA030-055), both of which are ringforts. Within 2km of the additional plant and apparatus at Woodhouse Substation, there are a further 11 Recorded Monuments, comprising *fulachta fiadh* (6), enclosure (1), road/trackway (1), castle (1), burnt mounds (2).

Nothing of archaeological or Cultural Heritage significance is denoted proximal to the proposed KWF Grid Connection development on the first edition OS map, 1840-41 or subsequent historical OS maps.

**Relevant Figure (at the end of this chapter)**

Figure 13.1: Location of KWF Grid Connection in relation to Cultural Heritage

There are eighteen Cultural Heritage features situated along the construction materials and turbine components haul route. The haul route includes the L2018 (from Cappagh Quarry to L2019), L2019, N72 (from L2019 to R671 junctions), R671 (from the N72 junction to Clogh Crossroads), L6074 (from R671 to L60741 junctions) and L60741 (to Woodhouse Windfarm main site entrance at Woodhouse or Tinakilly townland. Five of these features are Recorded Monuments, including a Church (AS1), Trackway (AS5), Caves (AS10, AS11) and a Castle (AS15). There are two Protected Structures – Bridge (AS6) and a Lime Kiln (AS4); and three Protected Structures within the curtilage of Whitechurch House – Demesne Wall (AS7), Gate/railings/walls (AS8) and Gate Lodge (AS9). The remaining structures are of vernacular interest but are not protected; they include a Gate House (AS2), Wall (AS3), Roadside Farms (AS12, AS14, AS18), Farmyards (AS16, AS17) and a Culvert (AS13).

**Relevant Appendix (at the end of this chapter)**

Appendix 13.2: Architectural Heritage Impact Assessment along the construction traffic haul routes

**13.1.3 SENSITIVE ASPECTS of Cultural Heritage**

Any receptor in the local environment which could be affected by a development is a Sensitive Aspect.

**13.1.3.1 Sensitive Aspects included for detailed evaluation in this Topic Chapter**

The following Sensitive Aspects are **included for detailed evaluation in this topic chapter** as it is likely or there is potential, for these Sensitive Aspects to be affected by the KWF Grid Connection:

Sensitive Aspect No. 1	<b>Recorded Legally Protected Sites</b>	Section 13.2
Sensitive Aspect No. 2	<b>Architectural Heritage along the construction traffic haul route</b>	Section 13.3

**13.1.3.2 Sensitive Aspects excluded from further evaluation**

The following Sensitive Aspects are **excluded from further evaluation in this topic chapter** because either there is no potential for effects or no likely effects caused by the KWF Grid Connection.

<p><b>Other Recorded Sites (Cultural Heritage sites which are not protected as RMP sites, but are recorded on the National Inventory of Architectural</b></p>	<p><b>Rationale for excluding this Sensitive Aspect (Other Recorded Sites): No likely Impact</b></p> <p>There is only 1 Other Recorded Site, which is 1.7km north of the KWF Grid Connection, Clonkerdin House (NIAH reference 22903022).</p> <p>There is no potential for destruction or partial destruction of this site during construction stage groundworks or for temporary setting impacts during</p>
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<p><b>Heritage as being an important part of Irish architectural heritage)</b></p>	<p>construction works due to distance from the proposed works and screening provided by intervening landform and vegetation.</p> <p>In relation to operational stage setting impacts, theoretical visibility of the KWF Grid Connection additional plant and apparatus at Woodhouse Substation only exists to the northwest and west, as landform screens any view of the substation from the north, south and east. As the only Other <b>Recorded</b> Site within 2km (i.e. Clonkerdin House) is to the north, there is no potential for setting impacts to this site during the operation of the additional plant and apparatus at Woodhouse Substation.</p> <p>In relation to other <b>NIAH</b> sites: As per Chapter 14: Landscape, at distances greater than 2km from the additional plant and apparatus at Woodhouse Substation, visual amenity will not be materially affected. This is due to the increased likelihood of screening by intervening landform and vegetation or the combined ameliorating factors of diminishing 'scale in relation to distance' and 'visual absorption' into the overall landscape setting. Therefore, KWF Grid Connection will not contribute materially to cumulative setting impacts with Knocknamona Windfarm, or cumulative setting impacts with Knocknamona Windfarm or Woodhouse Windfarm, on any Other <b>Recorded Sites</b> within the wider landscape.</p>
<p><b>Previously Unrecorded Sites</b> (Cultural Heritage sites, such as lime kilns, wells, mines, townland boundaries, which are not recorded on the Record of Monuments or Places or on the National Inventory of Architectural Heritage but which were identified during desktop studies or field-walking)</p>	<p>Rationale for excluding this Sensitive Aspect (<b>Previously Unrecorded Sites: No likely Impact</b>)</p> <p>10 Previously Unrecorded Sites were identified during desktop studies or during field walking in the study area. Seven springs between 1km to 1.6km to the west and north (UR1-7), one post office 1.8km northeast (UR8), one sluice 1.9km northeast (UR9) and one ford 1.8km southwest (UR10).</p> <p>Due to distance from the proposed works, there is no potential for destruction or partial destruction of Previously Unrecorded Sites during construction stage groundworks.</p> <p>In relation to temporary setting impacts during construction works and operational stage setting impacts, theoretical visibility of the KWF Grid Connection additional plant and apparatus at Woodhouse Substation only exists to the northwest and west, as landform screens any view of the substation from the south and east. As the only Previously Unrecorded Sites to the west of the proposed works are five springs (UR1-5), at a distance of at least 1km, and therefore screened by the intervening landform and vegetation, there is no potential for setting impacts to this type of Site during the operation of the additional plant and apparatus at Woodhouse Substation. Therefore, KWF Grid Connection will not contribute materially to cumulative setting impacts with Authorised Knocknamona Windfarm or with Woodhouse Windfarm, on Previously Unrecorded Sites within the wider landscape.</p>
<p><b>Unknown Subsurface Sites</b> (Archaeological structures, features, objects or materials that have no surface expression and which have not been identified)</p>	<p>Rationale for excluding this Sensitive Aspect (<b>Unknown Subsurface Sites): No likely Impact</b></p> <p>Although there are two recorded monuments (<b>ringforts RMP WA030-054, RMP WA030-055</b>) within 500m (and therefore, there is potential for archaeological materials relating to these sites surrounding these Recorded Monuments), it is unlikely that any additional archaeological structures, features, objects or materials will be uncovered during excavations for KWF Grid Connection, due to the distance of these Recorded Monuments and associated Zones of Notification (ZoNs) from the</p>

during desktop or fieldwork studies.	proposed works. In relation to potential impacts with Authorised Knocknamona Windfarm, the risk of impacts to Unknown Subsurface Sites will be minimised through compliance with planning conditions which require all groundworks for the windfarm be monitored under licence issued by the National Monuments Service.
<b>Underwater Archaeology</b>	It was confirmed during consultation with the Underwater Archaeology Unit of the Department of Housing, Local Government and Heritage that <i>“If there are no watercourses, then the UAIA will not be required. It is standard to request this as part of the appropriate Cultural Heritage assessment for windfarms but if it is not necessary, then we are fine with just the AIA being done, and it can state that there were no watercourses within the footprint of the works for the windfarm”</i> . See consultation on Page 11-14 of Appendix 3.1.for DAU Consultation.

**Relevant Figure (at the end of this chapter)**

Figure 13.1.1: Sensitive Aspects excluded from further evaluation

**13.1.4 The Authors of this Cultural Heritage Chapter**

This report was written by by Al Curtis (MA(Hons); ACIfA) of Archaeological Management Solutions (AMS), Cultural Heritage Consultants. Al is a certified Associate of the Chartered Institute for Archaeologists with 19 years professional experience working in the historic environment sector. In addition to undertaking Cultural Heritage inputs into Environmental Impact Assessments, Al has also designed programmes for both non-invasive and invasive archaeological investigations, prepared specifications and Written Schemes of Investigation (WSI) and tender and contract documents. He has managed archaeological contractors in the field and during the post-excavation process, including review of deliverables and certification of costs.

The Architectural Heritage Impact Assessment along the construction traffic haul routes was written by James Powell (BSc MIEI CEng), a Chartered Engineer with a post-graduate diploma in Applied Building Repair and Conservation awarded by Trinity College Dublin in 2008. He is a member of ICOMOS and a committee member of the Building Limes Forum Ireland. He has worked as a Built Heritage Conservation Consultant since 2008 and has prepared Architectural Heritage Impact Assessments, Method Statements and other conservation related reports for more than 80 projects throughout Ireland.

**13.1.5 Sources of EIAR Information**

The following sources were used to gather information on the baseline environment and evaluate impacts, including cumulative impacts.

**Table 13-1: Sources of EIAR Information**

Type	Information Source
Consultation	<p>The DAU was consulted in February 2022 – No observations have been received to date. Acknowledgement only.</p> <p>Rosemary Ryall, Conservation Officer Waterford County Council consulted with James Powell about the content of <a href="#">Appendix 13.2 Architectural Heritage Impact Assessment along construction traffic haul routes</a></p> <p>Dr Connie Ní Chéilleachair of the Underwater Archaeology Unit of the National Monuments Service (pdf page 20-23 of <a href="#">Appendix 3.1</a>)</p> <p>See Chapter 3: The Scoping Consultations</p>

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Type	Information Source
Legislation, Regulation & Policy	<ul style="list-style-type: none"> <li>• National Monuments Acts 1930 to 2014 (as amended)</li> <li>• Heritage Act 2000</li> <li>• Planning and Development Act 2000 (as amended)</li> <li>• The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999.</li> <li>• European Convention on the Protection of the Archaeological Heritage (<i>Valetta Convention</i>, ratified by Ireland 1997)</li> <li>• The European Convention for the Protection of the Architectural Heritage (<i>Granada Convention</i>, ratified by Ireland in 1997).</li> <li>• ICOMOS Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas, 2005</li> <li>• South East Regional Planning Guidelines 2010-2022</li> <li>• Waterford County Development Plan 2022-2028. Chapter 11: Heritage</li> </ul>
Guidelines	<ul style="list-style-type: none"> <li>• DoEHLG, 1999, Framework and Principles for the Protection of Archaeological Heritage, Dublin.</li> <li>• EPA (May 2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports.</li> <li>• The National Roads Authority's (NRA) Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes (2005)</li> <li>• The National Roads Authority's (NRA) Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes (2005)</li> <li>• Architectural Heritage Protection: Guidelines for Planning Authorities (DAHG 2011).</li> </ul>
Desktop	<p><u>Databases:</u></p> <ul style="list-style-type: none"> <li>• Record of Monuments and Places (RMP) manual and constraints maps</li> <li>• National Monuments Service: National Monuments in State Care (Waterford)</li> <li>• National Monuments Service: Database of Irish Excavation Reports</li> <li>• Sites and Monuments Record (SMR) files held by the Archaeological Survey of Ireland</li> <li>• Record of Protected Structures</li> <li>• National Inventory of Architectural Heritage for County Waterford</li> <li>• Topographical Files of the National Museum of Ireland</li> </ul> <p><u>All editions of the historical Ordnance Survey Maps:</u></p> <ul style="list-style-type: none"> <li>• First edition 1841 and the second edition 1898 1:10560 maps</li> <li>• First edition 1840 Ordnance Survey map sheet</li> <li>• Second edition 1900 Ordnance Survey map sheet</li> <li>• Other historical mapping, including the Down Survey (1655) and Griffith's Valuation (1850).</li> <li>• Griffith's valuation report</li> </ul> <p><u>Review of Aerial Photography:</u></p> <ul style="list-style-type: none"> <li>• 2000 Ordnance Survey orthophotography</li> </ul>

Type	Information Source
	<ul style="list-style-type: none"> <li>• 2005 Ordnance Survey orthophotography</li> <li>• Google Earth</li> <li>• Bing maps aerial photos</li> </ul> <p><u>Review of Authorised Knocknamona Windfarm Planning Docs</u></p> <ul style="list-style-type: none"> <li>• Knocknamona Windfarm Revised EIS 2015</li> <li>• Amendment to Knocknamona Windfarm – Larger Turbines Revised EIAR 2021</li> <li>• Junction &amp; Bend Widening Works Screening for EIA 2022</li> </ul> <p>Available in Volume F: Reference Documents</p> <ul style="list-style-type: none"> <li>• Chapter 5: Description of Development</li> <li>• Appendix 13.2 Architectural Heritage Impact Assessment along the Construction Traffic Haul Route</li> <li>• Appendix 12.5: Structural Inspection of Built Structures along construction traffic haul routes (Tli Group)</li> </ul> <p><u>In co-ordination with and by review of the other EIA Report evaluations as follows:</u></p> <ul style="list-style-type: none"> <li>• Chapter 14:Landscape</li> </ul>
Fieldwork	<ul style="list-style-type: none"> <li>• Field survey, walking of the works areas</li> </ul>

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**13.1.6 Methodology used to Describe the Baseline Environment and to Evaluate Impact**

The methodology employed conforms to the recommendations in regard to archaeological assessments in the Guidelines listed above, as well as the legislative frameworks listed above and industry best practice.

This assessment comprised a site-specific desk-based study and a field survey of the application area.

The criteria used to evaluate impact for this Cultural Heritage appraisal has been derived from the National Roads Authority’s (NRA) Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes (2005) which are based on EPA Guidelines. These criteria are set out in the tables below.

**Table 13-2: NRA Criteria for Determining the Quality of Cultural Heritage Impacts**

<u>Quality of Impacts</u>	<u>Description</u>
<b>Negative</b>	A change that will detract from or permanently remove an archaeological monument from the landscape.
<b>Neutral</b>	A change that does not affect the archaeological heritage
<b>Positive</b>	A change that improves or enhances the setting of an archaeological monument

**Table 13-3: NRA Criteria for Determining the Significance of Impacts on Cultural Heritage**

<u>Significance of Impacts</u>	<u>Description</u>
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<b>Profound</b>	Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological or architectural site is completely and irreversibly destroyed by a proposed development.
<b>Significant</b>	An impact which, by its magnitude, duration or intensity, alters an important aspect of the environment. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about the archaeological feature/site.
<b>Moderate</b>	A moderate direct impact arises where a change to the site is proposed which though noticeable, is not such that the archaeological integrity of the site is compromised, and which is reversible. This arises where an archaeological feature can be incorporated into a modern-day development without damage and that all procedures used to facilitate this are reversible.
<b>Slight</b>	An impact which causes changes in the character of the environment which are not significant or profound and do not directly impact or affect an archaeological feature or monument.
<b>Imperceptible</b>	An impact capable of measurement but without noticeable consequences in terms of the nature or character of the archaeological feature or monument.

### 13.1.7 Certainty and Sufficiency of Information

The assessment of effects has a clear documentary trail of the analysis used to arrive at conclusions that demonstrably conform to peer-reviewed standards.

The methodology employed conforms to the recommendations in regard to archaeological assessments in the Guidelines listed above, as well as the legislative frameworks listed above and industry best practice. Also the assessment complies with Archaeological Heritage Policy Objective AH04 of the Waterford County Development Plan 2022-2028 to require archaeological assessment of developments in the vicinity of all archaeological sites.

No limitations/difficulties were encountered.

## 13.2 Sensitive Aspect No.1: Recorded Legally Protected Sites

This Section 13.2 provides a description of the baseline environment and an evaluation of the likely impacts of the KWF Grid Connection, both alone and cumulatively, on **Recorded Legally Protected Sites**.

### 13.2.1 Description of the BASELINE ENVIRONMENT for Recorded Legally Protected Sites

This Section 13.2.1 comprises the identification of the Study Area for direct or indirect effects and for cumulative effects, and a description of the context, character, importance and sensitivity of the Recorded Legally Protected Sites in the area. Trends or changes in the baseline environment and expected receiving environment are also identified.

#### 13.2.1.1 STUDY AREA for Recorded Legally Protected Sites

Study areas relate to areas which could be affected by impacts from KWF Grid Connection, whether direct impacts from the KWF Grid Connection on its own or cumulative impacts from KWF Grid Connection and other projects or activities. The study areas are described in the table below and on the relevant figures.

#### Relevant Figure (at the end of this chapter)

Figure 13.2.1: Study Area for Recorded Legally Protected Sites (construction stage)

Figure 13.2.2: Study Area for Recorded Legally Protected Sites (operational stage)

**Table 13-4: Study Area for Recorded Legally Protected Sites**

KWF Grid Connection Study Area (direct or indirect effects)	Cumulative Study Area
<p><u>Study Area Extent:</u> Construction Stage Effects: Within the footprint of the construction works area plus a 500m radius surrounding the footprint of the construction works area. Operational Stage Setting Effects: 2km zone around the additional plant in Woodhouse Substation</p>	<p><u>Study Area Extent:</u> Construction Stage Effects: Within the footprint of the construction works area plus a 500m radius surrounding the footprint of the construction works area. Operational Stage Setting Effects: 4km zone around the additional plant in Woodhouse Substation</p>
<p><u>Justification for Study Area Extent:</u> <u>Construction stage effects:</u> Groundworks, and their potential to directly impact any Cultural Heritage Site, are restricted to the immediate footprint of the development area. The wider study area was adopted in order to ensure that the full extent of each identified Cultural Heritage Site, as well as any associated, or ancillary, features or structures, could be fully appraised. It is extremely unlikely that Cultural Heritage Sites beyond this area could be impacted. <u>Operational stage visual Effects:</u> due to the small scale of additional plant at Woodhouse Station, it is considered that the additional plant (if visible) will not be noticeable beyond 2km.</p>	<p><u>Justification for Study Area Extent:</u> <u>Construction stage effects;</u> Groundworks, and their potential to directly impact any Cultural Heritage Site, are restricted to the immediate footprint of the development area. <u>Operational stage visual Effects:</u> The study area is doubled to 4km to allow for visibility impacts from other projects, located away from the KWF Grid Connection site.</p>

<p><u>Relevant development stage</u> Construction &amp; operational stages <u>Justification:</u> There is potential for Impacts to occur in both stages of the KWF Grid Connection project</p>	<p><u>Relevant development stage</u> Construction &amp; operational stages <u>Justification:</u> There is potential for cumulative Impacts to occur in both stages of the project</p>
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### 13.2.1.2 Description of the BASELINE CONTEXT and CHARACTER of Recorded Legally Protected Sites

The baseline context includes a description of the KWF Grid Connection Study Area and also the wider area which includes the Cumulative Study Area; Knocknamona Windfarm project area; Woodhouse Substation and Woodhouse Windfarm project areas.

#### 13.2.1.2.1 Baseline for KWF Grid Connection Study Area (Recorded Legally Protected Sites)

Nothing of archaeological or architectural Cultural Heritage importance is denoted within the boundary of the proposed KWF Grid Connection development on the RMP, SMR or NIAH or on the first edition OS map, 1840-41 or subsequent historical OS maps, or was recorded during field-walking survey.

In total 13 sites are recorded in the wider surrounding area, within 2km of KWF Grid Connection, as outlined below:

Two Recorded Legally Protected Sites lie within the study area for construction stage effects (i.e. within 500m of the KWF Grid Connection construction works area):

**RMP WA030-054 Ringfort - unclassified**, situated in Keereen Upper townland, 190m west of the proposed development. It is marked as a circular embanked enclosure (ext. diam. c. 35m) on the 1840 ed. of the OS 6-inch map. The site is situated in pasture on a S-facing slope at the head of an E-W valley. It is not visible at ground level.

**RMP WA030-055 Ringfort-rath**, situated in Ballymulalla East/Ballymulalla West, 455m east of the proposed development. It is located towards the top of a N-facing slope. This is an overgrown circular area (diam. c. 30m) defined by an earthen bank (H 1.5m), with slight traces of a fosse and outer bank at SW. It is also marked on the 1840 ed. of the OS 6-inch map.

A further eleven Recorded Legally Protected Sites lie within the study area for operational stage effects (i.e. within 2km of the additional plant and apparatus at Woodhouse Substation):

**RMP WA030-074 Enclosure**, situated in Barranastook Lower, 1.6km to the southeast. This enclosure is marked as a sub-rectangular copse (c.88m NE-SW and c.88m NW-SE) integrated with N-S and E-W avenues of trees on the 1840 and 1927 eds. of the OS 6-inch map. Situated at the crest of N and W-facing slopes. Sub-rectangular grass-covered area (c.90m NE-SW and c.90m NW-SE) defined by field banks on all sides except the SW.

**RMP WA030-092 Road/Trackway**, situated in Clonkerdin, 1.5km to the northeast. This Recorded Monument follows the route of St Declan's way for 1.9km from Keereen Upper to Knocknaskagh Upper. The road/track is marked St Declan's Road on the 1840 eds. of the OS 6-inch map.

**RMP WA030-035, RMP WA030-036, RMP WA030-037, RMP WA030-038001, RMP WA030-038002 and RMP WA030-033 Six Fulacht Fia**, situated in Ballygambon Upper (5) and Clonkerdin (1), between 1km – 1.6km northwest and north. Marked as a fulacht fia only on the 1927 ed. of the OS 6-inch map, each site is now overgrown with grass.

**RMP WA030-032 Castle**, situated in Clonkerdin, 1.8km to the northwest. Marked faintly as a rectangular building which is described as the site of a castle on the 1840 ed. of the OS 6-inch map. It is situated in pasture on a flat landscape at the base of a N-facing slope. The field in which it was located is known locally as the 'castle field', but nothing is visible at ground level. Redmond (1895) speculates that it may have been built as a result of a land grant to John D'Evereux in 1229.

**RMPs WA030-034 and RMP WA030-039 Two Burnt Mounds**, situated in Clonkerdin and Cool, 1.6km to the northwest and 1.7km to the north. Marked as a fulacht fia only on the 1927 ed. of the OS 6-inch map. It is situated in pasture on a low lying or level landscape. It is not visible at ground level. The Recorded Monument WA030-039 may have been the mound investigated by Forsayeth (1911c, 142).

### **Relevant Figure (at the end of this chapter)**

Figure 13.2.1: Study Area for Recorded Legally Protected Sites (construction stage)

Figure 13.2.2: Study Area for Recorded Legally Protected Sites (operational stage)

#### **13.2.1.2.2 Baseline for the Cumulative Study Area (Recorded Legally Protected Sites)**

Baseline Context of Cumulative Study Area Construction Stage (direct impact on archaeology present): There are no Recorded Legally Protected Sites present within the construction works area footprint of Knocknamona Windfarm. In relation to Haul Route Works for access to Knocknamona Windfarm Entrance at Knocknaglogh Lower, there are no previously recorded heritage sites within the 100m study zone of the works, and no bridges of historic or archaeological significance will be impacted by the works. Woodhouse Windfarm and Woodhouse Substation are both already constructed; therefore, there is no requirement for groundworks or other excavations.

Baseline Context of Cumulative Study Area Operation Stage – setting impact on archaeological sites: There are no Cultural Heritage sites within the footprint of the Authorised Knocknamona Windfarm – this is likely because of ground conditions due to elevation. The area is comprised of shallow soils which make human settlement less attractive than the deeper more fertile soils in the valleys. Within the local area, there are 26 Recorded Monuments within 2km – most designations relate to fulachta fiadh, ringforts, earthworks and enclosures. Within 12km of the Knocknamona Windfarm site, Cultural Heritage sites include a number of demesnes and historic houses which occur along the nearby Blackwater Valley. The historic villages of Villierstown and Aglish occur to the west of the Knocknamona Windfarm.

#### **13.2.1.2.3 Consideration of the Passage of time**

The Revised Knocknamona Windfarm EIS 2015 was reviewed in the context of the current baseline conditions. The passage of time was considered during this review. There have been no new sites designated as Recorded Monuments, or other material changes in the baseline environment of the whole Knocknamona Windfarm project since 2015. Therefore, the descriptions in the Revised EIS 2015, remain relevant to the evaluations in this EIA.

#### **13.2.1.3 IMPORTANCE of Recorded Legally Protected Sites**

Sites listed on the Record of Monuments and Places are protected under the National Monuments Acts (1930-2014). None of the sites identified are classed as National Monuments.

#### **13.2.1.4 SENSITIVITY of Recorded Legally Protected Sites**

Archaeological sites can be affected by any groundworks which would partially or wholly damage the site itself or features/objects associated with the site, or which may damage any associated subsurface features or structures which are no longer visible.

Some archaeological sites or monuments were most likely purposefully constructed in specific locations, on specific alignments, to take advantage of views of the surrounding landscape, celestial events and other monuments. As such, the views of and from these sites are an integral part of the monument's character and could be affected by the presence of new structures in the local area.

#### **13.2.1.5 TRENDS for Recorded Legally Protected Sites in the Baseline Environment**

It is not envisaged the baseline Cultural Heritage environment will materially change.

#### **13.2.1.6 The 'Do Nothing Scenario' (the Environment if the Development is not carried out)**

If the KWF Grid Connection does not proceed, the effects on the environment will not occur, and the baseline environment will only change in line with the trends identified above.

#### **13.2.1.7 Description of the RECEIVING ENVIRONMENT for Recorded Legally Protected Sites**

The receiving environment is the likely state of the baseline environment at the time of construction/operation/decommissioning as relevant i.e. baseline + trends.

No trends have been identified over the course of this report which would lead to material changes to the Recorded Legally Protected Sites, and it is therefore assumed in this report that the baseline environment identified above will be the receiving environment.

## 13.2.2 EVALUATION OF IMPACTS to Recorded Legally Protected Sites

In this Section, the direct or indirect impacts and the cumulative impacts of KWF Grid Connection on Recorded Legally Protected Sites are described.

### 13.2.2.1 Potential Impacts Evaluated for Recorded Legally Protected Sites

A conceptual site model exercise was carried out to identify potential impacts through the examination of the specific pathways between the project (source) and the sensitive aspect (receptor).

The potential for impacts was **examined in the absence of mitigation measures**, and **based on the description of development, standard construction methodologies, construction activities and operational activities as described in Chapter 5: Description of the Development**.

The potential impacts which were evaluated are listed in the 1<sup>st</sup> column of the table below. As summarised in the table below, no significant effects are likely to occur.

**Table 13-5: Conclusion of the Evaluation of Potential Impacts to Recorded Legally Protected Sites**

Potential Impacts which were evaluated	Relevant Stage of KWF Grid Connection	Direct Impact of KWF Grid Connection	Cumulative Impact with the Authorised Knocknamona Windfarm	Impact with Woodhouse Windfarm and Woodhouse Substation	Cumulative Whole Knocknamona Windfarm Project Impact
Complete or partial destruction	Construction	<b>No Potential for Impact</b>	No Potential for Cumulative Impact	No Potential for Cumulative Impact	<b>Not Significant</b>
Setting Impact	Operation	<b>Neutral</b>	No Potential for Cumulative Impact	No Potential for Cumulative Impact	<b>Not Significant</b>

In order to keep this EIA Report concise and focused on likely significant effects, where the evaluation of potential impacts found no significant impacts from the development, the evaluation tables are presented in the appendix to the chapter.

Because no significant impacts to Recorded Legally Protected Site are likely to occur, the Impact Evaluation Tables for the potential impacts listed in the table above, are in **Appendix 13.1 (at the end of this chapter)**

[Appendix 13.1 Evaluation of Potential Impacts to Cultural Heritage](#)

### 13.2.2.2 Summary of the Significance of the Potential Impacts to Recorded Legally Protected Sites

As outlined in the table above, direct impacts to **Recorded Legally Protected Sites as a direct result of KWF Grid Connection will be no greater than Neutral**; this is due to no Recorded Legally Protected Sites being present within the construction works area. With regards to setting impact, the new above ground structures for KWF Grid Connection only relate to additional apparatus within the existing Woodhouse Substation, which are only theoretically visible to the west and northwest due to visibility screening by landform from the south and east. From the west and northwest, the additional apparatus is generally screened by vegetation and/or visible within the existing apparatus at Woodhouse Substation.

**There is No Potential for cumulative impacts from KWF Grid Connection with Authorised Knocknamona Windfarm**; this is generally due to no Recorded Legally Protected Sites being present within the works areas associated with both KWF Grid Connection and Knocknamona Windfarm (i.e. no Recorded Monuments in or close to the overlap of the development footprints). With regards to **setting impact, cumulative impacts are Neutral** due to the very minor addition of electrical equipment to the existing Woodhouse Substation. This is the only permanent above-ground expression of the KWF Grid Connection project. In addition, when the most recently authorised elements of the whole Knocknamona Windfarm project are considered (Larger Turbines and Junction & Bend Widening Works), the 'whole project' effect will **not be significant**.

**When Woodhouse Windfarm and Woodhouse Substation are also taken into account, cumulative impacts are Not Significant**; this is due to the fact that Woodhouse Substation and Woodhouse Windfarm have already been constructed, there is no potential for direct cumulative impacts to Recorded Legally Protected Sites. With regards to setting impact, **cumulative impacts are Neutral** due to the very minor addition of electrical equipment to the existing Woodhouse Substation being the only permanent above-ground expression of the KWF Grid Connection project.

### 13.3 Sensitive Aspect No.2: Architectural Heritage (along construction traffic haul routes)

This Section 13.3 provides a description of the baseline environment and an evaluation of the likely impacts of KWF Grid Connection, both alone and cumulatively, on **Architectural Heritage (along construction traffic haul routes)**.

#### 13.3.1 Description of the BASELINE ENVIRONMENT for Architectural Heritage (along construction traffic haul routes)

This Section 13.3.1 comprises the identification of the Study Area for direct or indirect effects and for cumulative effects, and a description of the context, character, importance and sensitivity of the Architectural Heritage (along construction traffic haul routes) in the area. Trends or changes in the baseline environment and expected receiving environment are also identified.

##### 13.3.1.1 STUDY AREA for Architectural Heritage (along construction traffic haul routes)

Study areas relate to areas which could be affected by impacts from KWF Grid Connection, whether direct impacts from the KWF Grid Connection on its own or cumulative impacts from KWF Grid Connection and other projects or activities. The study areas are described in the table below and on relevant figures.

##### Relevant Figure (at the end of this chapter)

Figure 13.2.3: Study Area and Survey Results for Architectural Heritage (along construction traffic haul routes)

**Table 13-6: Study Area for Architectural Heritage (along construction traffic haul routes)**

KWF Grid Connection Study Area (direct or indirect effects)	Cumulative Study Area
<p><u>Study Area Extent:</u> All Stage Effects: Adjacent to the construction materials and component deliveries haul route on the Regional Road R671 and Local Roads L2019, L2018 – Cappagh Quarry; L6074 and L60741 – Local Roads from Clogh Crossroads.</p>	<p><u>Study Area Extent:</u> All Stage Effects: Adjacent to the construction materials and component deliveries haul route on the Regional Road R671 and Local Roads L2019, L2018 – Cappagh Quarry; L6074 and L60741 – Local Roads from Clogh Crossroads.</p>
<p><u>Justification for Study Area Extent:</u> National Roads have been excluded as the development traffic will be no different to routine and occasional traffic on these routes. On the Regional Road and Local Roads in the vicinity of the site, there are no works required along the construction materials and component deliveries haul route and therefore subsurface archaeology will not be impacted. The extent and duration of construction traffic is limited to minimal construction materials traffic and slow-moving controlled component delivery traffic (during</p>	<p><u>Justification for Study Area Extent:</u> National Roads have been excluded as the whole project development traffic will be no different to routine and occasional traffic on these routes. Limited road works are required in the vicinity of the Windfarm entrance at Knocknaglogh Lower, but these areas are in road verges or under forestry/grassland. No previously recorded heritage sites occur within 100m of the works and nothing of significance is marked on the first and second edition Ordnance Survey map or aerial photography. Therefore, no subsurface archaeology is expected to occur.</p>

<p>construction/decommissioning and very occasionally during operation). The bridges of architectural heritage interest along the route are in good condition and in constant use for HGV traffic at present. The legal axel load weights and speed limits for the construction traffic will not be exceeded. Therefore, it is extremely unlikely that Cultural Heritage Sites beyond the Regional and Local Road haul route corridor and adjacent could be impacted.</p>	<p>There are no bridges of historical or archaeological significance in the vicinity of the works or on the Local Roads from the N25 at Pulla Crossroads.</p>
<p><u>Relevant development stage</u> All Stages <u>Justification:</u> There is potential for Impacts to occur during haulage for construction/decommissioning and operation.</p>	<p><u>Relevant development stage</u> All Stages <u>Justification:</u> There is potential for Impacts to occur during haulage for construction/decommissioning and operation.</p>

**13.3.1.2 Description of the BASELINE CONTEXT and CHARACTER of (Architectural Heritage along construction traffic haul routes)**

The baseline context includes a description of the KWF Grid Connection Study Area and also the wider area which includes the Cumulative Study Area; Knocknamona Windfarm project area; Woodhouse Substation and Woodhouse Windfarm project areas.

**13.3.1.2.1 Baseline for KWF Grid Connection Study Area (Architectural Heritage along construction traffic haul routes)**

The architectural heritage adjacent to the Regional and Local Roads along the construction materials and components haul route to be used was surveyed. The principal route for aggregate is from Roadstone Cappagh Quarry, along the L2018, L2019 and on to the N72, the route then proceeds to the R671, along the R671 to the Clogh crossroads where it turns left onto the L6074 and then continues onto the L60741 to the main entrance to the existing Woodhouse Windfarm. Traffic from Keereen Quarry on the R671 will also follow the same route from the R671. In order to access Woodhouse Substation, construction traffic will cross the L6074 at Keereen Upper between two existing Woodhouse Windfarm entrances. Other construction materials will be transported along the same route from Clogh Crossroads onto the L6074 and then onto the L60741 to the main entrance of the existing Woodhouse Windfarm. Turbine components will be transported along the N25 and N72 and then follow the same route as the rest of the material deliveries along the R671, L6074 and L60741 to the main entrance to the existing Woodhouse Windfarm.

There are 18 No. features of interest (Ref. AS1-AS18 in Appendix 13.2 and on Figure 13.2.3) along the construction materials and turbine components haul route. Six of these features are Recorded Monuments; four are Protected Structures and the remaining eight are structures of cultural heritage interest but are not protected. For a detailed description, photographs, mapping, impact assessment, discussion and recommendations refer to [Appendix 13.2 Architectural Heritage Impact Assessment along construction traffic haul routes](#). See also [Figure 13.2.3: Study Area and Survey Results for Architectural Heritage along the construction traffic haul route](#). The characteristics of these structures are described in summary below.

### Assessment Structure No.1 (AS1)

Property	Whitechurch Church				
Status	Protected Structure, Recorded Monument				
RPS No.	668	NIAH No.	22903032	RMP No.	WA030-017001
Townland	Ballykennedy	Public Road ID	L2018	Co-Ordinates	617208, 595299

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The existing church is a roofless ruined, three bay, double height, single cell, Board of First Fruits Church of Ireland church, built in 1831. An inspection of the buildings revealed it is roofless but the walls and tower of the church remain largely intact, with ivy covering much of the building. The cottage ruin along the road is showing some signs of masonry collapse. The associated graveyard is surrounded by a random rubble wall and a ruined cottage which runs along the roadside of the L2018 where it joins the L2019. The church and associated walls and cottage are on a wide intersection where four roads meet. Roadstone Cappagh quarry is a short distance from the church, the boundary of the churchyard is shared with the quarry to the south and east.

### Assessment Structure No.2 (AS2)

Property	Level Crossing Gate House				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Cappagh	Public Road ID	L2019	Co-Ordinates	617671, 596263

Two bay single storey roughly squared, coursed, random rubble level crossing gate house, with limestone quoins. An inspection of the building revealed it to be in excellent condition having been renovated recently, although not to conservation standard. Lies approximately 1m from the L2019, which is straight at this point.

### Assessment Structure No.3 (AS3)

Property	Wall along road				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Cappagh	Public Road ID	L2019	Co-Ordinates	617818, 596496

Random rubble roadside wall alongside the L2019, which is straight at this point. An inspection of the wall revealed it to be in good condition showing no signs of distress due to traffic.

#### Assessment Structure No.4 (AS4)

Property	Lime Kiln				
Status	Protected Structure				
RPS No.	775	NIAH No.	22903016	RMP No.	
Townland	Kilclogher	Public Road ID	N72 / R671	Co-Ordinates	615563, 596968

Freestanding single-bay, single-stage lime kiln, c.1800, on a square plan. Now disused. Random rubble stone walls with lime mortar. Segmental-headed opening to oven with squared sandstone voussoirs, and soffits/lining not visible. Set back 35m from road, and part engaged into slope of hill. A pleasant, small-scale artefact of industrial heritage. Although now long disused, and partly reclaimed by the surrounding landscape, the lime kiln, marked as "Carrigegan" on the Ordnance Survey, continues to enhance the historic character of the locality. Set back 40m from the R671.

#### Assessment Structure No.5 (AS5)

Property	Road Trackway Bothar na Naomh				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-011---
Townland	Bridgequarter	Public Road ID	R671	Co-Ordinates	615480, 595713

The trackway is now a farm track running along the side of a field with no discernible special features. The track runs along the side of a copse of trees, and there is no sign of any linear feature within the trees beyond a slight ditch and bank to the side of the trackway. The trackway runs from the R671 to the river Finisk. R671 falls within the Zone of Notification for the monument.

#### Assessment Structure No.6 (AS6)

Property	Whitechurch Bridge				
Status	Protected Structure				
RPS No.	664	NIAH No.	22903018	RMP No.	
Townland	Ballygambion Lower	Public Road ID	R671	Co-Ordinates	615268, 595725

Three-arch rubble limestone road bridge over river, c.1830. Random rubble stone walls with lime mortar, cut-stone triangular cut-waters to piers, and rubble stone coping to parapets. Series of three segmental arches with squared limestone voussoirs and squared rubble stone soffits having render over. Sited spanning the Finisk River with grass banks to river. There is a ford to the west of the bridge, it is also close to the Trackway recorded monument (AS5). R671 runs over the bridge where it crosses the river Finisk. The bridge was surveyed by TLI Group (see Structural Inspection of Bridges Appendix 12.5 Bridge Reference BS1) and noted to be in fair to good condition.

### Assessment Structure No.7 (AS7)

Property	Demesne Wall, Whitechurch House				
Status	Protected in curtilage of Whitechurch House				
RPS No.	61	NIAH No.		RMP No.	
Townland	Ballygambion Lower	Public Road ID	R671	Co-Ordinates	615443, 595565

Demesne Wall running along road. Coursed random rubble limestone wall mortared with a soft lime mortar with soldier course on the top. There are some sand and cement repairs and occasional pieces of concrete incorporated into the wall, particularly in the soldier course. Largely in excellent condition. One gateway with modern farm gate the wall runs from Whitechurch bridge to the entrance gates to Whitechurch House. R671 runs immediately alongside the wall. A verge of approximately 400mm wide separates the wall from the road.

### Assessment Structure No.8 (AS8)

Property	Gate/railings/Walls				
Status	Protected in curtilage of Whitechurch House				
RPS No.	61	NIAH No.	22903019/28	RMP No.	
Townland	Bridgequarter (D.WT.BY)	Public Road ID	R671	Co-Ordinates	615491, 595434

Gateway c.1820 with limestone ashlar piers, wrought iron gates and random rubble flanking boundary walls. The R671 runs immediately alongside the entrance flare. The flare is around 15 meters wide, so the walls are this distance from the road and the gate lodge a further 2–3 meters away.

### Assessment Structure No.9 (AS9)

Property	Gate lodge of Whitechurch House				
Status	Protected part of curtilage Whitechurch House				
RPS No.	61	NIAH No.	22903019	RMP No.	
Townland	Bridgequarter (D.WT.BY)	Public Road ID		Co-Ordinates	615491, 595434

Two bay single storey gate lodge c.1820. Renovated and extended c.1995. Hipped natural slate roof black concrete ridge tiles, plastic gutters, rebuilt rubble chimney. Random rubble walls which would have been rendered. The R671 runs immediately alongside the entrance flare. The flare is around 15 meters wide, and the gate lodge a further 2-3 meters further away, meaning it is approximately 17–18 meters from the road.

**Assessment Structure No.10 (AS10)**

Property	OonagLOUR Cave				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-012001-
Townland	Bridgequarter	Public Road ID	R671	Co-Ordinates	615588, 595383

Located on a low W-facing slope. A limestone cave known locally as 'OonagLOUR' (dims. c. 5m x c. 3m) is entered by a narrow passage (L c. 12m). Set around 100 meters east of the R671. The cave was investigated in 1906. The first entrance to the Brothers' Cave (below) is c. 70m to the SW, but a connection between the two caves was not re-opened.

**Assessment Structure No.11 (AS11)**

Property	Brother's Cave				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-012002-
Townland	Bridgequarter (decies without drum by)	Public Road ID	R671	Co-Ordinates	

A limestone cave called the 'Brothers' Cave' discovered in 1906. The cave was an extensive cruciform chamber, entered through a secondary entrance in a quarry face at the W end and leading at its E end to a NE-SW fissure. A second entrance to the cave was opened at the 'NE passage', which was at the N end of the N transept and was the place where most digging was done at the time, although all parts of the cave were investigated. A further tunnel in the same area connected with the NE-SW fissure. The entrance to OonagLOUR Cave is c. 70m to the NE of the first entrance to the Brothers' cave, but a connection between the two caves was not re-opened. Set around 80 meters east of the R671.

**Assessment Structure No.12 (AS12)**

Property	Roadside Farm				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Knocknaskagh Lower	Public Road ID		Co-Ordinates	614634, 594505

Extensive and active farm complex by the R671. Random rubble buildings including a cottage and sheds. The cottage appears to have old fibre cement tiles on the roof and is rendered on the roadside. There is a single window in this elevation. The shed has a natural slate roof and is coursed random rubble un-rendered. There is a large square opening in the gable wall, which is close to an entrance with square stone piers with cut stone caps. A random rubble wall bounds the road with a soldier course on top. The Shed and part of the

cottage back onto the R671.

### Assessment Structure No.13 (AS13)

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Property	Culvert – Keereen Bridge				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Keereen	Public Road ID	R671	Co-Ordinates	6

Single arch culvert or bridge over the Glenkeereen Stream. Limestone random rubble stone walls with lime mortar. Roughly squared limestone voussoirs. Extends full width of the road without apparent widening. Top of arch is around 600mm below road surface. Parapets random rubble with sand and cement rounded capping and some sand and cement pointing. Around 600mm high. The R671 runs immediately over this culvert. The bridge was surveyed by TLI Group as part of this application (see Structural Inspection of Bridges Appendix 12.5 – Bridge Reference BS6) and noted to be in fair to good condition.

### Assessment Structure No.14 (AS14)

Property	Farm by roadside				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Clogh decies with Drum	Public Road ID	L6074	Co-Ordinates	613519, 592162

Group of farm buildings by L6074. Only the east and north elevations were visible from the road, so it was difficult to see what the buildings' purposes were. All are random rubble, coursed and slated with a variety of slates. There are brick and random rubble chimneys and clay ridges on the hipped roof and ridges elsewhere.

### Assessment Structure No.15 (AS15)

Property	Clogh Castle				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-052---
Townland	Clogh	Public Road ID	L6074	Co-Ordinates	613697, 592194

Remains of ruined castle now difficult to discern in the corner of a field. There is a level area corresponding to the outline of the castle with drainage ditches running along the road and north sides. To the south side, the level area falls away towards the entrance to the field. All pasture with no other noticeable features. Set around 5 meters east of the L6074.

**Assessment Structure No.16 (AS16)**

Property	Farmyard beside road				
Status	Not Protected				
RPS No.		NIAH No.		RMP No.	
Townland	Clogh	Public Road ID	L6074	Co-Ordinates	613742, 592110

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Roadside wall and entrance piers, with ruined cottage behind. Random rubble walls overgrown fuchsia, privet, white thorn and ivy.

**Assessment Structure No. 17 (AS17)**

Property	Farm yard by road				
Status	Not Protected				
RPS No.		NIAH No.		RMP No.	
Townland	Woodhouse or Tinakilly	Public Road ID	L60741	Co-Ordinates	613950, 591918

Farm walls are around 9 meters from road. Single storey four bay cottage with cart shed attached. Collapsed natural slate roof, flat arch stone voussoirs over windows and two doors. Arched opening to left end. Other farm building in yard, collapsed corrugated roof. ESB box and square opening with timber lintel. Substantial wall at roadside was the rear wall of single pitch shed. In use as farmyard. The building lies to the side of the L60471.

**Assessment Structure No.18 (AS18)**

Property	Farm cottage by main entrance to Woodhouse Windfarm				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Woodhouse or Tinakilly	Public Road ID	L60741	Co-Ordinates	614236, 591914

Farm building on roadside with cottage behind. Right by main entrance to Woodhouse Windfarm on the L60741 at Woodhouse or Tinakilly. New block wall forms flare to windfarm entrance. Farmyard to rear still in active use, whilst the cottage is uninhabited and semi-derelict. Building along roadside is random rubble with a collapsed corrugated roof. Cottage four bay single storey with lean-to porch to the front. Rendered in sand and cement, Crittall windows, corrugated roof, rendered chimney.

See [Figure 13.2.3: Study Area and Survey Results for Architectural Heritage along the construction traffic haul route](#)

For a detailed description, photographs, mapping, impact assessment, discussion and recommendations refer to [Appendix 13.2 Architectural Heritage Impact Assessment along construction traffic haul routes](#).

### **13.3.1.2.2 Baseline for the Cumulative Study Area (Architectural Heritage along construction traffic haul routes)**

There are no Recorded Legally Protected Sites, such as Recorded Monuments and Places, or Other Recorded Sites such as monuments or buildings listed on the National Inventory of Architectural Heritage, within the construction footprint of Knocknamona Windfarm. A small part of the windfarm site occurs within the grounds of Barranstook Demesne, which is marked on the first edition Ordnance Survey (1840) map; however, no part of the project is located close to any of the mapped demesne buildings or features. There are remnants of the demesne boundary wall and some internal dividing walls still present within the forestry plantation, but none of these walls will be affected by the windfarm.

No previously recorded heritage sites (Recorded Monuments, Protected Structures, NIAH sites) occur within the 100m study zone of the Junction and Bend Widening Works for turbine component deliveries to the windfarm site entrance at Knocknaglogh Lower. No bridges of historic or archaeological significance will be impacted by these works.

### **13.3.1.3 IMPORTANCE of features of Architectural Heritage**

Six of the sites listed above are listed on the Record of Monuments and Places and five others are Protected Structures and therefore are protected under the Planning & Development Act 2000 (as amended). None of these sites are classed as National Monuments.

While none of the remaining seven sites are subject to any legal protection, nor are they uncommon structures in the Irish landscape, they form an integral part of the Cultural Heritage landscape and are indicative of the long history of human activity within the study area.

### **13.3.1.4 SENSITIVITY of features of Architectural Heritage**

Features of Architectural Heritage along construction traffic haul routes can be damaged by direct collision from the traffic or from vibrations from passing HGV traffic. The intensity of traffic vibrations is affected by the condition of the road, the volume of traffic and the speed of that traffic.

### **13.3.1.5 TRENDS for features of Architectural Heritage in the Baseline Environment**

It is not envisaged that the baseline Cultural Heritage environment for Architectural Heritage will change. Sites which are not subject to any legal protections, many have fallen out of use and into ruin, been demolished or subsumed into the modern agricultural and forestry landscapes. It is considered that the gradual degradation or destruction of unprotected Architectural Heritage sites will continue.

### **13.3.1.6 The 'Do Nothing Scenario' (the Environment if the Development is not carried out)**

If the KWF Grid Connection does not proceed, the effects on the environment will not occur, and the baseline environment will only change in line with the trends identified above.

### **13.3.1.7 Description of the RECEIVING ENVIRONMENT for Architectural Heritage**

The receiving environment is the likely state of the baseline environment at the time of construction/operation/decommissioning as relevant i.e. baseline + trends.

No trends have been identified over the course of this report which would lead to changes to the Protected Sites, and it is therefore assumed in this report that the baseline environment identified above will be the receiving environment. It is assumed that some of the Unprotected Sites may be degraded or destroyed in the interim and therefore the receiving environment may contain less of these structures or at least an altered version of these structures.

### 13.3.2 EVALUATION OF IMPACTS to Architectural Heritage along the construction traffic haul route

In this Section, the direct or indirect impacts and the cumulative impacts of KWF Grid Connection on Architectural Heritage along the construction traffic haul route are described.

#### 13.3.2.1 Potential Impacts Evaluated Architectural Heritage along the construction traffic haul route

A conceptual site model exercise was carried out to identify potential impacts through the examination of the specific pathways between the project (source) and the sensitive aspect (receptor).

The potential for impacts was **examined in the absence of mitigation measures**, and **based on the description of development, standard construction methodologies, construction activities and operational activities as described in Chapter 5: Description of the Development**.

The potential impacts which were evaluated are listed in the 1<sup>st</sup> column of the table below. As summarised in the table below, no significant effects are likely to occur.

**Table 13-7: Conclusion of the Evaluation of Potential Impacts to Architectural Heritage along the construction traffic haul route**

Potential Impacts which were evaluated	Relevant Stage of KWF Grid Connection	Direct Impact of KWF Grid Connection	Cumulative Impact with the Authorised Knocknamona Windfarm	Impact with Woodhouse Windfarm and Woodhouse Substation	Cumulative Whole Knocknamona Windfarm Project Impact
Destruction of roadside vernacular structures and bridges through collision with delivery vehicles	Construction Operation Decommissioning	<b>Neutral</b>	No Potential for Cumulative Impact	No Potential for cumulative impact	<b>Not Significant</b>
Vibration Impact on roadside vernacular structures and bridges from passing delivery vehicles	Construction Operation Decommissioning	<b>Imperceptible</b>	No Potential for Cumulative Impact	No Potential for Cumulative Impact	<b>Not Significant</b>

In order to keep this EIA Report concise and focused on likely significant effects, where the evaluation of potential impacts found no significant impacts from the development, the evaluation tables are presented in the appendix to the chapter.

Because no significant impacts to Recorded Legally Protected Sites are likely to occur, the Impact Evaluation Tables for the potential impacts listed in the table above, are in **Appendix 13.1 Tables 1-2**.

Because no significant impacts to Architectural Heritage along the construction traffic haul route are likely to occur, the Impact Evaluation Tables for the potential impacts listed in the table above, are in **Appendix 13.1 Tables 3-4**. The evaluation is supported by an Assessment of the Architectural Heritage along the construction traffic haul route and comprises **Appendix 13.2**.

**Relevant Appendix (at the end of this chapter)**

Appendix 13.1 Evaluation of Potential Impacts to Cultural Heritage (Recorded Legally Protected Sites (Tables 1 and 2) and Architectural Heritage along the construction traffic haul route (Tables 3 and 4)

Appendix 13.2 Assessment of Architectural Heritage along the construction traffic haul route - pdf page 48 to 93

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**13.3.2.2 Summary of the Significance of the Potential Impacts to Architectural Heritage along the construction traffic haul route**

**Direct/Indirect Impact of KWF Grid Connection:** As outlined in the table above and detailed in Table 3 of Appendix 13.1, destruction/partial destruction of Architectural Heritage along the construction traffic haul route as a **direct result of collision with KWF Grid Connection delivery vehicles will be NEUTRAL**, this is because of the eighteen features identified six of the features (Lime Kiln (AS4); Gate/railings/walls (AS8); Gate Lodge (AS9); Caves (AS10, AS11); and Farmyard (AS17)) are set back from the road sufficiently so that there is effectively no risk of collision; two (Castle Ruin (AS15) & Trackway (AS5)) have no upstanding remains and therefore, there is no risk of collision; Whitechurch Bridge (AS6) and the Culvert - Keereen Bridge (AS13) have been assessed as being of sufficient width and strength to accommodate the construction traffic including abnormal loads. All deliveries will be laden within the allowable axle weights, including the abnormally large loads. HGV traffic, particularly from the two quarries in the vicinity, is established use of these bridges. Speed will be restricted to 50kph for construction traffic over the bridges. Abnormal loads escorts will control the traffic and rear steering assistance will be deployed, if required to avoid contact with the parapets. With regard to the roadside farms or rubble/demesne walls of these walls (AS3, AS8 and AS17) are either bounding a stretch of road that is wide and straight or sufficiently set back from the road thus minimising the likelihood of contact. Due to the narrow carriage width at the remaining five farm/wall locations (AS7, AS12, AS14, AS16 and AS18), mitigation in the form of traffic cones and speed restrictions, abnormal load escorts and signage will be deployed as required.

As outlined in the table above and detailed in Table 4 of Appendix 13.1, the **impact of vibration from delivery vehicles on features of Architectural Heritage will be no greater than IMPERCEPTIBLE**. This is because the road surface is generally good, the total increase in traffic volume is negligible compared to existing volumes and the deliveries period is short at 2 months. In addition, two features have no upstanding remains (Castle Ruin (AS15) and Trackway (AS5)) and therefore, the likelihood of impact from vibration is low. At seven features – one bridge (AS6), one culvert (AS13) and five roadside walls/farms (AS7, AS12, AS14, AS16 and AS18), the speed of vehicles will be limited to 50kph for the delivery vehicles; therefore, the likelihood of damage from vibration will be low. In addition, six features (AS4, AS8, AS9, AS10, AS11 and AS17) are very unlikely to experience vibration damage due to the distance from the road and two features (AS1 and AS18) are unlikely to experience vibration damage due to the good road condition and slower speeds of passing traffic due to location.

There is **No Potential for cumulative impacts from KWF Grid Connection with the whole Knocknamona Windfarm project**, which includes Larger Turbines and Junction & Bend Widening Works elements. This is because KWF Grid Connection includes the delivery route for turbine components for Knocknamona Windfarm through Woodhouse Windfarm entrance and roads. This route will accommodate the larger turbine size. There is no potential for impacts from the Junction & Bend Widening Works for materials and turbine components deliveries to Knocknaglogh Lower (Windfarm Entrance) because there are no Protected Structures or bridges or other features of historic or archaeological significance within the 100m study zone of the works.

**When Woodhouse Windfarm and Woodhouse Substation are also taken into account, there is NO POTENTIAL FOR cumulative impacts**, because Woodhouse Windfarm and Woodhouse Substation are both already constructed. There will be a negligible number of delivery vehicles associated with these projects aside from very occasional changeout of turbine components, which will be delivered using the established route.

## 13.4 Summary of the Cultural Heritage Chapter

Cultural Heritage relates to sites of archaeological, historical or architectural significance within the receiving environment. The study of Cultural Heritage, including archaeology, is the study of past societies through the material remains left by those societies and the evidence of their environment.

The following aspects of Cultural Heritage were considered during scoping for this topic chapter: **Recorded Legally Protected Sites, Other Recorded Sites, Previously Unrecorded Sites and Unknown Subsurface Sites.**

**Recorded Legally Protected Sites and Recorded and Unrecorded features of Architectural Heritage along the construction traffic Haul Route** were the only aspects deemed to be sensitive to the development and were scoped in for detailed examination.

The **other aspects were scoped out** because there is **No Potential** for impact (Other Recorded Sites and Previously Unrecorded Sites) or **No Likely** impact (Unknown Subsurface Sites). (Rationale for scoping out Section 13.1.3.2)

In relation to the sensitive aspects which were scoped in for evaluation, the results for direct/indirect/whole project/cumulative were as follows:

**Recorded Legally Protected Sites:** potential negative impacts were evaluated as ranging from **No Potential to Neutral** (Section 13.2).

**Architectural Heritage along the construction traffic haul route:** potential negative impacts were evaluated as ranging from **Neutral to Imperceptible**. (Section 13.3)

### Related Documents

Non-Technical Summary of this chapter can be found in Volume C1: Non-Technical Summary: Section 13

### Figures for Cultural Heritage Chapter

Figure 13.1: Location of KWF Grid Connection in relation to Cultural Heritage

Figure 13.1.1: Sensitive Aspects excluded from further evaluation

Figure 13.2.1: Study Area and Survey Results for Recorded Legally Protected Sites (construction stage)

Figure 13.2.2: Study Area and Survey Results for Recorded Legally Protected Sites (operational stage)

Figure 13.2.3: Study Area and Survey Results for Architectural Heritage along the construction traffic haul route

### Appendices for Cultural Heritage Chapter

Appendix 13.1 Evaluation of Potential Impacts to Cultural Heritage

Appendix 13.2 Assessment of Architectural Heritage along the construction traffic haul route

## 13.5 Reference List

### Unpublished Primary Sources Consulted

Sites and Monuments Record (SMR) files held by the Archaeological Survey of Ireland

Topographical files of The National Museum of Ireland

National Inventory of Architectural Heritage for County Waterford [www.buildingsofireland.ie](http://www.buildingsofireland.ie)

### Maps

First edition 1840 Ordnance Survey map sheet

Second edition 1900 Ordnance Survey map sheet

Second edition 1898 Ordnance Survey 1:10560 map sheet

Griffiths's Valuation maps and valuation report

Record of Monuments and Places (RMP) manual and constraints maps

### Aerial photographs

2000 Ordnance Survey orthophotography

2005 Ordnance Survey orthophotography

Google Earth

Bing maps aerial photos

### Secondary sources:

Coleman, J. (1899) Notes and Queries – 'Aglish, Co Waterford'. WAJ 4, 64

Architectural Heritage Protection: Guidelines for Planning Authorities (DAHG 2011).

DoEHLG, 1999, Framework and Principles for the Protection of the Archaeological Heritage, Dublin.

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Gwynn, A. and Hadcock, R. N. (1970) (reprint 1988) Medieval religious houses in Ireland. Irish Academic Press, Dublin

Halpin, A and Newman, C., (2006) Ireland: An Oxford Archaeological Guide Oxford, Oxford University Press.

Jennings, J. R. B. (1912) On some ancient coins found in west Waterford. WAJ 15, 162-7

National Museum of Ireland, 2022, Standards for the care and treatment of archaeological objects from excavations

National Roads Authority, 2005, Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes

Moore, Michael, 1999, Archaeological Inventory of County Waterford Dublin, Stationary Office

O'C Redmond, G. (1885-6a) Notes on the history, antiquities, archaeological remains and legends connected with the western end of the county Waterford, JRSAI, 17, 394-405.

Power, Rev. P. (1898a) Ancient ruined churches of Co. Waterford, WAJ 4, 83-95, 195-219

Stout, G. and Stout, M., 2011 "Early landscapes: from prehistory to plantation", in Aalen, F.H.A., Whelan, K. and Stout, M. (eds) Atlas of the Irish Rural Landscape Cork, Cork University Press.

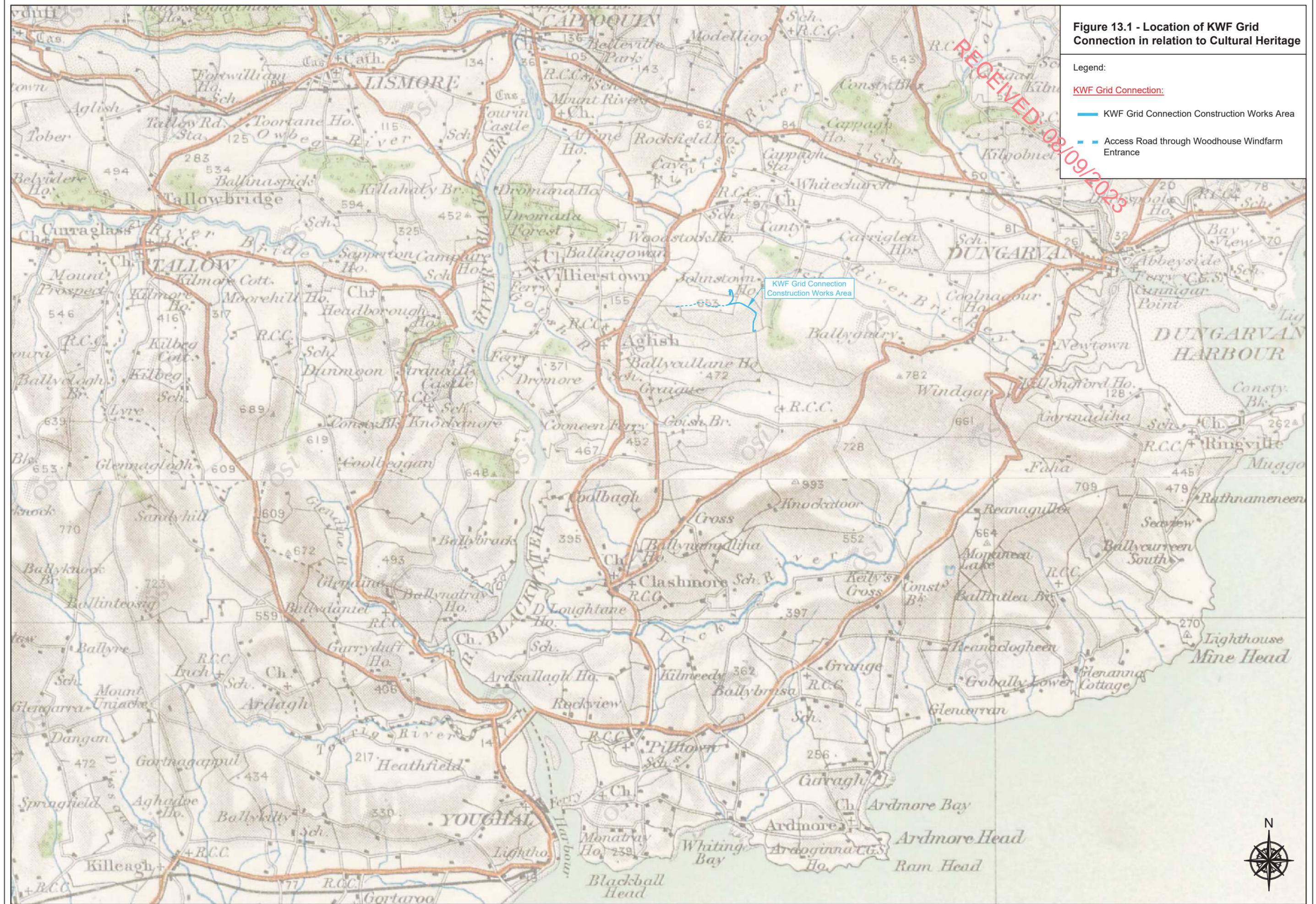
The Down Survey of Ireland 1656 – 1658: <http://downsurvey.tchpc.tcd.ie/index.html>

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Figure 13.1 - Location of KWF Grid Connection in relation to Cultural Heritage

Legend:

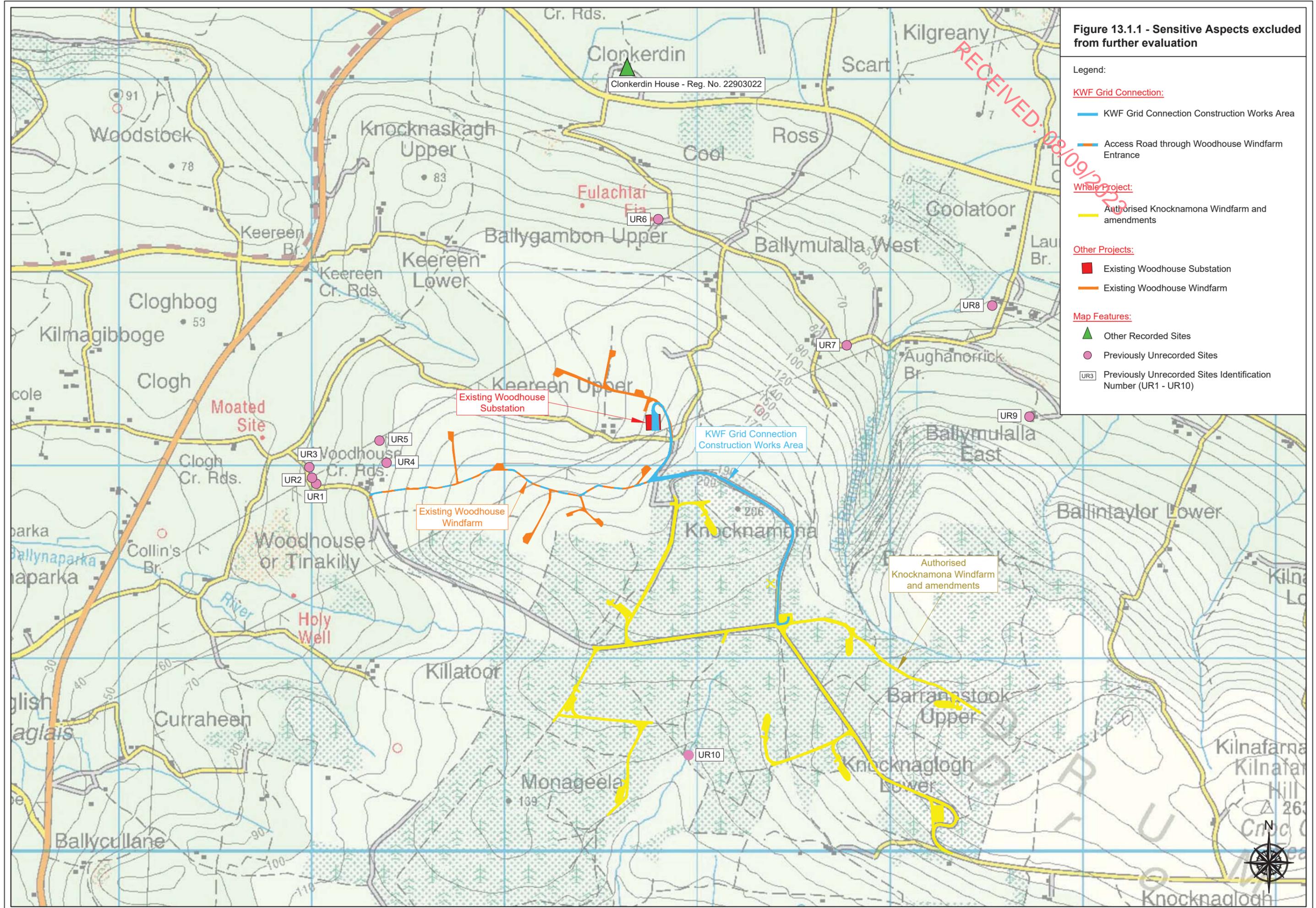
-  KWF Grid Connection Construction Works Area
-  Access Road through Woodhouse Windfarm Entrance



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**Figure 13.1.1 - Sensitive Aspects excluded from further evaluation**

- Legend:
- KWF Grid Connection:**
    - KWF Grid Connection Construction Works Area
    - Access Road through Woodhouse Windfarm Entrance
  - Whale Project:**
    - Authorised Knocknamona Windfarm and amendments
  - Other Projects:**
    - Existing Woodhouse Substation
    - Existing Woodhouse Windfarm
  - Map Features:**
    - ▲ Other Recorded Sites
    - Previously Unrecorded Sites
    - UR3 Previously Unrecorded Sites Identification Number (UR1 - UR10)



**Figure 13.2.1 - Study Area for Recorded Legally Protected Sites (construction stage)**

**Legend:**

**KWF Grid Connection:**

-  KWF Grid Connection Construction Works Area
-  Access Road through Woodhouse Windfarm Entrance

**Study Area Extents:**

-  500m from KWF Grid Connection Construction Works Area
-  500m Cumulative Study Area

**Whole Project:**

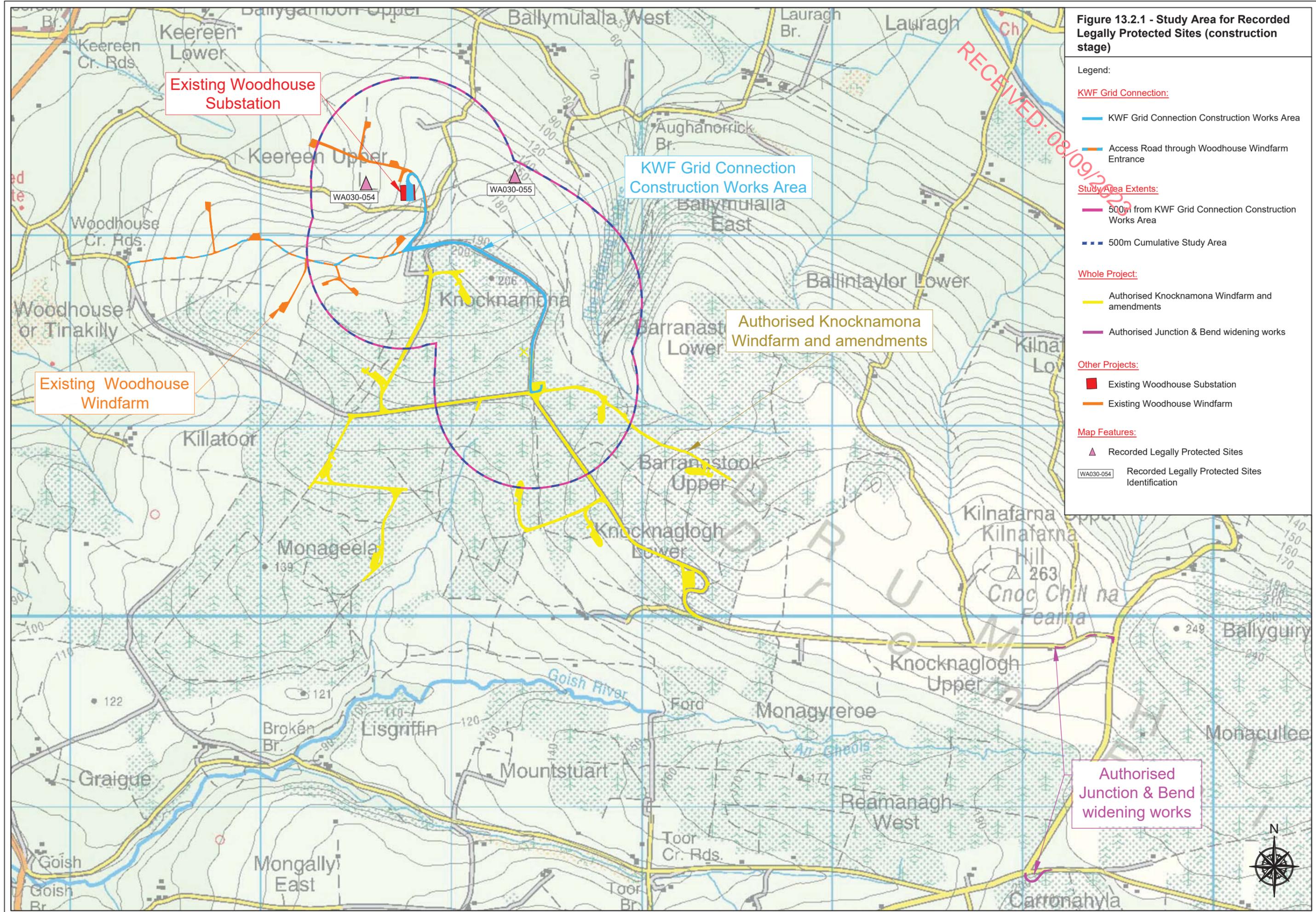
-  Authorised Knocknamona Windfarm and amendments
-  Authorised Junction & Bend widening works

**Other Projects:**

-  Existing Woodhouse Substation
-  Existing Woodhouse Windfarm

**Map Features:**

-  Recorded Legally Protected Sites
-  Recorded Legally Protected Sites Identification



**Authorised Junction & Bend widening works**



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**Figure 13.2.2 - Study Area for Recorded Legally Protected Sites (operational stage)**

**Legend:**

**KWF Grid Connection:**

— KWF Grid Connection Construction Works Area

— Access Road through Woodhouse Windfarm Entrance

**Study Area Extents:**

— 2km from the Additional Plant in Woodhouse Substation

— 4km from the Additional Plant in Woodhouse Substation

**Whole Project:**

— Authorised Knocknamona Windfarm and amendments

— Authorised Junction & Bend widening works

**Other Projects:**

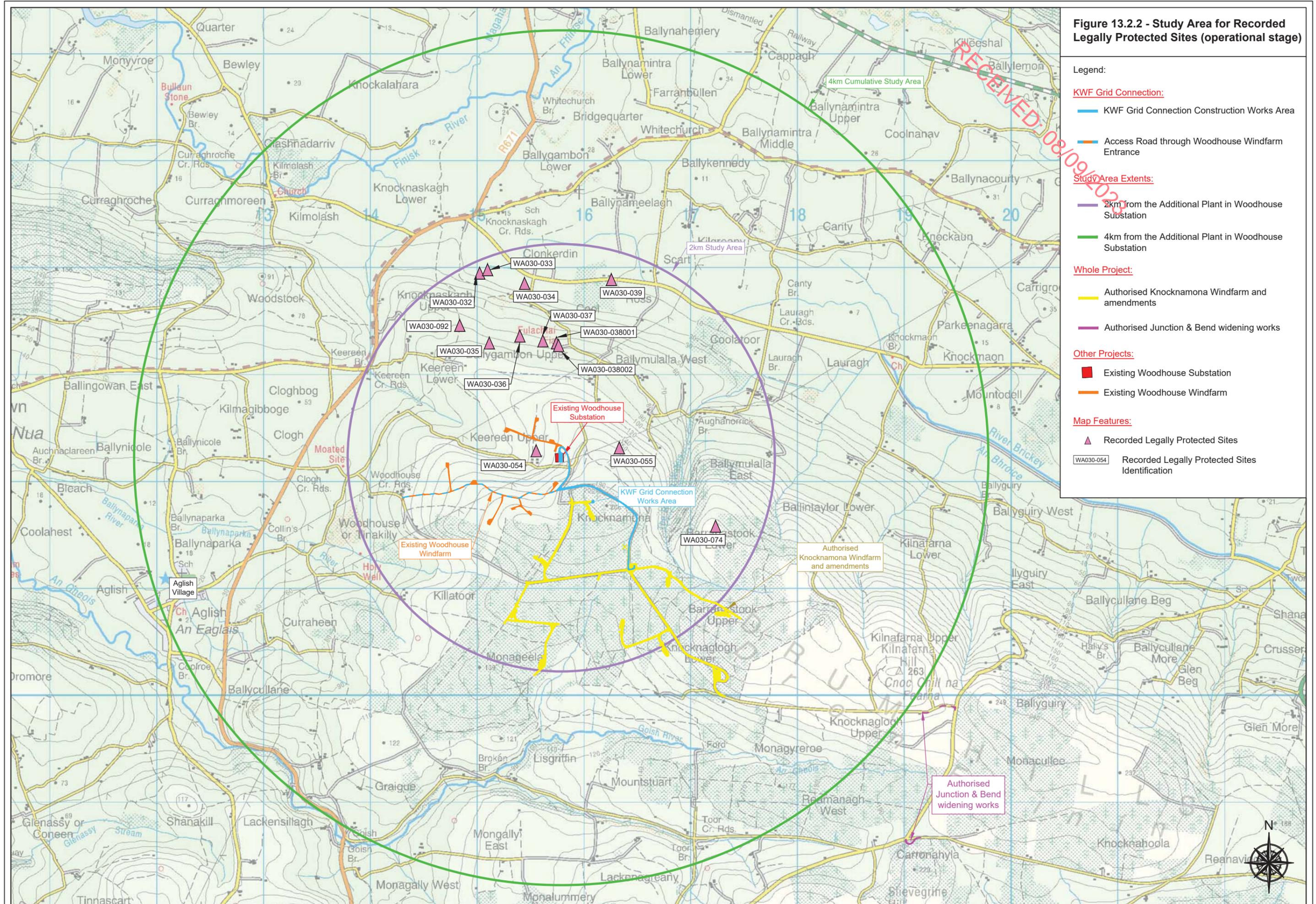
■ Existing Woodhouse Substation

— Existing Woodhouse Windfarm

**Map Features:**

▲ Recorded Legally Protected Sites

WA030-054 Recorded Legally Protected Sites Identification



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**Figure 13.2.3 - Study Area for Architectural Heritage along the construction traffic haul route**

**Legend:**

**KWF Grid Connection:**

— KWF Grid Connection Construction Works Area

— Access Road through Woodhouse Windfarm Entrance

**Study Area Extents:**

— KWF Grid Connection Construction Materials Haul Route

**Whole Project:**

— Authorised Knocknamona Windfarm and amendments

— Authorised Junction & Bend widening works

**Other Projects:**

■ Existing Woodhouse Substation

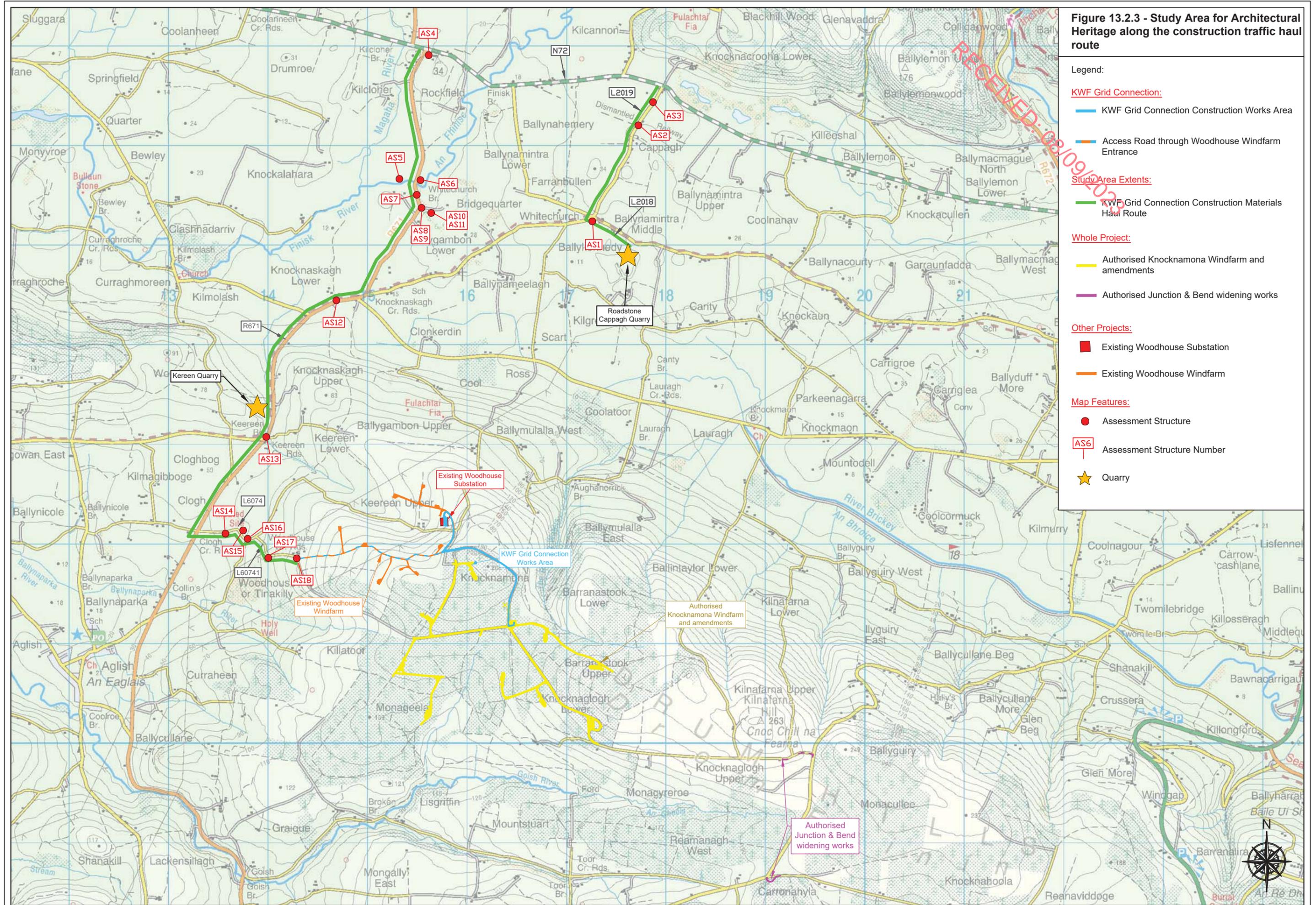
— Existing Woodhouse Windfarm

**Map Features:**

● Assessment Structure

AS6 Assessment Structure Number

★ Quarry



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## Appendix 13.1: Evaluation of Potential Impacts to Cultural Heritage

This Appendix contains Impact Evaluation Tables for the following Sensitive Aspect:

Sensitive Aspect Details as per Main EIA Report		Relevant Section of Main EIA Report:
Sensitive Aspect No. 1	Recorded Legally Protected Sites	Section 13.2 of the Main Report
Sensitive Aspect No.2	Architectural Heritage along the construction traffic haul route	Section 13.3 of the Main Report

### Evaluation of Potential Impacts to RECORDED LEGALLY PROTECTED SITES

In relation to Recorded Legally Protected Sites, the following potential impacts were evaluated:

Potential Impact which were evaluated	Relevant Stage of KWF Grid Connection	Evaluated in this Appendix in Table:
Complete or partial destruction	Construction	A13.1, Table 1
Setting Impact	Operation	A13.1, Table 2

**A13.1 Table 1 Recorded Legally Protected Sites - Complete or partial destruction**

<b>Impact Source</b>	<b>Ground-works</b>
Impact Pathway (between Source and Sensitive Aspect)	Excavation of soil
Brief Impact Description	Destruction/partial destruction of site
Project Stage:	Construction
<b>A: Direct/Indirect Impacts of KWF Grid Connection</b>	<p><b>No Potential for Impact</b> because:</p> <ul style="list-style-type: none"> <li>No Recorded Legally Protected Sites are present within the footprint of the construction works boundary associated with KWF Grid Connection</li> </ul>
<b>B: Cumulative Impact of the Whole Project - KWF Grid Connection with the authorised Knocknamona Windfarm i.e. the windfarm; amendments to the windfarm to provide for larger turbines and Junction &amp; Bend Widening Works to facilitate turbine component access through the windfarm site entrance at Knocknaglogh Lower</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>No Recorded Legally Protected Sites are present within the footprint of the construction works boundary associated with KWF Grid Connection,</li> <li>No Recorded Legally Protected Sites are present within the construction works footprint of Authorised Knocknamona Windfarm,</li> <li>Therefore there is no potential for cumulative or whole project effects to Recorded Legally Protected Sites from KWF Grid Connection and Authorised Knocknamona Windfarm.</li> <li>There is no potential for impact from Junction &amp; Bend Widening works because there are no Recorded Legally Protected Sites present within the footprint of these works.</li> </ul>
<b>C: Cumulative Impact with Woodhouse Substation and Woodhouse Windfarm</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>No Recorded Legally Protected Sites are present within the footprint of the construction works boundary associated with KWF Grid Connection</li> <li>Woodhouse Windfarm and Woodhouse Substation are both already constructed, therefore there is no requirement for groundworks or other excavations</li> <li>Therefore there is no potential for effects to Recorded Legally Protected Sites from KWF Grid Connection cumulatively with other projects.</li> </ul>

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**A13.1 Table 2 Recorded Legally Protected Sites - Settings Impact**

Impact Source	<b>Above-ground structures, features and works</b>
Impact Pathway (between Source and Sensitive Aspect)	Visibility
Brief Impact Description	Negative impact on setting of Recorded Legally Protected Sites due to additional structures in the surrounding environment. New above ground structures for KWF Grid Connection only relate to additional apparatus within the existing Woodhouse Substation.
Project Stage:	Operation
<b>A: Direct/Indirect Impacts of KWF Grid Connection</b>	<p>The impact will have <b>Neutral</b> significance because:</p> <p>Although the additional apparatus at Woodhouse Substation is likely to be visible from <i>RMP WA030-054 Ringfort - unclassified</i> (190m to the west), any impact will be Neutral because there are no upstanding remains associated with this monument. Also, 'the existing electrical infrastructure screens/ strongly filters views of the new plant from receptors to the north and west' (extract Chapter 14 Landscape).</p> <p>There will be no impact to the RMP Sites - Ringfort (455m east), Enclosure (1.6km southeast), 4 Fulacht Fia (all circa. 1km north) and a Burnt Mound (1.7km north) as landform and topography will screen visibility of the additional plant at Woodhouse Substation (extract Chapter 14 Landscape).</p> <p>Further from the KWF Grid Connection, to the northwest there is theoretical visibility between the additional plant and apparatus at Woodhouse Substation and a Castle (1.8km northwest, no remaining surface expression) and a Road/Trackway (1.5km northwest) however there are no upstanding remains and therefore there will be no impact on its setting, There are two Fulacht Fia (1.2km and 1.8km northwest), and a Burnt Mound (1.6km northwest. These sites are at a distance of at least 1.2km and also any visual impact will be no greater than Imperceptible, as per Chapter 14 Landscape 'the existing electrical infrastructure screens/ strongly filters views of the new plant from receptors to the north and west'.</p>
<b>B: Cumulative Impact of the Whole Project - KWF Grid Connection with the authorised Knocknamona Windfarm i.e. the windfarm; amendments to the windfarm to provide for larger turbines and Junction &amp; Bend Widening Works to facilitate turbine component access through the</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>the additional small-scale structures at Woodhouse Substation will not be noticeable when viewed along with operational turbines.</li> <li>In relation to the whole project effect, as per Chapter 14 Landscape 'Notwithstanding the impacts of Authorised Knocknamona Windfarm (which were already assessed by ABP in 2016 and 2021 as Not Significant), the direct impacts of the KWF Grid Connection are Neutral due to the very minor addition of electrical equipment to the existing Woodhouse Substation being the only permanent above-ground expression of the proposed project. Thus, it is considered that the combined whole project effect remains not significant.</li> </ul>

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windfarm site entrance at Knocknaglogh Lower	
<b>C: Cumulative Impact with Woodhouse Substation and Woodhouse Windfarm</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>as per Chapter 14 Landscape 'Notwithstanding the impacts of Knocknamona Windfarm (which were already assessed by ABP in 2016 and 2022 as Not Significant), along with Woodhouse Substation and Woodhouse Windfarm (already assessed by Waterford County Council as not significant), the direct impacts of the KWF Grid Connection are Neutral due to the very minor addition of electrical equipment to the existing Woodhouse Substation being the only permanent above-ground expression of the proposed project. Thus, the combined effects remain not significant.</li> </ul>

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**Evaluation of Potential Impacts to  
ARCHITECTURAL HERITAGE ALONG THE CONSTRUCTION TRAFFIC HAUL ROUTE**

In relation to **Architectural Heritage along the construction traffic haul route**, the following potential impacts were evaluated:

Potential Impact which were evaluated	Relevant Stage of KWF Grid Connection	Evaluated in this Appendix in Table:
Destruction of roadside vernacular structures and bridges through Collision with delivery vehicles	Construction/Decommissioning/ Operation	A13.1, Table 3
Vibration Impact on roadside vernacular structures and bridges from passing delivery vehicles	Construction/Decommissioning/ Operation	A13.1, Table 4

**Note:** Evaluation based on survey results and assessment contained within *Appendix 13.2 Architectural Heritage Impact Assessment along construction traffic haul routes*

**A13.1 Table 3 Architectural Heritage along the construction traffic haul route – Destruction of roadside vernacular structures and bridges through collision with delivery vehicles**

Impact Source	Collision from construction materials/turbine component delivery vehicles
Impact Pathway (between Source and Sensitive Aspect)	Road carriageway/corridor
Brief Impact Description	Destruction/partial destruction of structure through direct collision or following an accident or through excessive weight (bridges)
Project Stage:	Construction/Decommissioning/Operation
<b>A: Direct/Indirect Impacts of KWF Grid Connection</b>	<p>The impact will have <b>NEUTRAL</b> significance because:</p> <ul style="list-style-type: none"> <li>• Six of the features (Gate (AS8); Gate Lodge (AS9); Cave (AS10, AS11); Farm (AS14) and Lime Kiln (AS2)) are set back from the road sufficiently so that there is effectively no risk of collision.</li> <li>• Two features have no vertical expression - Castle ruin (AS15) &amp; trackway AS5) and therefore there is no risk of collision.</li> <li>• One feature Whitechurch Church (AS1) is on a stretch of road that is very wide and one feature Lime Kiln (AS2) is on a straight stretch of road and therefore there is a relatively low risk of collision.</li> <li>• One feature is a bridge - Whitechurch Bridge (AS6) and one feature a culvert - Keereen Bridge (AS13). These structures have been assessed by competent engineers (Tli Chapter 12: Appendix 12.5) as being of sufficient width and strength to accommodate the construction traffic including abnormal loads. All deliveries will be laden within the allowable axle weights including the abnormally large loads. HGV traffic, particularly from the two quarries in the vicinity, is established use of these roads. Speed will be restricted to 50kph for construction traffic over the bridges. Abnormal loads escorts will control the traffic and rear steering assistance will be deployed, if required to avoid contact with the parapets.</li> <li>• The remaining six features comprise roadside farms (AS12, AS16, AS17, AS18) or rubble/demesne walls (AS3 &amp; AS7). Two of these features (AS3, AS17) are bounding a stretch of road that is wide and straight thus minimizing the likelihood of contact. Due to the narrow carriage width at the remaining four locations (AS7, AS12, AS16, AS18) traffic cones and speed restrictions and signage will be deployed for these features.</li> </ul>
<b>B: Cumulative Impact of the Whole Project - KWF Grid Connection with the authorised Knocknamona Windfarm i.e. the windfarm;</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>• KWF Grid Connection includes the delivery route for turbine components for Authorised Knocknamona Windfarm through Woodhouse Windfarm entrance and roads. This route will accommodate the larger turbine size.</li> <li>• There is no potential for impacts from the Junction &amp; Bend Widening Works because there are no Protected Structures or Bridges of Historic or Archaeological Significance within the 100m study zone of the works.</li> </ul>

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<p><b>amendments to the windfarm to provide for larger turbines and Junction &amp; Bend Widening Works to facilitate turbine component access through the windfarm site entrance at Knocknaglogh Lower</b></p>	<p style="text-align: right; color: red; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 08/09/2023</p>
<p><b>C: Cumulative Impact with Woodhouse Substation and Woodhouse Windfarm</b></p>	<p><b>No Potential for Cumulative Impact</b> because Woodhouse Windfarm and Woodhouse Substation are both already constructed, there will be negligible delivery vehicles associated with these projects aside from very occasional changeout of turbine components, which will be delivered using the established route.</p>

**A13.1 Table 4 Architectural Heritage along the construction traffic haul route – Vibration Impact on roadside vernacular structures and bridges from passing delivery vehicles**

Impact Source	Vibration from construction materials/turbine component delivery vehicles
Impact Pathway (between Source and Sensitive Aspect)	Road carriageway/corridor
Brief Impact Description	Vibration due to passage of traffic causing damage to heritage structures
Project Stage:	Construction/Decommissioning/Operation
<b>A: Direct/Indirect Impacts of KWF Grid Connection 2023</b>	<p>The impact will be <b>IMPERCEPTIBLE</b> because:</p> <ul style="list-style-type: none"> <li>• The likelihood of vibration damaging the buildings is very low because the road surface is generally good, the total increase in traffic volume is negligible compared to existing volumes and the construction period is short at two months.</li> <li>• Two of the features (Church Ruin (AS1) and Farm Complex (AS18)) will experience low vibration because there are at an intersection (Quarry gate, Woodhouse Gate); therefore vehicle speed will be low.</li> <li>• Two of the features (roadside Level Crossing Gate House AS2 and roadside Wall AS3) on the Local Road from the quarry (materials deliveries) will experience medium vibration due to the wide and straight carriageway and speed of the vehicles however the road surface is good minimising sources of vibration, the total increase in traffic volume is negligible compared to existing volumes and the construction period is short at two months.</li> <li>• Two features have no vertical expression (Castle ruin AS15 and Trackway AS5) and therefore the likelihood of impact from vibration is low.</li> <li>• At six features (one bridge AS6, one culvert AS13, and four roadside walls/farms AS7, AS12, AS16, AS18) the speed of vehicles will be limited to 50kph for the delivery vehicles and therefore the likelihood of damage from vibration will be low.</li> <li>• Six features (Lime Kiln AS2; Gate AS8; Gate lodge AS9; two Caves AS10, AS11; Farm Complex AS14), are very unlikely to experience vibration damage due to the distance from the road.</li> </ul>
<b>B: Cumulative Impact of the Whole Project - KWF Grid Connection with the authorised Knocknamona Windfarm i.e. the windfarm; amendments to the windfarm to provide for larger turbines</b>	<p><b>No Potential for Cumulative Impact</b> because:</p> <ul style="list-style-type: none"> <li>• KWF Grid Connection includes the delivery route for turbine components for Authorised Knocknamona Windfarm through Woodhouse Windfarm entrance and roads. This route will accommodate the larger turbine size.</li> <li>• There is no potential for impacts from the Junction &amp; Bend Widening Works because there are no Protected Structures or Bridges of Historic or Archaeological Significance within the 100m study zone of the works.</li> </ul>

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<p><b>and Junction &amp; Bend Widening Works to facilitate turbine component access through the windfarm site entrance at Knocknaglogh Lower</b></p>	<p style="text-align: right; color: red; font-size: 2em; transform: rotate(-15deg);">RECEIVED: 08/09/2023</p>
<p><b>C: Cumulative Impact of KWF Grid Connection 2023 with the whole Knocknamona Windfarm Project, Woodhouse Substation and Woodhouse Windfarm</b></p>	<p><b>No Potential for Cumulative Impact</b> because Woodhouse Windfarm and Woodhouse Substation are both already constructed, there will be negligible delivery vehicles associated with these projects aside from very occasional changeout of turbine components, which will be delivered using the established route.</p>

## Appendix 13.2 - Architectural Heritage Impact Assessment along construction traffic haul routes

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The data and descriptions in this appendix have informed Chapter 13: Cultural Heritage of the EIA Report

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### A13.2.1 Introduction

This report covers built heritage along the haul routes for KWF Grid Connection along the public roads L2018 (from Cappagh Quarry to L2019), L2019, N72 (from L2019 to R671), R671 (from the N72 to Clogh Crossroads), L6074 (from R671 to L60741) and L60741 (to Woodhouse Windfarm main site entrance at Woodhouse or Tinakilly townland).

Ecopower Developments, a renewable energy development company, is seeking permission to develop an underground grid connection from the consented Knocknamona Windfarm to the existing Woodhouse Substation, which requires haulage of materials, and the delivery of the turbine components and electrical equipment and construction personnel traffic. This report covers built heritage along parts of the above haul route public roads and assesses the possible impact of the construction traffic on the above mentioned routes.

This assessment was written by James Powell BSc MIEI CEng, Chartered Engineer with a post graduate diploma in Applied Building Repair and Conservation at Trinity College Dublin in 2008. I am also a member of ICOMOS and I was a Committee member of the Building Limes Forum Ireland. I have been working as a built heritage conservation consultant since 2008 and have prepared Architectural Heritage Impact Assessments, Method Statements and other conservation related reports for more than 80 projects throughout Ireland.

The subject development (Knocknamona Windfarm Grid Connection) seeks to use the existing Woodhouse Windfarm site access roads to access the permitted Knocknamona Windfarm and the Woodhouse Substation. The subject development haulage routes have been used in the past for the transport of components, aggregates and concrete during the construction of the existing Woodhouse Windfarm.

The principal route for aggregate is from Roadstone Cappagh Quarry, along the L2018, L2019 and on to the N72, The route then proceeds to the R671, along the R671 to the Clogh crossroads where it turns left onto the L6074 and then continue onto the L60741 to the main entrance to the existing Woodhouse Windfarm. Traffic from Keereen Quarry on the R671 will also follow the same route from the R671. In order to access Woodhouse Substation construction traffic will also, cross the L6074 at Keereen Upper between one existing Woodhouse Windfarm entrance and another existing Woodhouse Windfarm entrance. Further material deliveries will be transported along the same route from Clogh crossing roads onto the L6074 and then onto the L60741 to the main entrance of the existing Woodhouse Windfarm. Turbines components will be transported along the N25 and N72 likely from Belview port and then follow the same route as the rest of the material deliveries along the R671, L6074 and L60741 to the main entrance to the existing Woodhouse Windfarm.

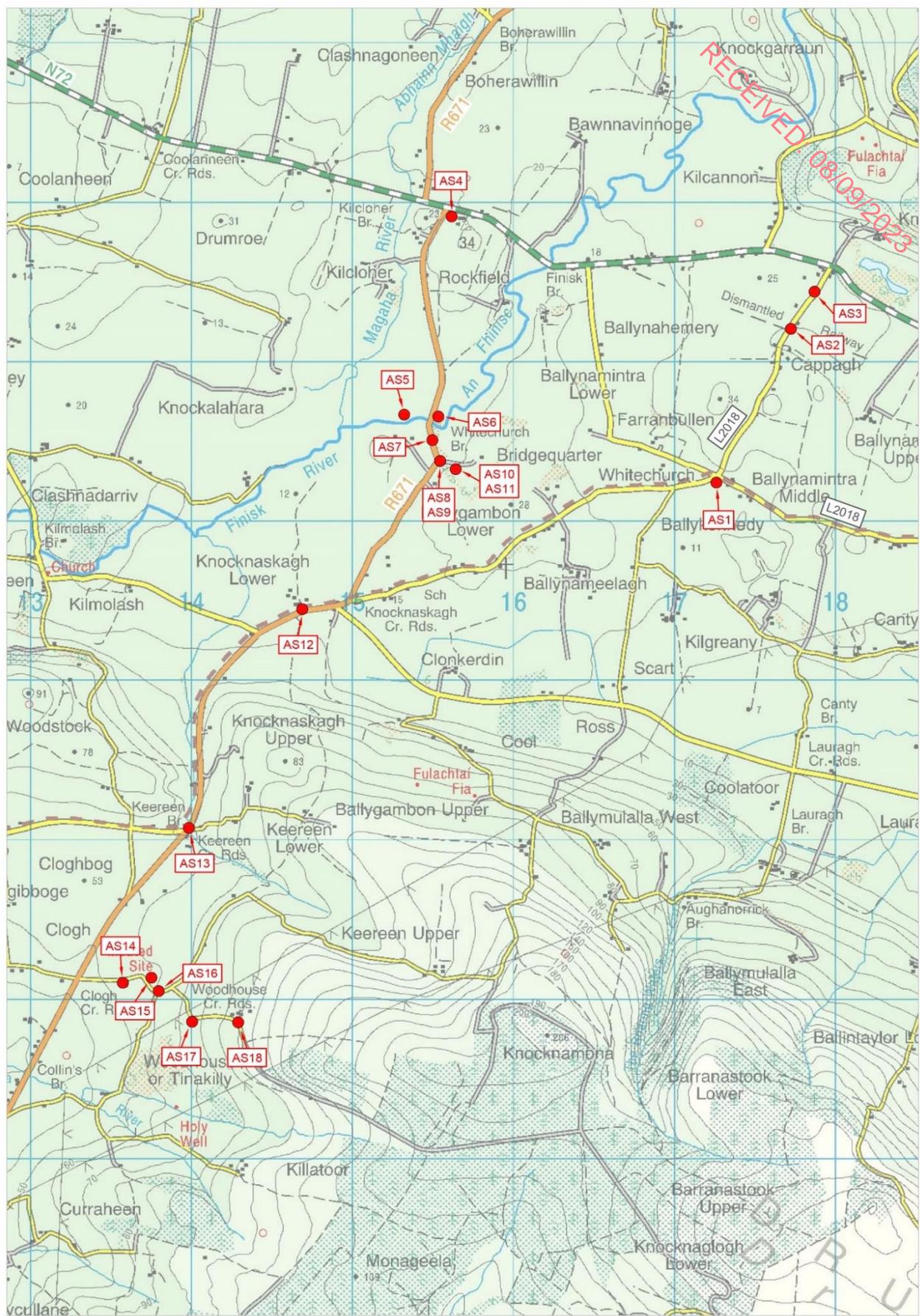


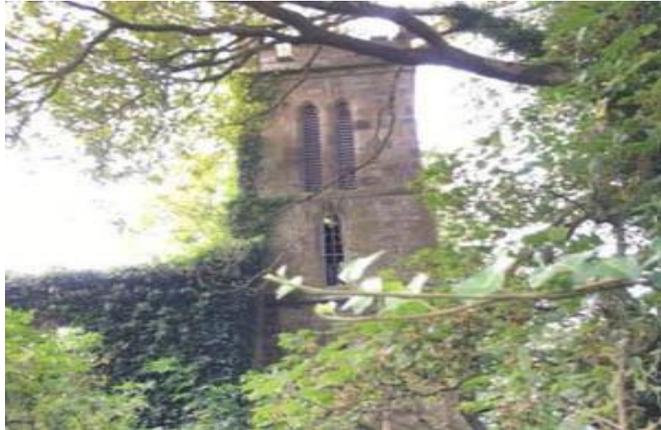
Figure 1: Location of Architectural Heritage Assessment Structures (AS)

### A13.2.2 Assessment Structure No.1 (AS1)

Property	Whitechurch Church				
Status	Protected Structure, Recorded Monument				
RPS No.	668	NIAH No.	22903032	RMP No.	WA030-017001
Townland	Ballykennedy	Public Road ID	L2018	Co-Ordinates	617208, 595299

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#### A13.2.2.1 Photographs

	
<p><b>Photograph 1: Part of boundary wall and gate to Whitechurch</b></p>	<p><b>Photograph 2: Cottage along roadside forming part of boundary of churchyard</b></p>
	
<p><b>Photograph 3: View of tower</b></p>	

### A13.2.2.2 Maps

	
<p><b>Map 1:</b> Extract from Taylor and Skinner road map of 1777. A church is shown, apparently not a ruin</p>	<p><b>Map 2:</b> Extract from First OS map c.1840 shows outline of present church and other buildings.</p>

### A13.2.2.3 Description of Structure

The existing church is a roofless ruined, three bay, double height, single cell, Board of First Fruits, Church of Ireland, Church. Which was built in 1831 with a grant of £600, it remained in use until 1927. It has a three stage square tower. The Ordnance Survey map indicates that it was built on the site of an earlier medieval church. The building sits in an enclosed graveyard where there are stones dating to c.1700 according to NIAH record. The church appears on the first OS map surveyed in 1839.

The graveyard is surrounded by a random rubble wall and a ruined cottage which runs along the roadside of the L2018 where it joins the L2019 which is part of the haul route, but not on the route for the transport of the turbine components. The entrance to the graveyard is through a pair of cut-stone piers with string courses and cut-stone caps, supporting double wrought iron gates.

NMS description: Located on a slight rise in an undulating landscape. The parish church of Whitechurch (WA030-017001-) was within a rectangular, neglected graveyard (WA030-017002-) defined by stone-clad earthen banks. There was no evidence of the architectural fragments or the graveslab of Catherine Hyde (WA030-017004-), described by Power (1898a, 88-9).

Note: as the zone of notification extends over the road a Section 12 notification should be made to the minister for works at or near a monument. It must be noted that there are no works required within this zone of notification in relation to the subject development (KWF Grid Connection).

### A13.2.2.4 History of Structure

The Board of first Fruits was established in 1711 by Queen Anne who reigned from 1702 to 1714 to build and improve churches and glebe houses in Ireland. It was paid for by a tax on clerical incomes which were themselves funded by a system of tithes levied on the local population, leading to escalating protests, but it was not until 1869 that the tithes were completely abolished. When the church was built, the Church of Ireland was the established state church despite 75% of the population being catholic. It is not known who the architect of the church was but it follows the typical form of Board of First Fruits churches of this era.

### A13.2.2.5 Impact Assessment

1. Possible impact
2. Possible vibration

Traffic counts were carried out along the L2018, which has an average daily traffic count of 148 Passenger Car Units. The proposed KWF Grid Connection requires crushed stone and concrete from Cappagh quarry for a 2 month period. It is anticipated there is a requirement for 2 HGVs every second day.

An inspection of the buildings revealed while it is roofless, the walls and tower of the church remain largely intact as far as it is possible to see from a ground based survey with the ivy covering much of the building. The cottage ruin along the road was showing some signs of masonry collapse but this was mainly due to the rotting of timber lintels. Some conservation of this building in the form of replacement of lintels and some pointing would remedy the ongoing deterioration.

### A13.2.2.6 Discussion

The church and associated walls and cottage are on a wide intersection where four roads meet. The quarry is a short distance from the church and the boundary of the churchyard is shared with the quarry to the south and east. With the road running around the north of the churchyard, the increase in traffic due to the proposed development will not have any noticeable adverse impact on the church given the considerable heavy traffic already passing on the road.

The likelihood of collision is relatively low as the road is very wide at this point, and with construction traffic travelling within the posted speed limits and the lightly trafficked nature of the road (see Traffic & Transport Impact Assessment Appendix 12.3), therefore barring an accident, no impact is likely.

The likelihood of vibration damaging the buildings is modest as due to the intersection of roads the traffic speed is low, the road surface is good, the total increase in traffic volume is negligible compared to existing volumes and the construction period is short at 2 months.

### A13.2.2.7 Recommendations

No further recommendations.

### A13.2.3 Assessment Structure No.2 (AS2)

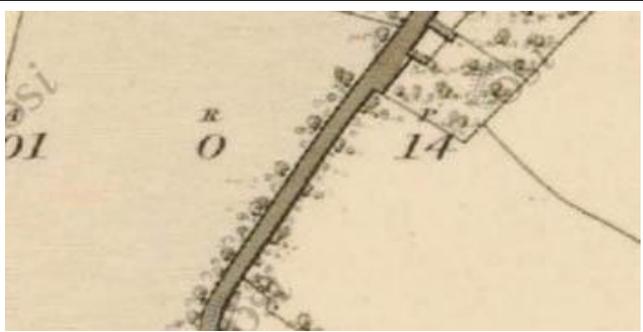
Property	Level Crossing Gate House				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Cappagh	Public Road ID	L2019	Co-Ordinates	617671, 596263

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#### A13.2.3.1 Photographs

	
<p><b>Photograph 1:</b></p>	

#### A13.2.3.2 Maps

	
<p><b>Map 1: Detail from first OS map c.1840 where the building does not appear</b></p>	<p><b>Map 2: Detail from Second OS map c.1900 where the building and the railway first appear</b></p>

#### A13.2.3.3 Description of Structure

Two bay single storey roughly squared, coursed, random rubble level crossing gate house, with limestone quoins. Replacement fibre-cement roof tiles on hipped roof, with newly rendered chimney with modern ceramic pots. Plastic guttering Replacement door.

Timber sash window, appears to be modern replacement.

Lies alongside the L2019 which is on the haul route for stone and aggregates from Roadstone Cappagh Quarry to KWF Grid Connection. The building is approximately 1m from the roadway.

#### A13.2.3.4 History of Structure

Appears first on Second OS map c.1900. The Waterford, Dungarvan and Lismore Railway Company was set up in 1872 and the line opened in 1878. Suggesting the gate house was built 1872-78. The Duke of Devonshire who owned Lismore Castle was the main shareholder of the line, hence it was known as the "Duke's Line". The line operated until 1967 when the line from Dungarvan to Mallow was dismantled, the line from Dungarvan to Waterford continued to operate until 1987 when it too was closed. This is now the Waterford Greenway. Thus the level crossing would have fallen into disuse around 1967. The building has recently been refurbished and appears to be in good order.

#### A13.2.3.5 Impact Assessment

1. Possible impact
2. Possible vibration

Traffic counts were carried out along the L2019, which has an average daily traffic count of 335 Passenger Car Units. The proposed KWF Grid Connection requires crushed stone and concrete from Cappagh quarry for a 2 month period. It is anticipated there is a requirement for 2 HGVs every second day.

An inspection of the building revealed it to be in excellent condition having been renovated recently. The renovations would not be to conservation standard but if the building is to be used this will help to preserve it for the future.

#### A13.2.3.6 Discussion

This building acts as a reminder of the railway which once serviced the locality and is an attractive addition to the visual appeal of the locality. Whilst the additional traffic due to the development is unlikely to effect this building it would be sensible to limit the speed of the HGVs servicing the quarry for safety and to minimise the nuisance and damage to all buildings along the route. Since the building would have been built with a lime mortar which has good flexibility the core of the walls should be secure, however if it has been pointed with sand and cement which is much more brittle this may crack if excessive vibrations are experienced.

The likelihood of collision is relatively low as the road is straight at this point, construction traffic travelling within the posted speed limits, lightly trafficked nature of the road (see Traffic & Transport Impact Assessment Appendix 12.3), so barring accident, no impact is likely.

The likelihood of vibration damaging the building is medium as traffic may be fast along this relatively straight road, however the road surface is good minimising sources of vibration, the total increase in traffic volume is negligible compared to existing volumes and the construction period is short at 2 months.

#### A13.2.3.7 Recommendations

No further recommendations

### A13.2.4 Assessment Structure No.3 (AS3)

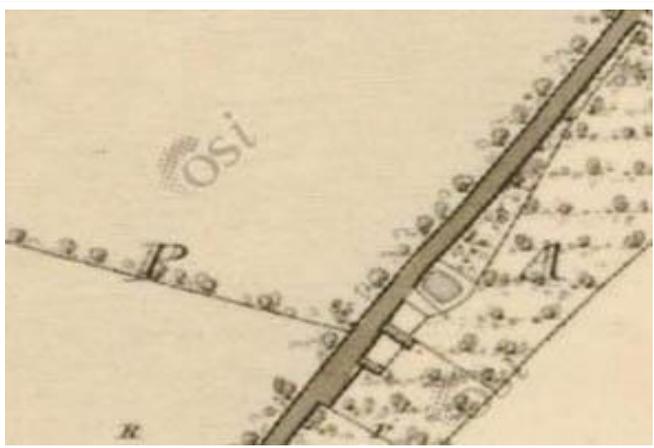
Property	Wall along road				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Cappagh	Public Road ID	L2019	Co-Ordinates	617818, 596496

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#### A13.2.4.1 Photographs

	
<p>Photograph 1: Roadside wall</p>	

#### A13.2.4.2 Maps

	
<p>Map 1: extract from first OS map c.1840. Wall is to the right side of the road above the 'A'</p>	<p>Map 2: extract from second OS map c.1900. Wall is to the right side of the road above the 'A'</p>

#### A13.2.4.3 Description of Structure

Random rubble roadside wall

#### A13.2.4.4 **History of Structure**

Map evidence is inconclusive as to this wall. There is a slightly heavier line along the roadside on both the first and second OS maps but this is not necessarily a sign that the wall existed. The wall is typical of field boundaries, formed from stones gathered off the field after ploughing built into a wall. Parts of this wall may be more recent repairs.

#### A13.2.4.5 **Impact Assessment**

1. Possible impact
2. Possible vibration

Traffic counts were carried out along the L2019, which has an average daily traffic count of 335 Passenger Car Units. The proposed KWF Grid Connection requires crushed stone and concrete from Cappagh quarry for a 2 month period. It is anticipated there is a requirement for 2 HGVs every second day.

An inspection of the wall revealed it to be in good condition showing no signs of distress due to traffic.

#### A13.2.4.6 **Discussion**

Since the wall would have been built with a lime or earth based mortar which both have good flexibility the wall should be well able to withstand the likely vibrations due to traffic. If there are repairs or pointing in sand and cement which is more brittle it is possible this may crack if excessive vibrations are experienced.

The likelihood of collision is relatively low as the road is straight at this point, so barring accident, no impact is likely.

The likelihood of vibration damaging the building is medium as traffic may be fast along this relatively straight road, however the road surface is in good condition which minimises vibration.

#### A13.2.4.7 **Recommendations**

No further recommendations

### A13.2.5 Assessment Structure No.4 (AS4)

Property	Lime Kiln				
Status	Protected Structure				
RPS No.	775	NIAH No.	22903016	RMP No.	
Townland	Kilclogher	Public Road ID	N72 / R671	Co-Ordinates	615563, 596968

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#### A13.2.5.1 Photographs

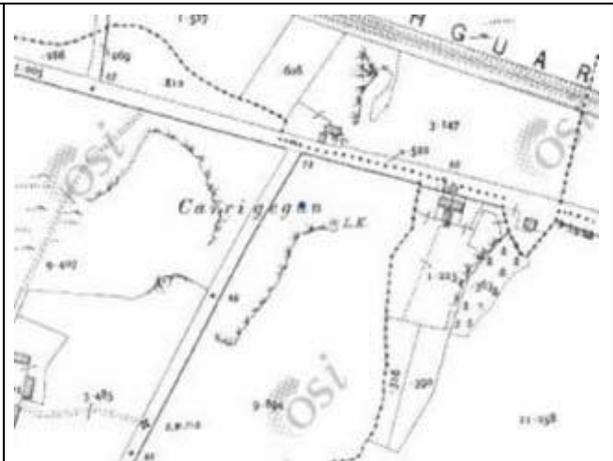


Photograph 1:

#### A13.2.5.2 Maps



Map 1: Extract from first OS map c.1840, kiln does not appear. Position of kiln is close to blue spot in the middle



Map 2: Extract from second OS map c.1900. Lime kiln appears labelled 'LK' close to the blue spot

### A13.2.5.3 Description of Structure

Freestanding single-bay single-stage rubble stone lime kiln, c.1800, on a square plan. Now disused. Random rubble stone walls with lime mortar. Segmental-headed opening to oven with squared sandstone voussoirs, and soffits/lining not visible. Set back 35m from road, and part engaged into slope of hill. (NIAH description) Note the kiln must be later than 1800 as it is not shown on the First OS map.

Appraisal (NIAH):

A pleasant, small-scale artefact of industrial heritage significance on account of its original intended purpose as a communal facility for the preparation of lime. Although now long disused, and partly reclaimed by the surrounding landscape, the lime kiln, marked as "Carrigegan" on the Ordnance Survey, continues to enhance the historic character of the locality.

Set back from R671 around 40 meters. R671 is a haul route for materials deliveries, construction personnel and abnormal loads deliveries

### A13.2.5.4 History of Structure

Mid to late 19th century lime kiln, vernacular structure used to burn lime to make quicklime for agricultural and building purposes. Fell out of use when ground limestone flour and larger kilns came into use early 20th century.

These are very solid constructions with very thick masonry walls and large amounts of fill for insulation and to form the required conical kiln inside.

### A13.2.5.5 Impact Assessment

Possible impacts:

1. Vibration - Very unlikely due to the large distance from the road (35 meters)

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units vehicles. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

### A13.2.5.6 Discussion

This building is set back from the road sufficiently for there to be virtually no risk of any damage due to vibration, it is suggested this building will be unaffected by any existing or proposed traffic using the R671.

### A13.2.5.7 Recommendations

No further action

### A13.2.6 Assessment Structure No.5 (AS5)

Property	Road Trackway Bothar na Naomh				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-011---
Townland	Bridgequarter	Public Road ID	R671	Co-Ordinates	615480, 595713

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#### A13.2.6.1 Photographs

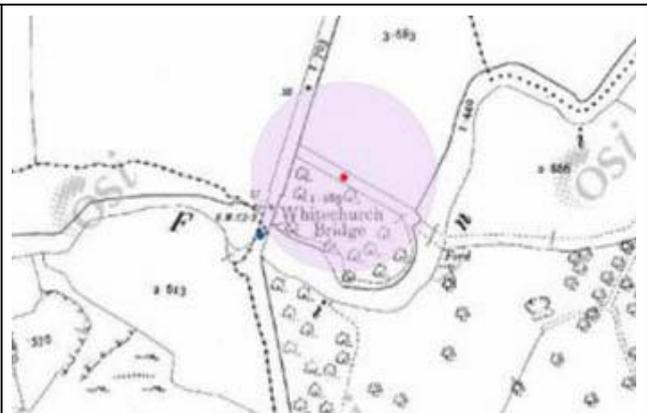


Photograph 1:

#### A13.2.6.2 Maps



Map 1: Extract from First OS map c.1840 showing trackway (red spot)



Map 2: Extract from Second OS map c.1900 showing trackway (red spot)

#### A13.2.6.3 Description of Structure

The trackway is now a farm track running along the side of a field with no discernible special features. The track runs along the side of a copse of trees and there is no sign of any linear feature within the trees beyond a slight ditch and bank to the side of the trackway.

The trackway runs from the R671 to the river Finisk. R671 falls into the Zone of Notification for the monument. R671 is a haul route for both materials, staff and abnormal loads for the KWF Grid Connection.

Note: as the zone of notification extends over the road a Section 12 notification should be made to the minister of works at or near a monument. It must be noted that there are no works required within this zone of notification in relation to the subject development (KWF Grid Connection).

#### A13.2.6.4 History of Structure

Description from Record of Monuments and Places:

According to Power (1905, 123) an ancient road running between Lismore and Ardmore crossed the N-S River Blackwater at a ford (WA029-012----), which brought it to Affane (WA029-013----). From here a branch (WA029-014----) extended E (L c. 3.5m) towards Whitechurch along public and private roads, but it disappears c. 1km from the E-W River Finisk (Power 1905, 123-4). However, a short section (L c. 100m) survives as a lane leading to the river (WA030-011----). From Whitechurch the route turned S (WA029-045-- --).

Power, Rev. P. (1905) The Rian bó Phadruig (the ancient highway of the Decies) JRSAI 35, 110-29.

#### A13.2.6.5 Impact Assessment

Possible impacts:

1. Vibration - very unlikely to damage the trackway as there are no standing remains.

Traffic counts were carried out along the R671, revealing an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

The likelihood of vibration in this situation is further reduced by the proximity of Whitechurch bridge which requires all traffic to slow down. The total increase in traffic volume is negligible compared to existing volumes and the construction period is short at 2 months.

#### A13.2.6.6 Discussion

It is considered unlikely any damage will be caused to the monument from the passing traffic associated with the proposed development

#### A13.2.6.7 Recommendations

No Further recommendations

**A13.2.7 Assessment Structure No.6 (AS6)**

Property	Whitechurch Bridge				
Status	Protected Structure				
RPS No.	664	NIAH No.	22903018	RMP No.	
Townland	Ballygambion Lower	Public Road ID	R671	Co-Ordinates	615268, 595725

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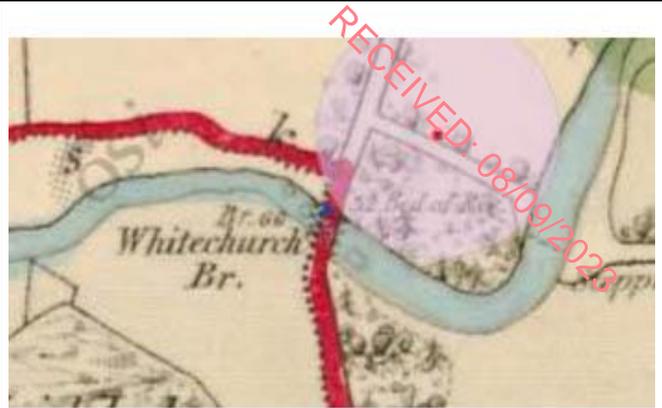
**A13.2.7.1 Photographs**

	
<b>Photograph 1: Whitechurch Bridge from east side</b>	<b>Photograph 2: Bridge designation</b>
	
<b>Photograph 3: View of parapet.</b>	

### A13.2.7.2 Maps



Map 1: Taylor and Skinner Road map of 1777 showing bridge arrowed green.



Map 2: Extract from First OS map c.1840 showing bridge with four piers, possibly indicating a five arch bridge.

### A13.2.7.3 Description of Structure

Description from NIAH Record:

Three-arch rubble limestone road bridge over river, c.1830. Random rubble stone walls with lime mortar, cut-stone triangular cut-waters to piers, and rubble stone coping to parapets. Series of three segmental arches with squared limestone voussoirs, and squared rubble stone soffits having render over. Sited spanning the Finisk River with grass banks to river.

There is a ford to the west of the bridge, it is also close to the Trackway recorded monument documented above.

The parapet has a sand and cement capping, and there are some areas of sand and cement pointing evident on the sides of the parapet.

R671 runs over the bridge where it crosses the river Finisk. R671 is a haul route for materials deliveries, construction personnel and abnormal loads deliveries.

The bridge was noted in Survey of Bats and Bridges in County Waterford by Dixon, Smiddy and Sheehy 2008 where Whitechurch Bridge (No.77) was noted as having 'Evidence of usage by Bats' (code 3) and there being evidence of Goldcrest, Moorhen, Raven, Dipper, Goldfinch, Otter and mink.

The bridge was surveyed by TLI Group as part of this application (see Structural Inspection of Bridges Appendix 12.5 ) and noted to be in good condition.

### A13.2.7.4 History of Structure

The NIAH record suggests a date of 1830 for Whitechurch Bridge. A bridge is shown on the First OS map c.1840 which appears to have four piers suggesting five arches. So it is possible that the bridge shown on the map is an earlier construction which was then rebuilt after the OS map was surveyed to have only three arches.

A bridge is suggested on the 1777 Taylor and Skinner road map, as the road passes over the river. But no detail is given. This suggests there may have been an earlier bridge.

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#### A13.2.7.5 Impact Assessment

Likely Impacts:

1. Collision of vehicles or loads against the parapet
2. Vibration due to passage of traffic
3. Damage to the bridge due to excessive weight.

Traffic counts were carried out along the R671, revealing an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

The likelihood of vibration in this situation is further reduced by the nature of the bridge which requires all traffic to slow down.

#### A13.2.7.6 Discussion

1. Collision of vehicles or loads against the parapet. This is possible or probable for abnormal loads if due care is not taken. Suggested mitigation; Abnormal loads for KWF Grid Connection will be escorted to site with dedicated escort vehicles and rear axle steering assistance. Escorts will control traffic when abnormal loads are passing over bridge and rear axle steering assistance engaged, if required, to ensure any damage to the bridge or parapet walls is avoided.

A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this historic structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

2. Vibration due to passage of traffic. There will be vibration but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. Whilst the road surface cannot be altered easily it is relatively easy to impose speed limits as discussed above.

3. TLI Group have assessed Whitechurch and found it in good condition and recently maintained. TLI Group considered Whitechurch bridge suitable for construction traffic associated with KWF Grid Connection, see Structural Inspection of Bridges Appendix 12.5.

#### A13.2.7.7 Recommendations

1. Restrict speed for construction traffic over bridge.
2. Abnormal loads escorts to control traffic and rear steering assistance, if required.

**A13.2.8 Assessment Structure No.7 (AS7)**

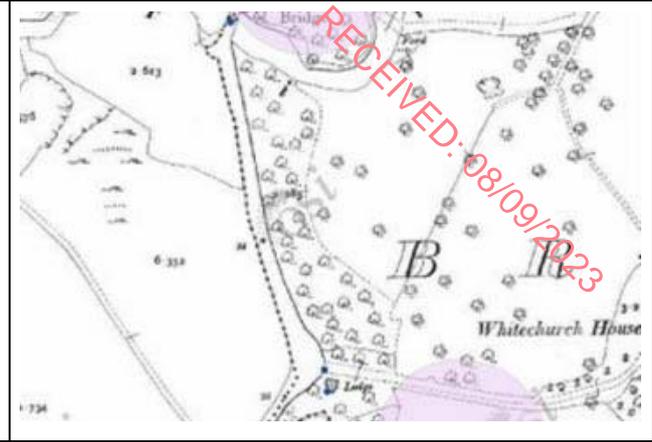
Property	Demesne Wall, Whitechurch House				
Status	Protected in curtilage of Whitechurch House				
RPS No.	61	NIAH No.		RMP No.	
Townland	Ballygambion Lower	Public Road ID	R671	Co-Ordinates	615443, 595565

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**A13.2.8.1 Photographs**

	
<b>Photograph 1:</b>	<b>Photograph 2: view of end of wall by farm gate.</b>
	
<b>Photograph 3: Showing narrow verge by corner where abnormal loads should be encouraged to drive away from the wall requiring traffic control</b>	

### A13.2.8.2 Maps

	
<p><b>Map 1:</b> From First OS map c.1840. Wall runs to the right of the red line from Whitechurch bridge to the entrance flare and gate lodge for the House. The map does not definitively indicate a wall, but the heavy line does suggest it.</p>	<p><b>Map 2:</b> From Second OS map c.1900 Wall runs to the right of the red line from Whitechurch bridge to the entrance flare and gate lodge for Whitechurch House. The map does not definitively indicate a wall, but the heavy line does suggest it.</p>

### A13.2.8.3 Description of Structure

Demesne Wall running along road. Coursed random rubble limestone wall mortared with a soft lime mortar with soldier course on the top. There are some sand and cement repairs and occasional pieces of concrete incorporated into the wall, particularly in the soldier course. Largely in excellent condition. One gateway with modern farm gate the wall runs from Whitechurch bridge to the entrance gates to Whitechurch House.

R671 runs immediately alongside the wall. A verge of approximately 400 mm wide separates the wall from the road. R671 is a haul route for both materials deliveries, construction personnel and abnormal loads deliveries, and the loads will be onboard when travelling on the carriageway closest to the wall.

### A13.2.8.4 History of Structure

The wall surrounds the demesne of Whitechurch House which itself dates to c.1820 and is reputed to have been built on the site of an earlier house dating to 1737.

The map evidence is not definitive, but it appears there is a clear boundary between the Whitechurch House estate and the road on the first OS map surveyed c.1840 as a heavy line which may indicate a wall. (see fig 2 below)

The wall also appears to be consistent with demesne walls built as famine relief dating it to 1845-9. During the famine it was considered unwise to give monetary relief and that any sort of paid work was preferable, so walls and roads were built in exchange for often very poor wages. It is suggested that the wall dates to the mid-19th century and is thus around 170 years old.

Whitechurch House has been home to some notable families amongst whom are:

The Forsayeths. Gordon William Forsayeth surveyed and excavated the caves on the estate leaving ten notebooks of detailed observations and numerous artefacts.

Captain Bill Allen (1901-73), whose father had purchased Whitechurch, Bill Allen retired to Whitechurch, building an extensive library of books on the Russian Empire and the Caucasus and writing a number of books on the subject.

#### A13.2.8.5 Impact Assessment

Likely Impacts:

1. Collision of vehicles or loads against the wall
2. Vibration due to passage of traffic

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### A13.2.8.6 Discussion

Collision of vehicles or loads against the wall is possible. In order to avoid collision with the walls, abnormal load escorts will control traffic to allow enough separation distance to the walls to ensure they are not damaged. Traffic cones will be placed along the length of the wall during abnormal loads to ensure they are clear of the wall to reduce likelihood of collision damage and to help reduce vibration.

A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this historic structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

2. Vibration due to passage of traffic. There will be vibration, but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. Whilst the road surface cannot be altered easily it is relatively easy to impose speed limits for construction traffic as discussed above. The greater the distance away from a structure any vehicle travels the less intense the vibration experienced by that structure. A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

#### A13.2.8.7 Recommendations

1. Traffic cones along wall during abnormal load deliveries and abnormal load escorts to control traffic.
2. Speed restrictions to reduce vibration energy and further reduce likelihood of collision damage.

### A13.2.9 Assessment Structure No.8 (AS8)

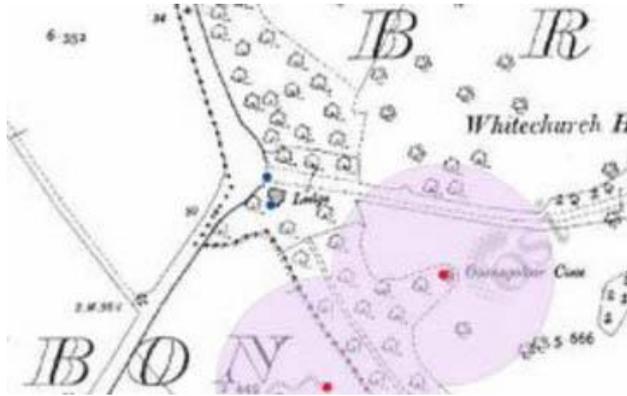
Property	Gate/railings/Walls				
Status	Protected in curtilage of Whitechurch House				
RPS No.	61	NIAH No.	22903019/28	RMP No.	
Townland	Bridgequarter (D.WT.BY)	Public Road ID	R671	Co-Ordinates	615491, 595434

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#### A13.2.9.1 Photographs

	
<p><b>Photograph 1:</b></p>	

#### A13.2.9.2 Maps

	
<p><b>Map 1:</b> From First OS map c.1840. Entrance flare is visible just above the red line and labelled as such.</p>	<p><b>Map 2:</b> From Second OS map c.1900</p>

#### A13.2.9.3 Description of Structure

Gateway c.1820 with limestone ashlar piers, wrought iron gates and random rubble flanking boundary walls.

The R671 runs immediately alongside the entrance flare. The flare is around 15 meters wide so the walls are this distance from the road and the gate lodge a further 2-3 meters away. The R671 is a haul route for both materials deliveries, construction personnel and the abnormal loads deliveries, and the loads will be onboard when travelling on the carriageway closest to the entrance.

#### **A13.2.9.4 History of Structure**

The entrance is to the demesne of Whitechurch House which itself dates to c.1820 but is reputed to have been built on the site of an earlier house dating to 1737.

The map evidence shows the flare and gate lodge on the first OS map dating to c.1840 .(see fig 2 below) The design of the gate lodge is consistent with architecture of this period suggesting it was built at the same time as the house itself was rebuilt.

Whitechurch House has been home to some notable families amongst whom are:

The Forsayeths. Gordon William Forsayeth surveyed and excavated the caves on the estate leaving ten notebooks of detailed observations and numerous artefacts.

Captain Bill Allen (1901-73), whose father had purchased Whitechurch, Bill Allen retired to Whitechurch, building an extensive library of books on the Russian Empire and the Caucasus and writing a number of books on the subject.

#### **A13.2.9.5 Impact Assessment**

The likelihood of impact on the historic structures due to either direct impact or vibration appears to be low due to the distance of the structure from the road itself.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### **A13.2.9.6 Discussion**

These structures will not be at risk due to the proposed KWF Grid Connection.

#### **A13.2.9.7 Recommendations**

No further recommendations

### A13.2.10 Assessment Structure No.9 (AS9)

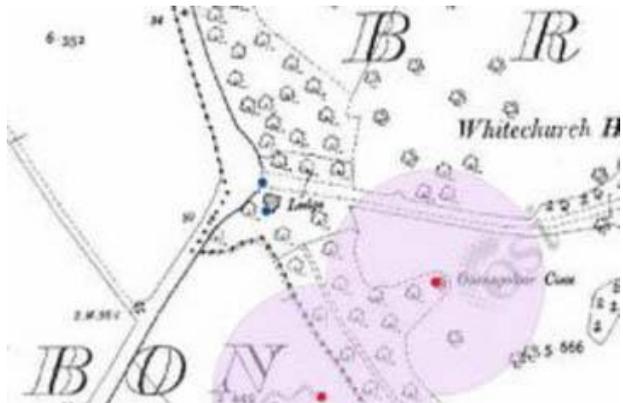
Property	Gate lodge of Whitechurch House				
Status	Protected part of curtilage Whitechurch House				
RPS No.	61	NIAH No.	22903019	RMP No.	
Townland	Bridgequarter (D.WT.BY)	Public Road ID		Co-Ordinates	615491, 595434

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#### A13.2.10.1 Photographs

	
Photograph 1:	Photograph 2:

#### A13.2.10.2 Maps

	
Map 1: From First OS map c.1840. Gate lodge is visible just above the red line and labelled as such.	Map 2: From Second OS map c.1900

#### A13.2.10.3 Description of Structure

Two bay single storey gate lodge c.1820. Renovated and extended c.1995. (Possibly planning application 94/709?) Hipped natural slate roof black concrete ridge tiles, plastic gutters, rebuilt rubble chimney. Random rubble walls which would have been rendered.

The R671 runs immediately alongside the entrance flare. The flare is around 15 meters wide and the gate lodge a further 2-3 meters further away, meaning it is approximately 17-18 meters from the road. R671 is a haul route for materials deliveries, construction personnel and abnormal loads deliveries, and the loads will be onboard when traveling on the carriageway closest to the entrance.

#### **A13.2.10.4 History of Structure**

The entrance is to the demesne of Whitechurch House which itself dates to c.1820 but is reputed to have been built on the site of an earlier house dating to 1737.

The map evidence shows the gate lodge on the first OS map dating to c.1840 .(see fig 2 below) The design of the gate lodge is consistent with architecture of this period suggesting it was built at the same time as the house itself was rebuilt.

Whitechurch House has been home to some notable families amongst whom are:

The Forsayeths. Gordon William Forsayeth surveyed and excavated the caves on the estate leaving ten notebooks of detailed observations and numerous artefacts.

Captain Bill Allen (1901-73), whose father had purchased Whitechurch, Bill Allen retired to Whitechurch, building an extensive library of books on the Russian Empire and the Caucasus and writing a number of books on the subject.

#### **A13.2.10.5 Impact Assessment**

The likelihood of impact on the historic structures due to either direct collision or vibration appears to be low due to the distance of the structure from the road itself.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### **A13.2.10.6 Discussion**

This building will not be at risk due to the proposed KWF Grid Connection development

#### **A13.2.10.7 Recommendations**

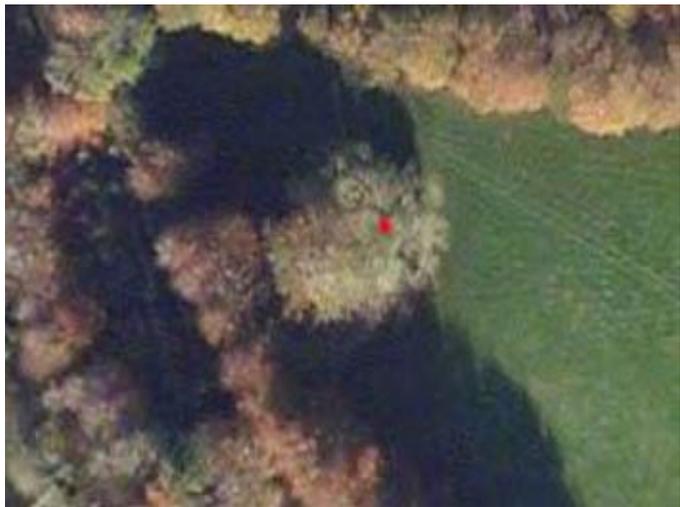
No further recommendations

### A13.2.11 Assessment Structure No.10 (AS10)

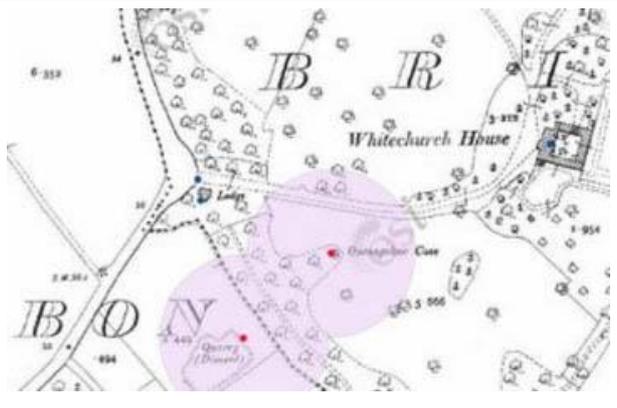
Property	Oonaglor Cave				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-012001-
Townland	Bridgequarter	Public Road ID	R671	Co-Ordinates	615588, 595383

RECEIVED: 08/09/2023

#### A13.2.11.1 Photographs

	
<p><b>Photograph 1:</b> Aerial view of Oonaglor cave (hidden by tree)</p>	<p><b>Photograph 2:</b> View of the entrance to the cave reproduced from Colonel Forsayeth's notes in Archaeology Ireland Spring 2002</p>

#### A13.2.11.2 Maps

	
<p><b>Map 1:</b> The cave is named in the First OS map c.1840</p>	<p><b>Map 2:</b> The cave is also named in the Second OS map c.1900</p>

#### A13.2.11.3 Description of Structure

Located on a low W-facing slope. A limestone cave known locally as 'Oonaglor' (dims. c. 5m x c. 3m) is entered by a narrow passage (L c. 12m).

Set around 100 meters east of the R671 which is a haul route for materials deliveries, construction personnel and abnormal loads deliveries.

#### A13.2.11.4 History of Structure

Surveyed by Gordon William Forsayeth c.1909 who was brought up at Whitechurch. Son of Lieutenant Colonel Richard William Forsayeth who was a Brigade Surgeon in India and retired to Whitechurch in 1884. His family had fled to Ireland in the mid-18th century after Captain James Forsayth was involved in the Earl of Marr's failed Jacobite uprising in support of James Stuart the 'Old Pretender' in 1715.

The cave "was investigated in 1906 when the bones of fowl and rabbit with some pottery, possibly medieval in date, were found. The first entrance to the Brothers' Cave is c. 70m to the SW, but a connection between the two caves was not re-opened. The original notebooks have been recovered and more detailed interpretations will be possible (Corlett and Dowd 2002). (Forsayeth 1909; 1931; Coleman 1947, 71)

Colman, J. C. (1947) Irish cave excavation. *JRSAI*, 77, 63-77.

Corlett, C. and Dowd, M. (2002) Brothers in caves. - lost archives of subterranean Waterford rediscovered. *Arch. Irl.* vol. 16, 1, No. 59, 8-10.

Forsayeth, G. W. (1909) Cave exploration in Waterford, *WAJ* 12, 111-2."

The above description is derived from the published 'Archaeological Inventory of County Waterford' (Dublin: Stationery Office, 1999). In certain instances the entries have been revised and updated in the light of recent research.

An article by Marion Dowd and Chris Corlett in *Archaeology Ireland* 2002 stated "Colonel Forsyeth's manuscripts enable the Brother's OonagLOUR cave system to be recognised as one of several very important caves used during the prehistoric and early medieval periods in south east Ireland"

#### A13.2.11.5 Impact Assessment

Possible impacts:

1 Vibration - very unlikely as the cave is set back from the road by around 100 meters

The likelihood of impact on the historic structures due to either direct collision or vibration appears to be low due to the distance of the cave from the road itself, c.100m.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### A13.2.11.6 Discussion

This monument is set back from the road sufficiently for there to be virtually no risk of any damage due to vibration, it is suggested this structure will be unaffected by any proposed KWF Grid Connection traffic using the R671.

#### A13.2.11.7 Recommendations

No further recommendations

### A13.2.12 Assessment Structure No.11 (AS11)

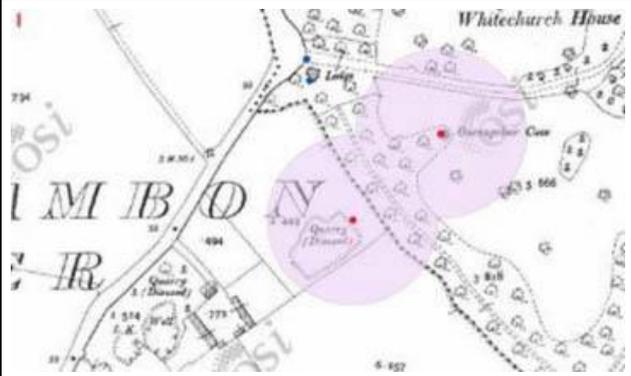
Property	Brother's Cave				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-012002-
Townland	Bridgequarter(decies without drum by	Public Road ID	R671	Co-Ordinates	

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#### A13.2.12.1 Photographs

	
<p><b>Photograph 1: Aerial view of the Brother's Cave</b></p>	

#### A13.2.12.2 Maps

	
<p><b>Map 1: Brother's cave not noted on first OS map c.1840. The cave is the lower red dot.</b></p>	<p><b>Map 2: Brother's cave not acknowledged on second OS map c.1900, but a quarry has been dug, probably to provide stone for works on the Whitechurch estate.</b></p>

#### A13.2.12.3 Description of Structure

A limestone cave called the 'Brothers' Cave' discovered in 1906

An article by Marion Dowd and Chris Corlett in Archaeology Ireland 2002 stated "Colonel Forsyth's manuscripts enable the Brother's - Oonaghour cave system to be recognised as one of several very important caves used during the prehistoric and early medieval periods in south east Ireland"

Set around 80 meters east of the R671 which is a haul route for materials deliveries, construction personnel and abnormal loads deliveries for KWF Grid Connection.

#### A13.2.12.4 History of Structure

A limestone cave called the 'Brothers' Cave' was discovered in 1906 when some metal finds with stone and amber ornaments were recovered. The cave was an extensive cruciform chamber, entered through a secondary entrance in a quarry face at the W end and leading at its E end to a NE-SW fissure. A second entrance to the cave was opened at the 'NE passage', which was at the N end of the N transept and was the place where most digging was done, although all parts of the cave were investigated. A further tunnel in the same area connected with the NE-SW fissure. Large amounts of animal bones were retrieved including sheep, pig, deer and rabbit, together with some human remains. The occupation was probably medieval in date, although some artefacts may date to the Neolithic period. The entrance to Oonaglour Cave is c. 70m to the NE of the first entrance to the Brothers' cave, but a connection between the two caves was not re-opened. The original notebooks have been recovered and more detailed interpretations will be possible (Corlett and Dowd 2002). (Forsayeth 1909; 1931)

Corlett, C. and Dowd, M. (2002) Brothers in caves. - lost archives of subterranean Waterford rediscovered. Arch. Irl. vol. 16, 1, No. 59, 8-10.

Forsayeth, G. W. (1931) The Brother's cave; abstract of a report by the late Surgeon Lieut., Colonel R. W. Forsayeth, R.P., on the discovery and exploration of a prehistoric bone cave at Whitechurch, in the County of Waterford. JRSAI 61, 179-201.

The above description is derived from the published 'Archaeological Inventory of County Waterford' (Dublin: Stationery Office, 1999). In certain instances the entries have been revised and updated in the light of recent research.

#### A13.2.12.5 Impact Assessment

Possible impacts:

1 Vibration - very unlikely as the cave is set back from the road by around 80 meters

The likelihood of impact on the historic structures due to either direct collision or vibration appears to be low due to the distance from the cave to the road itself.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### A13.2.12.6 Discussion

This monument is set back from the road sufficiently for there to be virtually no risk of any damage due to vibration, it is suggested this structure will be unaffected by the proposed KWF Grid Connection traffic using the R671.

#### A13.2.12.7 Recommendations

No Further recommendations

### A13.2.13 Assessment Structure No.12 (AS12)

Property	Roadside Farm				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Knocknaskagh Lower	Public Road ID		Co-Ordinates	614634, 594505

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#### A13.2.13.1 Photographs

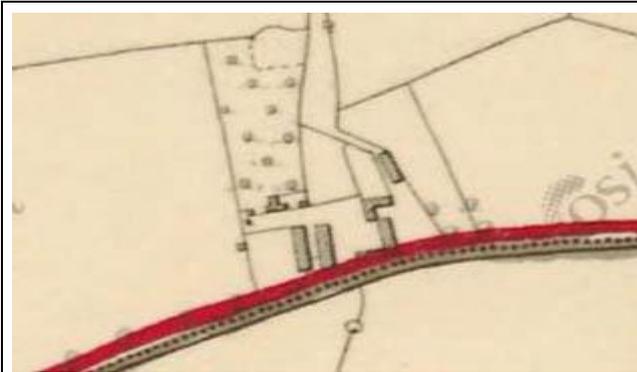


Photograph 1: View of farm building from the roadside



Photograph 2:

#### A13.2.13.2 Maps



Map 1: Extract from the first OS map c.1840, the existing building appears to be the reverse 'L' shaped building to the right along the road



Map 2: Extract from the second OS map c.1900, with the existing building appears to be the building above the figure '49' to the right backing onto the road

#### A13.2.13.3 Description of Structure

Extensive and active farm complex by the R671. Random rubble buildings including cottage and sheds. The cottage appears to have old fibre cement tiles on the roof and is rendered on the roadside. There is a single window in this elevation

The shed has a natural slate roof and is coursed random rubble un-rendered. There is a large square opening in the gable wall, which is close to an entrance with square stone piers with cut stone caps.

A random rubble wall bounds the road with a soldier course on top.

Shed and part of the cottage back onto the R671, which is a haul route for materials deliveries, construction personnel and abnormal loads deliveries

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#### A13.2.13.4 History of Structure

The existing cottage and shed buildings appear on both OS maps dating back to c.1840 or earlier.

In Griffith's Valuation (1825-44), the shed and other buildings along with surrounding 34 acres 4 roods and 23 perches was rented by James Whelan from Richard T Kelly Esq. While the cottage itself was rented by Thomas Whelan also from Richard T Kelly Esq. along with 104 acres 2 roods and 32 perches, a substantial acreage.

#### A13.2.13.5 Impact Assessment

Possible impacts:

- 1 Vibration
- 2 Collision of vehicles or loads into the building by the road.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### A13.2.13.6 Discussion

1. Collision of vehicles or loads against the wall is possible. In order to avoid a collision with the walls, abnormal load escorts will control traffic to allow enough separation distance to the walls to ensure they are not damaged. Traffic cones will be placed along the length of the wall during abnormal loads to ensure they are clear of the wall to reduce likelihood of collision damage and to help reduce vibration.

A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this historic structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

2. Vibration due to passage of traffic. There will be vibration, but it is unusual for this to cause damage to walls particularly when the speed of the vehicles is low and the condition of the road surface is smooth. Whilst the road surface cannot be altered easily it is relatively easy to impose speed limits for construction traffic as discussed above. The greater the distance away from a structure any vehicle travels the less intense the vibration experienced by that structure. A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

### A13.2.13.7 Recommendations

1. Traffic cones will be placed along the length of the wall during abnormal loads and abnormal load escorts to control traffic.
2. Speed restrictions to reduce vibration energy and further reduce likelihood of impact damage.

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**A13.2.14 Assessment Structure No.13 (AS13)**

Property	Culvert - Keereen Bridge				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Keereen	Public Road ID	R671	Co-Ordinates	6

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**A13.2.14.1 Photographs**



Photograph 1:



Photograph 2: View of bridge arch from north west side

**A13.2.14.2 Maps**



Map 1: Bridge appears and is named on the first OS map surveyed c.1840



Map 2: Bridge appears and is named on the second OS map surveyed c.1900

**A13.2.14.3 Description of Structure**

Single arch culvert or bridge over the Glenkeereen Stream. Limestone random rubble stone walls with lime mortar. Roughly squared limestone voussoirs. Extends full width of the road without apparent widening. Top

of arch around 600mm below road surface. Parapets random rubble with sand and cement rounded capping and some sand and cement pointing. Around 600mm high.

The R671 runs immediately over this culvert and is a haul route for materials deliveries, construction personnel and abnormal loads deliveries.

The bridge was noted in Survey of Bats and Bridges in County Waterford Dixon, Smiddy and Sheehy 2008 where Keereen Bridge (No.76) was noted as being 'Suitable for Bats' (Code 2) and there being evidence of Grey wagtails, Otter and hedgehog.

The bridge was surveyed by TLI Group as part of this application (see Structural Inspection of Bridges Appendix 12.5 ) and noted to be in fair to good condition.

#### **A13.2.14.4 History of Structure**

Culvert or bridge over the Glenkeereen Stream which appears on the first OS map as Keereen Bridge suggesting it dates to c.1840 or earlier.

#### **A13.2.14.5 Impact Assessment**

Likely Impacts:

1. Collision of vehicles or loads against the parapet
2. Vibration due to passage of traffic
3. Damage to the bridge due to excessive weight.

Traffic counts were carried out along the R671, which has an average daily traffic count of 1,774 passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### **A13.2.14.6 Discussion**

1. Collision of vehicles or loads against the parapet. This is possible but the road is wide and there is a verge of around 1 meter to separate the vehicles from the parapets. A speed limit will be imposed for abnormal loads for KWF Grid Connection of 50kph whilst passing this historic structure.

2. Vibration due to passage of traffic. There will be vibration but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. TLI group have described the bridge to be in a fair to good condition, the total increase in traffic volume is negligible compared to existing volumes and the construction period is short at 2 months.

3. A very small bridge set well below road surface close to Keereen Quarry. It is unlikely that the additional traffic will cause damage. TLI Group have assessed that the bridge is considered suitable for construction traffic associated with KWF Grid Connection, see Structural Inspection of Bridges Appendix 12.5.

#### **A13.2.14.7 Recommendations**

1. Restrict speed of Abnormal Load deliveries over the bridge.

**A13.2.15 Assessment Structure No.14 (AS14)**

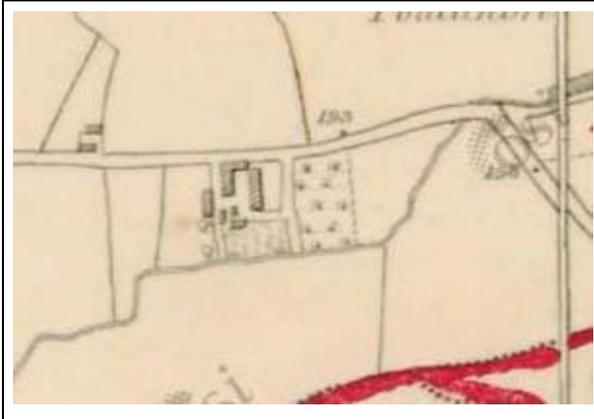
Property	Farm by roadside				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Clogh decies with Drum	Public Road ID	L6074	Co-Ordinates	613519, 592162

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**A13.2.15.1 Photographs**

	
<b>Photograph 1:</b>	<b>Photograph 2: view of the buildings from the east</b>
	
<b>Photograph 3: view of the buildings from the east and north</b>	

### A13.2.15.2 Maps

	
<p><b>Map 1: Farm appears on the first OS map so it dates to before c.1840</b></p>	<p><b>Map 2: Farm appears in second OS map much as it is today.</b></p>

### A13.2.15.3 Description of Structure

Group of farm buildings by L6074

Only the east and north elevations were visible from the road so it was hard to see what the buildings' purposes were.

All are random rubble, coursed and slated with a variety of slates. There are brick and random rubble chimneys and clay ridges on the hipped roof and ridges elsewhere

### A13.2.15.4 History of Structure

The buildings date to before c.1840 as they appear on the first OS map which was surveyed at that date.

In Griffith's Valuation (1825-44), the farm and surrounding 64 acres, 2 roods and 20 perches was rented by Patrick Dee from Francis Kennedy Esq.

### A13.2.15.5 Impact Assessment

Likely Impacts:

1. Collision of vehicles or loads against the walls along the road side
2. Vibration due to passage of traffic

Traffic counts were carried out along the L6074, which has an average daily traffic count of 87 Passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

### A13.2.15.6 Discussion

1. Collision of vehicles or loads against the walls along the road side. This is possible but the road is wide and there is a verge of around 2 meters to separate the vehicles from the structures. A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach. Traffic cones will be placed on the verge along the wall to further highlight the structure boundary. Abnormal loads for KWF Grid Connection will be escorted to site with

dedicated escort vehicles and rear axle steering assistance. Escorts will control traffic when abnormal loads are passing the structure and rear axle steering assistance engaged, if required, to ensure any damage to the structure is avoided.

2. Vibration due to passage of traffic. There will be vibration but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. Whilst the road surface cannot be altered easily it is relatively easy to impose speed limits as discussed above, and ensure the vehicles pass as far away as possible, the total increase in traffic volume is low compared to existing volumes and the construction period is short at 2 months.

#### **A13.2.15.7 Recommendations**

1. Restrict speed for construction traffic and traffic cones.
2. Abnormal loads escorts to control traffic and rear steering assistance if required.

**A13.2.16 Assessment Structure No.15 (AS15)**

Property	Clogh Castle				
Status	Recorded Monument				
RPS No.		NIAH No.		RMP No.	WA030-052---
Townland	Clogh	Public Road ID	L6074	Co-Ordinates	613697, 592194

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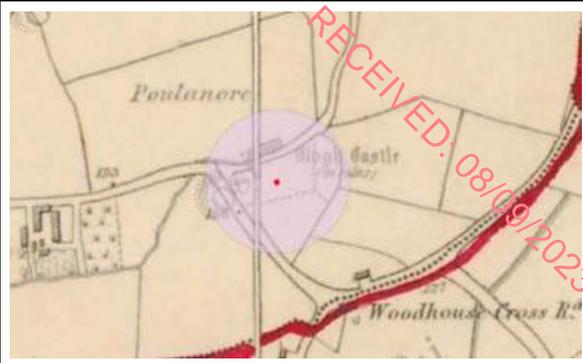
**A13.2.16.1 Photographs**

	
<b>Photograph 1: Aerial view of the Castle.</b>	<b>Photograph 2: View of castle area from field gate</b>
	
<b>Photograph 3: View of castle area from field gate</b>	<b>Photograph 4:</b>

### A13.2.16.2 Maps



Map 1: Taylor and Skinner Road map (1778) Map 128 shows "Abby Ru.s" As mentioned above.



Map 2: First OS Map c.1840 Clogh castle shown in ruins

### A13.2.16.3 Description of Structure

Remains of ruined castle now hard to discern in the corner of a field. There is a level area corresponding to the outline of the castle with drainage ditches running along the road and north sides. To the south side the level area falls away towards the entrance to the field. All pasture with no other noticeable features. Separated from road by around 5 meters or more.

Set around 5 meters east of the L6074 which is a haul route for materials deliveries, construction personnel and abnormal loads deliveries.

### A13.2.16.4 History of Structure

Situated on a SW-facing slope in a low-lying landscape. According to Smith (1742, 52) there were towers at the four corners but the centre of the 'castle' was open, suggesting it may have been fortified as a bawn, but there is no evidence of corner towers. It is marked as an Abbey ruin on a Taylor and Skinner map (1778, 128), but it has been interpreted as a castle by Ryland (1824, 324). This is a rectangular grass-covered area (dims. 47m E-W; 34m N-S) defined by a moat (Width 14-15m; max. D 1.1-1.4m) at N, E and S, with a roadway at W. The perimeter at the N end of the W side is fortified by a wall (L c. 10m; Width 1.8m; int. H 0.5m; ext. H 1.5m).

Ryland, Rev. R. H. (1824) *The History, topography and antiquities of the county and city of Waterford*. John Murray. London. Smith, C. (1746) *The history of the town and county of Waterford*. W. Wilson. Dublin. Taylor, G. and Skinner, A. (1778) *Maps of the roads of Ireland*. Reprint 1969, ed. by J. H. Andrews. Irish University Press. Shannon.

The above description is derived from the published 'Archaeological Inventory of County Waterford' (Dublin: Stationery Office, 1999). In certain instances the entries have been revised and updated in the light of recent research. Revised by: Michael Moore

### A13.2.16.5 Impact Assessment

Possible impacts:

- 1 - Vibration

The zone of notification the monument extends across the L6074 which is the haul route for both material deliveries, construction personnel and abnormal load deliveries. The west side of the castle runs alongside the road with a substantial ditch forming the road boundary. A zone of notification extends over the road and a Section 12 notification should be made to the minister for works at or near a monument. It must be noted that there are no works required within this zone of notification in relation to the subject development (KWF Grid Connection).

The likelihood of impact on the historic structures due to either direct collision or vibration appears to be low due to the lack of standing structures, whilst the vehicles will be passing close to the monument.

Traffic counts were carried out along the L6074, which has an average daily traffic count of 87 Passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### **A13.2.16.6 Discussion**

It is unlikely that any harm would be caused to the monument by the passing of construction traffic along the public road L6074. A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach.

#### **A13.2.16.7 Recommendations**

1 Speed restrictions to reduce vibration energy and further reduce likelihood of collision damage

### A13.2.17 Assessment Structure No.16 (AS16)

Property	Farm yard beside road				
Status	Not Protected				
RPS No.		NIAH No.		RMP No.	
Townland	Clogh	Public Road ID	L6074	Co-Ordinates	613742, 592110

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#### A13.2.17.1 Photographs

	
Photograph 1:	Photograph 2:

#### A13.2.17.2 Maps

	
Map 1: Extract from First OS map c.1840	Map 2: Extract from Second OS map c.1900.

#### A13.2.17.3 Description of Structure

Road side wall and entrance piers, with ruined cottage behind. Random rubble walls overgrown fuchsia, privet, white thorn and ivy.

#### **A13.2.17.4 History of Structure**

One of the buildings, closest to the road, appears to date to before c.1840 as it appear on the first OS map which was surveyed at that date. The remaining buildings appear on the second OS map surveyed c.1900. In Griffith's Valuation (1825-44), the small building shown on the first OS map and the surrounding 2 roods and 5 perches was rented by David White from John Power O'Reilly and Co.

#### **A13.2.17.5 Impact Assessment**

Likely Impacts:

1. Collision of vehicles or loads against the walls along the road side
2. Vibration due to passage of traffic

Traffic counts were carried out along the L6074, which has an average daily traffic count of 87 Passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

#### **A13.2.17.6 Discussion**

Collision of vehicles or loads against the walls along the road side. This is possible but the road is wide and there is a verge of around 1 meters to separate the vehicles from the structures.

A speed limit will be imposed for all material deliveries and abnormal loads for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach. Traffic cones will be placed on the verge along the wall to further highlight the structure boundary.

Abnormal loads for KWF Grid Connection will be escorted to site with dedicated escort vehicles and rear axle steering assistance. Escorts will control traffic when abnormal loads are passing the structure and rear axle steering assistance engaged, if required, to ensure any damage to the structure is avoided.

2. Vibration due to passage of traffic. There will be vibration but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. Whilst the road surface cannot be altered easily it is relatively easy to impose speed limits as discussed above, and ensure the vehicles pass as far away as possible, also the total increase in traffic volume is low compared to existing volumes and the construction period is short at 2 months.

#### **A13.2.17.7 Recommendations**

1. Restrict speed for construction traffic.
2. Abnormal loads escorts to control traffic and rear steering assistance if required.

**A13.2.18 Assessment Structure No.17 (AS17)**

Property	Farm yard by road (For Sale)				
Status	Not Protected				
RPS No.		NIAH No.		RMP No.	
Townland	Woodhouse or Tinakilly	Public Road ID	L60741	Co-Ordinates	613950, 591918

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**A13.2.18.1 Photographs**



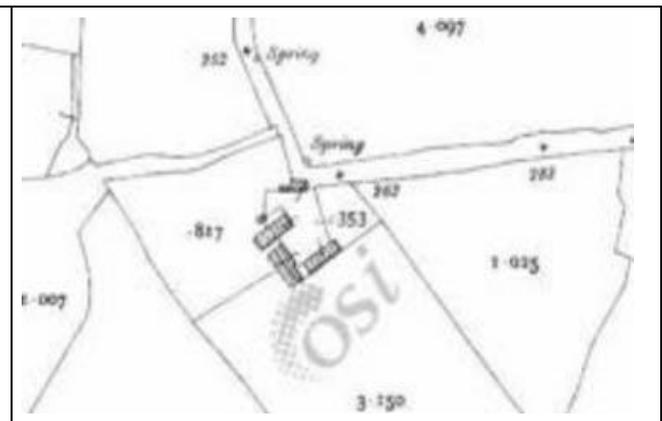
Photograph 1:

Photograph 2: Farmyard from L60741



Photograph 3: View of the remaining buildings

**A13.2.18.2 Maps**



<p><b>Map 1: Extract from First OS map c.1840. The present barn and cottage appear to lie over and possibly incorporating the smaller block which might be the cottage part. The now ruined building with timber lintel does not appear here. The second building shown here has gone now.</b></p>	<p><b>Map 2: Extract from Second OS map c.1900. Now shows building backing onto road and the building with timber lintel</b></p>
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### A13.2.18.3 Description of Structure

Farm walls around 9 meters from road. Single storey four bay cottage with cart shed attached. Collapsed natural slate roof, flat arch stone voussoirs over windows and two doors. Arched opening to left end. Other farm building in yard, collapsed corrugated roof. ESB box and square opening with timber lintel. Substantial wall at road side was rear wall of single pitch shed. In use as farmyard. For Sale with Brian Gleason 05844200

The building lies to the side of the L60471 which is to be used for materials deliveries, construction personnel and abnormal loads deliveries.

### A13.2.18.4 History of Structure

This farm appears on both first and second OS maps. Possibly only the cottage part of the slated building appearing on the first with the cart shed part built on before the second OS map was surveyed.

The other building still standing first appears on the second OS map so it was built after 1840 and before 1900.

In Griffith's Valuation (1825-44), the buildings along with surrounding 39 acres 1 rood and 21 perches was rented by Garrett Fitzgerald from Thomas James Fitzgerald Esq.

### A13.2.18.5 Impact Assessment

Possible impacts:

1 Vibration - minimal as the farm buildings are set back from the road by around 30 meters, and the nearest wall is 5 meters from the carriageway. Also vehicles will be travelling slowly due to bends in the road. The likelihood of impact on the historic structures due to either direct collision or vibration appears to be low due to the distance from the road itself.

Traffic counts were carried out along the L60741, which has an average daily traffic count of 43 Passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

### A13.2.18.6 Discussion

The bulk of this farmyard is set well back from the road and is unlikely to be damaged by the proposed construction traffic. The wall and entrance to the yard is alongside a wide area on a corner which would appear to make it reasonably safe from either collision or vibration.

### A13.2.18.7 Recommendations

No further recommendations

**A13.2.19 Assessment Structure No.18 (AS18)**

Property	Farm cottage by main entrance to Woodhouse Windfarm				
Status	Not protected				
RPS No.		NIAH No.		RMP No.	
Townland	Woodhouse or Tinnakilly	Public Road ID	L60741	Co-Ordinates	614236, 591914

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**A13.2.19.1 Photographs**

	
<b>Photograph 1: Cottage by main entrance of Woodhouse Wind Farm</b>	<b>Photograph 2: View of cottage</b>
	
<b>Photograph 3: View over new block wall towards the collapsed building along the road</b>	

### A13.2.19.2 Maps

	
<p><b>Map 1:</b> Extract from first OS map c.1840 Existing buildings are the two to the left, the other buildings have now gone.</p>	<p><b>Map 2:</b> Extract from second OS map c.1900 Existing buildings are the two to the left, the other buildings have now gone.</p>

### A13.2.19.3 Description of Structure

Farm building on road side with cottage behind. Right by main entrance to Woodhouse Windfarm on the L60741 at Woodhouse or Tinnakilly. New block wall forms flare to windfarm entrance. Farm yard to rear still in active use, whilst the cottage is uninhabited and semi-derelict. Building along roadside random rubble with collapsed corrugated roof.

Cottage four bay single storey with lean-to porch to the front. Rendered in sand and cement, Crittall windows, corrugated roof, rendered chimney

### A13.2.19.4 History of Structure

Both the cottage and the shed along the road appear on the first OS map meaning they were built before c.1840 when the map was surveyed.

In Griffith's Valuation (1825-44), the shed and other buildings along with surrounding 25 acres 0 roods and 29 perches was rented by Thomas Foley from Thomas James Fitzgerald Esq.

### A13.2.19.5 Impact Assessment

Possible impacts:

- 1 Vibration due to passage of traffic
- 2 Collision of vehicles or loads on the building

Traffic counts were carried out along the L60741, which has an average daily traffic count of 43 Passenger Car Units. The proposed KWF Grid Connection would anticipate 3 HGVS and 12 construction personnel daily over a 2 month period, and there will be 8 wind turbine abnormal deliveries on 8 separate days during the construction period, which comprises 9 HGV loads on each of the 8 days.

### A13.2.19.6 Discussion

1. Collision of vehicles or loads against the walls along the road side. There is a verge of 0.5 meters between the building and the roadway. A speed limit will be imposed for all material deliveries and abnormal loads

for KWF Grid Connection of 50kph whilst passing this structure. Construction traffic will be instructed to keep to the restricted speed limit and temporary signage will be erected for construction traffic on approach. Traffic cones will be placed on the verge along the wall to further highlight the structure boundary. Abnormal loads for KWF Grid Connection will be escorted to site with dedicated escort vehicles and rear axle steering assistance. Escorts will control traffic when abnormal loads are passing the structure and rear axle steering assistance engaged, if required, to ensure any damage to the structure is avoided.

2. Vibration due to passage of traffic. There will be vibration but it is unusual for this to cause damage to buildings particularly when the speed of the vehicles is low and the condition of the road surface is smooth. In this case, the farm buildings are close to the main entrance to Woodhouse Windfarm, and traffic will be turning in through the windfarm gate, resulting in slower manoeuvring meaning the vibrations caused should be minimal.

### **A13.2.19.7 Recommendations**

1. Restrict speed for construction traffic and place traffic cones.
2. Abnormal loads escorts to control traffic and rear steering assistance if required.